Rocky Flats

National Wildlife Refuge

Final
Comprehensive Conservation Plan

and
Environmental Impact Statement

September 2004

Prepared for:

U.S Fish & Wildlife Service
Rocky Flats National Wildlife Refuge
Rocky Mountain Arsenal – Building 121
Commerce City, CO 80022

Prepared by:

ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218

And:

Shapins Associates
1738 Pearl Street, Ste. 220
Boulder, CO 80302

For Approved: Linda H Kelsey
Ralph Morgenweck
Regional Director, Region 6, USFWS

9/16/04
Date

ROCKY FLATS NATIONAL WILDLIFE REFUGE
COMPREHENSIVE CONSERVATION PLAN/
ENVIRONMENTAL IMPACT STATEMENT APPROVAL
U.S. FISH AND WILDLIFE SERVICE, REGION 6

SUBMITTED BY:

Laurie Shannon — 9/8/04

Laurie Shannon
Planning Team Leader
Rocky Flats National Wildlife Refuge
Date

Dean Rundle — 9/8/04

Dean Rundle
Refuge Manager
Rocky Flats National Wildlife Refuge
Date

CONCUR:

David Weisman — 9/15/04

David Weisman
Refuge Program Supervisor
Date

Richard A. Coleman — 9/15/04

Richard A. Coleman, Ph.D.
Regional Chief
National Wildlife Refuge System
Date

Abstract

The Rocky Flats site is a 6,240-acre former nuclear defense facility operated by the U.S. Department of Energy (DOE). The DOE is completing cleanup of the site under oversight by the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment. Under the Rocky Flats National Wildlife Refuge Act of 2001, the site will become the Rocky Flats National Wildlife Refuge following certification from the EPA that cleanup and closure have been completed. The Rocky Flats site is located at the interface of the Great Plains and Rocky Mountains, where it supports a diverse mosaic of vegetation communities. Many areas of the Rocky Flats site have remained relatively undisturbed for the past 30 to 50 years, allowing them to retain diverse natural habitat and associated wildlife. Important vegetation communities on the site include the rare xeric tallgrass grassland and the tall upland shrubland communities. Rocky Flats also supports populations of the threatened Preble's meadow jumping mouse, as well as a herd of about 160 deer.

The U.S. Fish and Wildlife Service has prepared this Final Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS). It describes and analyzes four management alternatives for the site: Alternative A - No Action, Alternative B – Wildlife, Habitat and Public Use (Preferred Alternative), Alternative C – Ecological Restoration, and Alternative D – Public Use. Wildlife-dependent public uses are considered to be appropriate uses on National Wildlife Refuges, and were considered in the development of the alternatives. Some of the greatest benefits would come from road removal and revegetation, weed management, and Preble's habitat management. The greatest impacts to Refuge resources would be the result of reduced resource management in Alternative A, and increased visitor use in Alternatives B and D. The Final CCP/EIS provides responses to comments received on the Draft CCP/EIS.

The Final CCP/EIS is available for review at http://rockyflats.fws.gov. The U.S. Fish and Wildlife Service will issue a Record of Decision on the CCP no sooner than 30 days after the Notice of Availability for the Final CCP/EIS is published in the Federal Register. Comments concerning this Final CCP/EIS should be sent to:

Laurie Shannon, Planning Team Leader
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal – Building 121
Commerce City, CO 80022

Phone: (303) 289-0980
Fax: (303) 289-0579
Email: rockyflats@fws.gov

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Acronym List

BOSMP	City of Boulder Open Space and Mountain Parks Department
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CCP	Comprehensive Conservation Plan
CDOW	Colorado Division of Wildlife
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CNHP	Colorado Natural Heritage Program
DOE	Department of Energy
DRCOG	Denver Regional Council of Governments
EIS	Environmental Impact Statement
ESA	Endangered Species Act
EPA	Environmental Protection Agency
FTE	Full-time employee
GPS	Global Positioning System
IPM	Integrated Pest Management
MMS	Maintenance Management System (database)
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NWR	National Wildlife Refuge
NWRS	National Wildlife Refuge System
NWTC	National Wind Technology Center
O&M	Operations and maintenance
RFCA	Rocky Flats Cleanup Agreement
RFCAB	Rocky Flats Citizen Advisory Board
RFCLOG	Rocky Flats Coalition of Local Governments
RMA	Rocky Mountain Arsenal National Wildlife Refuge
ROD	Record of Decision
RONS	Refuge Operations Needs System

Summary

Summary

THE ROCKY FLATS NATIONAL WILDLIFE REFUGE

This document is a Final Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Rocky Flats National Wildlife Refuge (Rocky Flats NWR). The CCP will guide management of Refuge operations, habitat restoration and visitor services for the next 15 years. The EIS evaluates and compares four alternatives to managing wildlife, habitats and human use of the proposed Refuge. It also discloses effects of restoration and visitor use on important physical, biological, social and cultural resources.

The Rocky Flats site is a 6,240-acre former nuclear defense facility operated by the U.S. Department of Energy (DOE). All weapons manufacturing was performed in a 600-acre area in the middle of the site known as the Industrial Area. In 1992, the mission of the Rocky Flats site changed from weapons production to environmental cleanup and closure. The DOE is completing the cleanup in accordance with the Rocky Flats Cleanup Agreement (RFCA) under oversight by the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE).

Under the Rocky Flats National Wildlife Refuge Act of 2001 (Refuge Act), the 6,240-acre Rocky Flats Environmental Technology Site will become the Rocky Flats NWR following certification from the EPA that cleanup and closure have been completed. At that time, the U.S Fish & Wildlife Service (Service) will assume management responsibility for most of the site.

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The Refuge provides habitat for elk.

Five sequential steps must be completed before Rocky Flats becomes a Refuge. These steps are:

1. Service completes final CCP/EIS and issues a Record of Decision
2. DOE completes site cleanup except for operations and maintenance of cleanup monitoring facilities
3. EPA certifies completion of the cleanup
4. DOE transfers land to Department of the Interior
5. Department of the Interior establishes the Refuge and Service begins management and implementation of the CCP

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Big Bluestem in the xeric tallgrass prairie.

The Service understands that some members of the public remain apprehensive about potential public use at Rocky Flats NWR due to the site's history. In all alternatives, the Service would brief visitors about the site's transformation from a nuclear weapons production facility to a National Wildlife Refuge. In the alternatives that allow for expanded public use, the Service would address public concerns about the safety of the Refuge by providing clear information that educates visitors about access restrictions and public use opportunities. This information would be available at all trailheads. The Service also would work with the DOE to develop signage and fencing or another means of boundary demarcation to clearly identify all areas that would be retained by DOE and are closed to public access.

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The Service would conserve the diversity of native fauna.

Refuge Significance

In the Refuge Act, Congress identified the following significant qualities about the Rocky Flats site:

- The majority of the site has generally remained undisturbed since its acquisition by the government.
- The site preserves valuable open space and striking vistas of the Front Range mountain backdrop.
- The site provides habitat for many wildlife species, including a number of threatened and endangered species, and is marked by the presence of rare xeric tallgrass prairie plant communities.

Refuge Purpose

The Refuge Act identified four purposes of the Rocky Flats NWR:

- Restoring and preserving native ecosystems.
- Providing habitat for, and population management of native plants and migratory and resident wildlife.
- Conserving threatened and endangered species.
- Providing opportunities for compatible scientific research.

The Refuge Act also provided some direction for managing the Refuge. The Service is to manage the Refuge to ensure that wildlife-dependent public uses and environmental education and interpretation are the priority public uses of the Refuge.

Vision

During the initial planning process, the Service developed the following vision statement to describe what will be different in the future as a result of the CCP and to capture the essence of what the Service is trying to accomplish at the Refuge:

> *Rocky Flats National Wildlife Refuge is a healthy expanse of grasslands, shrublands and wetlands, including rare xeric tallgrass prairie, where natural processes support a broad range of native wildlife. The Refuge provides striking mountain and prairie views*

and opportunities to appreciate the Refuge resources in an urbanized area through compatible wildlife-dependent public uses and education. Working with others, the Refuge conserves the unique biotic communities and sustains wildlife populations at the interface of mountains and prairies on Colorado's Front Range.

GOALS

The Service also developed a set of goals to guide the planning effort and Refuge management:

Wildlife and Habitat Management

Conserve, restore and sustain the biological diversity of the native flora and fauna of the mountain/prairie interface with particular consideration given to threatened and endangered species.

Public Use, Education and Interpretation

Provide visitors and students high quality recreational, educational and interpretive opportunities and foster an understanding and appreciation of: the Refuge's xeric tallgrass prairie; upland shrub and wetland habitats; native wildlife; the history of the site; and the National Wildlife Refuge System (NWRS).

Safety

Conduct operations and manage public access in accordance with the final Rocky Flats' cleanup decision documents to ensure the safety of the Refuge visitors, staff and neighbors.

Effective and Open Communication

Conduct a variety of communication outreach efforts to raise public awareness about the Refuge programs, management decisions, and the mission of the Service and the NWRS.

Working with Others

Foster beneficial partnerships with individuals, government agencies, non-governmental organizations, and others to promote resource conservation, compatible wildlife-related research, public use, site history, and infrastructure.

Refuge Operations

Based on available funds, provide facilities and staff to fulfill the Refuge vision and purpose.

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Goldfinch and a variety of bird species present opportunities for wildlife observation.

PUBLIC INVOLVEMENT

Throughout the CCP/EIS development process, the Service has solicited input from the public. Public involvement in the planning process ensured that interested and affected individuals, organizations, agencies and governmental entities were consulted and provided opportunities to participate. Public involvement has:

- Informed the public about Rocky Flats NWR (planning updates, website, public meetings, presentations).
- Provided public input on key issues.
- Provided help in determining management direction of Rocky Flats NWR.

THE REFUGE'S RESOURCES

The Rocky Flats site is located at the interface of the Great Plains and Rocky Mountains. The western half of the site is characterized by the relatively level Rocky Flats pediment, which gives way to several finger-like drainages that slope down to the rolling plains in the eastern portion of the site.

A diverse mosaic of vegetation communities is found at Rocky Flats. Two of these vegetation communities, the xeric tallgrass prairie and the tall upland shrubland, are considered to be rare in the region. Other vegetation communities include riparian woodland, riparian shrubland, wetlands, mesic mixed grassland, xeric needle and thread grassland, reclaimed mixed grassland, and ponderosa pine woodland.

Many areas of the Rocky Flats site have remained relatively undisturbed for the last 30 to 50 years, allowing them to retain diverse habitat and associated wildlife. These wildlife communities are supported by the regional network of protected open space that surrounds Rocky Flats on three sides and buffers wildlife habitat from urban development. Preble's meadow jumping mouse (Preble's), a threatened species, occurs in every major drainage on the Refuge, as well as wetlands and shrubland communities

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Research on wildlife populations would be a component of most alternatives.

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A field of wildflowers.

adjacent to the Rock Creek and Woman Creek drainages. A resident herd of about 160 deer inhabit the site and elk are occasionally present.

Cultural resource surveys have identified and recorded 45 cultural sites or isolated artifacts at Rocky Flats. None of the identified cultural resources are recommended as eligible for listing in the National Register of Historic Places. However, the Lindsay Ranch within the Rock Creek drainage provides opportunities to interpret the early history of settlement and ranching on the prairie.

The Rocky Flats site is located at the intersection of Jefferson, Boulder and Broomfield counties. The site is surrounded by open space to the north, east and west, and urban development to the northeast and southeast. Other nearby land uses include mining operations, wind energy research, and water collection and storage facilities.

ACTIVITIES OUTSIDE THE SCOPE OF THIS EIS

The legislation establishing Rocky Flats NWR requires that the Department of Energy (DOE) retain jurisdiction, authority and control over portions of the Rocky Flats site necessary for cleanup response actions. DOE anticipates that it will need to retain land in and around the current Industrial Area in order to maintain institutional controls and protect cleanup and monitoring systems.

Management alternatives for the DOE-retained lands are not considered in this CCP because the lands will not be part of the Refuge and the Service will not have authority to decide how those lands should be managed. The Service is recommending a fence that allows wildlife movement be built around the retained area to distinguish Refuge lands from DOE jurisdiction. The

DOE does not anticipate transferring any lands that would require additional safety requirements for either the Refuge worker or the visitor.

DESCRIPTION OF ALTERNATIVES

Four alternatives were developed following the public scoping process and a workshop involving the planning team and Service staff. The alternatives are analyzed in detail in this CCP/EIS and summarized briefly below.

ALTERNATIVE A: NO ACTION

In the No Action Alternative, the Service would not develop any public use facilities and would not implement any new management, restoration, or education programs at Rocky Flats. In this alternative, the Service would continue to manage the 1,800-acre Rock Creek Reserve in accordance with the Rock Creek Reserve Integrated Natural Resources Management Plan (DOE 2001).

Management activities within the Rock Creek Reserve would include ongoing resource inventories and monitoring, habitat restoration, weed control, and road removal and revegetation. Public use opportunities would be limited to guided tours.

ALTERNATIVE B: WILDLIFE, HABITAT AND PUBLIC USE (PREFERRED ALTERNATIVE)

Alternative B, the Service's Preferred Alternative, emphasizes both wildlife and habitat conservation along with a moderate level of wildlife-dependent public use. Refuge-wide habitat conservation would include management of native plant communities, removal and revegetation of unused roads and stream crossings, management of deer and elk populations, and protection of Preble's meadow jumping mouse habitat. Restoration would strive to replicate pre-settlement conditions.

Visitor use facilities would include about 16 miles of trails, a seasonally staffed visitor contact station, trailheads with parking, and developed overlooks. One trail down to the Lindsay Ranch would be open soon after Refuge establishment, while the remainder of the public use facilities would open after 5 years, when restoration is well underway. Most of the trails would use existing roads. Public access would be by foot, bicycle, horse, or car. A limited public hunting program would be developed in collaboration with Colorado Division of Wildlife (CDOW).

On- and off-site environmental education programs would focus on the prairie ecosystem and would primarily target high school and college students.

The Service would provide compatible scientific research opportunities that focus on wildlife habitat and interactions between wildlife and human use. Partnerships would be sought from federal, state and municipal agencies and private entities to help achieve Refuge goals and to conserve contiguous lands.

ALTERNATIVE C: ECOLOGICAL RESTORATION

Alternative C emphasizes Refuge-wide conservation and restoration of large areas of wildlife habitat. Restoration and management activities would strive to replicate pre-settlement conditions. Restoration efforts would focus on disturbed areas such as road corridors, stream crossings, cultivated fields and developed areas.

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The Lindsay Ranch barn would be an interpretive site in Alternative B.

Limited public use and minimal facility development would occur in this alternative. Any facilities on the Refuge would be built for specific resource protection and management purposes. A single, 3,700-foot long trail would provide access to the Rock Creek drainage, but access would be limited to guided tours only. Environmental education programs would be limited to local distribution of educational materials about the Refuge and its ecological resources.

In Alternative C, the Service would facilitate increased opportunities for applied research relating to long-term habitat changes and species of special concern. Partnerships would be expanded with governmental agencies, educational institutions and others to assist in wildlife and habitat protection, resource stewardship and the preservation of contiguous lands.

Alternative D: Public Use

In Alternative D, the Service would emphasize wildlife-dependent public uses. Wildlife and habitat management would focus on the restoration of select plant communities and ongoing conservation and management of existing native plant and wildlife species. Certain roads and other disturbed areas not used for trails or public use facilities would be restored with native vegetation.

A broad range of public use opportunities would be provided, including wildlife observation and photography, interpretation, environmental education and a limited hunting program. Access through the Refuge would be provided by a 21-mile trail system that would accommodate hiking, bicycling and equestrian use. Most of the trails would be constructed along existing roads. A visitor center would be constructed at the Refuge. Environmental education efforts would include on- and off-site programs for kindergarten through college age students.

Research opportunities would focus on the integration of public use into the Refuge environment and interactions between wildlife and visitors. Partnerships would be sought with various public agencies to help sustain Refuge goals and preserve contiguous lands. The Service also would work with local communities and tourism organizations to promote wildlife-dependent public uses on the Refuge.

OBJECTIVES AND STRATEGIES

The Service has developed objectives and strategies for each alternative. An objective is a general statement about what the Service wants to achieve on the Refuge, while a strategy is a specific action, tool, technique or combination of the above used to meet objectives. Because each alternative has a different emphasis, the objectives and strategies vary by alternative. The following summarizes key objective topics addressed for each alternative in the CCP/EIS:

Resident deer populations are found at the Refuge.

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Sharp-tailed grouse is a likely candidate for reintroduction.

Wildlife and Habitat Management

- Preble's habitat management
- Xeric tallgrass management
- Mixed grassland prairie management
- Road restoration and revegetation
- Weed management
- Deer and elk management
- Prairie dog management
- Species reintroduction

Public Use, Education and Interpretation

- Public access
- Visitor experience
- Interpretation
- Environmental education
- Hunting
- Recreation facilities

Safety

- Staff safety
- Visitor safety

Open and Effective Communication

- Outreach efforts

Working with Others

- Emergency response partnerships
- Conservation partnerships
- Research partnerships
- Volunteer partnerships

Refuge Operations

- Staffing
- Operations and management facilities
- Cultural resource management

ENVIRONMENTAL CONSEQUENCES

The proposed Refuge management alternatives would pose a variety of benefits and impacts to resources at Rocky Flats. Some of the greatest benefits would come from road removal and revegetation, weed management, and Preble's habitat management activities. The greatest impacts to Refuge resources would be the result of reduced resource management in Alternative A and increased visitor use in Alternatives B and D. These and other effects are summarized below and described in detail in the CCP/EIS.

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Lupine and many other wildflowers can be found on the Refuge.

Preble's Habitat Management. All of the alternatives include protection and maintenance of the Refuge's Preble's habitat. This would result in moderate, long-term benefits to Preble's and other species that depend on riparian habitat.

Pond Restoration. Alternative C would remove the Lindsay Ponds and restore those areas to a native wetland. This would result in a major impact to existing native fish populations that use the ponds and also would impact future fish reintroductions.

Grassland Management. Tallgrass and mixed grassland management strategies, along with weed and fire management and road removal and revegetation in all alternatives, would benefit grassland communities on the Refuge. However, many of the benefits would be limited to the Rock Creek Reserve in Alternative A and would be reduced overall in Alternatives A and D because prescribed fire and grazing would not be available as Refuge-wide grassland restoration tools.

In Alternatives B and C, the planned restoration of non-native grasses in the hay meadow and other areas to native prairie would benefit the overall quality and diversity of mixed grassland habitat on the Refuge.

Road Restoration and Revegetation. In all of the alternatives, the removal and revegetation of unused roads and stream crossings would provide a major long-term benefit to a variety of vegetation communities and related wildlife species. These benefits would be greatest in Alternative C and the least in Alternative A.

Weed Management. In all of the alternatives, implementation of Integrated Pest Management (IPM) practices would benefit a variety of wildlife habitat types on the Refuge. These benefits, however, would be greatly reduced in Alternative A where proactive weed control would only be applied to the Rock Creek Reserve and an IPM plan would not be completed.

Deer and Elk Management. The establishment and achievement of population targets for deer and elk in Alternatives B, C and D would benefit both those species and the habitat on which they depend. However, proposed monitoring levels in Alternatives A and D may not be sufficient to develop effective population targets.

In Alternative A, the Service would not actively pursue population targets, which could result in long-term impacts to ungulate populations and their habitat and adverse impacts on habitat quality for Preble's and other species due to overbrowsing or overgrazing.

Trail Development and Use. While the impacts of new trail construction in Alternatives B and D would be negligible, public use of some trails could result in moderate long-term adverse impacts to wildlife species due to an increased human presence that may alter wildlife movement and foraging patterns. These impacts would be more pronounced in Alternative D, where several trails run adjacent to riparian areas and could disturb potential raptor nesting habitat. The combination of trails in the Rock Creek drainage in Alternative D could result in a moderate to major impact to wildlife and habitat in that area. Some trail impacts could be reduced by the enforcement of seasonal trail closures.

chapter 1

PURPOSE AND NEED

Chapter 1. Purpose and Need

The Rocky Flats Environmental Technology Site is a 6,240-acre former nuclear defense facility operated by the U.S. Department of Energy (DOE). The site is 16 miles northwest of Denver, Colorado on the borders of Boulder, Broomfield, and Jefferson counties (Figure 1). The DOE acquired 2,519 acres in 1951, and an additional 4,027 acres in 1974 and 1975. Of these acres, 305 acres have been conveyed to the DOE's Wind Technology Site northwest of the site. All weapons manufacturing was performed in a 600-acre area in the middle of the site known as the Industrial Area. The area surrounding the Industrial Area is known as the Buffer Zone.

In 1992, the mission of the Rocky Flats site changed from weapons production to environmental cleanup and closure. The DOE is completing the cleanup in accordance with the Rocky Flats Cleanup Agreement (RFCA) under oversight by the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE). The RFCA is a legally binding agreement between the EPA, CDPHE, and DOE that establishes the regulatory guidelines and framework for site cleanup. Because the EPA, CDPHE, and DOE signed the Rocky Flats Cleanup Agreement, these three agencies are known as the RFCA Parties.

During the comment period on the Draft CCP and EIS, numerous commentors had questions or concerns about the process of becoming a Refuge. Five sequential steps must be completed before Rocky Flats becomes a Refuge. The steps, discussed in more detail in the following sections, are:

© RFETS

The Refuge site was a former nuclear defense facility operated by the DOE.

Figure 1. Regional Location.

1. Service completes final CCP/EIS and issues a Record of Decision
2. DOE completes site cleanup except for operations and maintenance of cleanup monitoring facilities
3. EPA certifies completion of the cleanup
4. DOE transfers land to Department of the Interior
5. Department of the Interior establishes the Refuge and Service begins management and implementation of the CCP

DOE is currently completing a wide range of interim cleanup actions. When these activities are completed, expected sometime between 2005 and 2006, the DOE will prepare a Remedial Investigation/ Feasibility Study (RI/FS) report describing any remaining contamination at the site. The report also will describe any additional cleanup actions that DOE may need to take. The report will be summarized in a document known as the Proposed Plan, which will be released for public comment before being finalized. After public comment has been incorporated, the Proposed Plan

will become the basis for a Corrective Action Decision/Record of Decision (CAD/ROD), which the RFCA Parties will sign. The CAD/ROD will determine the need for any additional cleanup, long-term monitoring, and land use controls necessary for the site.

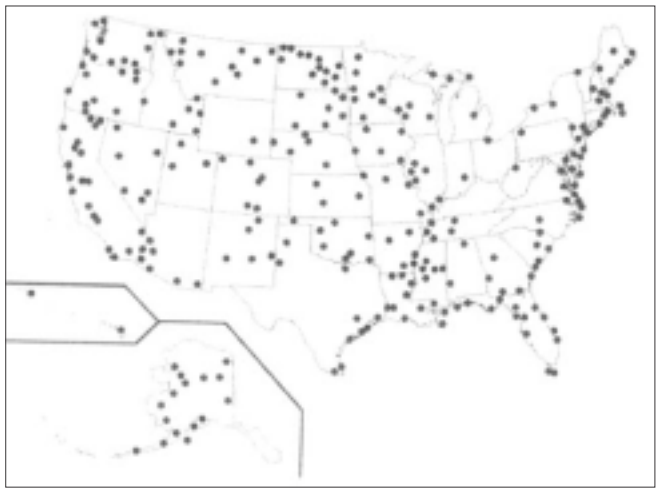
Under the Rocky Flats National Wildlife Refuge Act of 2001 (P. L. 107-107) (Refuge Act - Appendix A), the site will become the Rocky Flats National Wildlife Refuge and be managed by the U.S. Fish and Wildlife Service (Service) when the EPA certifies that cleanup and closure at Rocky Flats have been completed and that all response actions are operating properly and successfully. O&M associated with response actions will be ongoing. "Response actions" are cleanup activities currently being undertaken or monitoring and maintenance activities following cleanup by the DOE at the Rocky Flats site. The EPA will not certify that cleanup and closure at Rocky Flats has been completed until after the RFCA Parties sign the CAD/ROD. After EPA certification, DOE will transfer much of Rocky Flats to the Department of the Interior and the Service will manage it as a National Wildlife Refuge. DOE will be required to conduct post-closure environmental monitoring and remedy maintenance in accordance with a post-closure, long-term stewardship agreement approved by EPA and CDPHE. DOE will also review the cleanup remedy at least every 5 years with the EPA and CDPHE. The EPA and CDPHE can require DOE to undertake additional actions if post-cleanup monitoring indicates the cleanup is not protective of human health and the environment.

The majority of the site has remained undisturbed since its acquisition, and provides habitat for many wildlife species, including two species that are federally listed as threatened (bald eagle and Preble's meadow jumping mouse). Establishing the site as a unit of the National Wildlife Refuge System (NWRS) will promote the preservation and enhancement of its natural resources for present and future generations.

This document is a Final Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Rocky Flats National Wildlife Refuge. Once finalized, the CCP will guide management of Refuge operations, habitat restoration, and visitor services for the next 15 years. Guidance will be provided in the form of goals, objectives, strategies (Chapter 2) and compatibility determinations (Appendix B). Compatibility is discussed in more detail in a following *Compatibility Policy* section. The Final CCP will be based on a Record of Decision (ROD) that will identify a selected alternative. The selected alternative can be one of the alternatives in this final CCP/EIS or it can be a new alternative developed from a combination of the draft alternatives. This final EIS evaluates and compares four alternatives for managing wildlife, habitats, and human use of the proposed Refuge. It also describes the effects of restoration and visitor use on important physical, biological, social, and cultural resources.

1.1. LEGAL AND POLICY GUIDANCE

Refuges are managed to achieve the mission and goals of the NWRS and the designated purpose of the Refuge unit as described in establishing legislation or executive orders, or other establishing documents. Key concepts and guidance of the NWRS are provided in the Refuge System Administration Act of 1966 (P.L. 89-669), the Refuge Recreation Act of 1962 (P.L. 87-714), Title 50 of the Code of Federal Regulations, the Fish and Wildlife Service Manual and, most recently, the National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57) (Improvement Act). The Improvement Act amends the Refuge System Administration Act by providing a unifying mission for the NWRS, a new process for determining compatible public uses on refuges, and a requirement that each refuge be managed under a CCP. The Improvement Act states that wildlife conservation is the priority of NWRS lands and that the Secretary of the Interior will ensure the biological integrity, diversity and environmental health of refuge lands are maintained. The Improvement Act requires the Service to monitor the status and trends of fish, wildlife and plants in each



National Wildlife Refuge System.

refuge. A list of other laws and executive orders that may affect the CCP for Rocky Flats NWR or the Service's implementation of the CCP is provided in Appendix C.

U.S. Fish & Wildlife Service

The Service, an agency within the Department of the Interior, will manage the Rocky Flats NWR. The Service is the primary federal agency responsible for conserving and enhancing the nation's fish and wildlife populations and their habitats. Although the Service shares this responsibility with other federal, state, tribal, local and private entities, the Service has specific trust responsibilities for migratory birds, threatened and endangered species, and certain anadromous fish and marine mammals. The Service also has similar trust responsibilities for the lands and waters it administers to support the conservation and enhancement of fish and wildlife.

National Wildlife Refuge System Mission and Goals

The mission of the NWRS is:

> *"To administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."*
>
> (National Wildlife Refuge System Improvement Act of 1997.)

Since the first refuge was established in 1903, the NWRS has grown to more than 92 million acres in size. It includes more than 500 refuges, with at least one in every state and over 3,000 Waterfowl Production Areas. The needs of wildlife and their habitats come first on refuges, in contrast to other public lands managed for multiple uses.

Administration, management and growth of the NWRS are guided by the following goals:

- To fulfill the Service's statutory duty to achieve refuge purpose(s) and further the System mission
- To conserve, restore where appropriate, and enhance all species of fish, wildlife and plants that are endangered or threatened with becoming endangered
- To perpetuate migratory bird, interjurisdictional fish, and marine mammal populations
- To conserve a diversity of fish, wildlife and plants
- To conserve and restore as appropriate representative ecosystems of the United States, including the ecological processes characteristic of those ecosystems
- To foster understanding and instill appreciation of native fish, wildlife and plants and their conservation, by providing the public with safe, high quality and compatible wildlife-dependent public use. Such use includes hunting, fishing, wildlife observation and photography and environmental education and interpretation

Compatibility Policy

Lands within the NWRS are different from federal multiple-use public lands, such as National Forest System lands, because they are closed to all public uses unless specifically and legally opened. A refuge use is not allowed unless it is determined to be compatible. Recreational uses, including all actions associated with a recreational use, refuge management economic activities, or other use by the public, are considered to be a refuge use. A compatible use is a use that, in the sound professional judgment of the Refuge Manager, will not materially interfere with or detract from the fulfillment of the mission of the NWRS or the purposes of the Refuge. Sound professional judgment is defined as a decision that is consistent with principles of fish and wildlife management and administration, available science and resources, and adherence with law. The Improvement Act also states that compatible wildlife-dependent recreation uses are legitimate and appropriate priority general public uses. Six uses, hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation, are to receive enhanced consideration in planning and management over all other general public uses of the NWRS. Whenever they are determined to be compatible, and consistent with public safety, these uses are to be provided on units of the NWRS.

Compatibility determinations are written determinations signed and dated by the Refuge

Manager with concurrence of the Regional Chief, National Wildlife Refuge System, stating that a proposed or existing use of a national wildlife refuge is or is not a compatible use. Compatibility determinations are typically completed as part of the CCP or step-down management plan process. Draft compatibility determinations are open to public input and comment. Once a final compatibility determination is made by the Refuge Manager, with Regional Chief concurrence, it is not subject to administrative appeal.

Facilities and activities associated with recreational public uses, or where there is an economic benefit associated with a use, require compatibility determinations. Refuge management activities such as invasive species control, prescribed fire, scientific monitoring and facilities for managing a refuge do not require compatibility determinations.

Four compatibility determinations for public recreational activities proposed in Alternative B (the Preferred Alternative) can be found in Appendix B. Drafts of these compatibility determinations were available for public review and comment as part of the Draft CCP/EIS. Additional draft compatibility determinations are likely to be prepared and issued for public comment during the life of the plan in response to step-down management plans that may call for implementation of a refuge economic use (e.g. grazing), for specific research projects, or in response to third party requests for other refuge uses not addressed in this plan.

1.2. REFUGE SIGNIFICANCE, PURPOSE, VISION AND GOALS

Significance

In the Refuge Act, Congress found that the Rocky Flats site had several significant qualities:

- The majority of the Rocky Flats site has generally remained undisturbed since its acquisition by the federal government.
- The State of Colorado is experiencing increasing growth and development, especially in the metropolitan Denver Front Range area in the vicinity of the Rocky Flats site. That growth and development reduces the amount of open space and thereby diminishes for many metropolitan Denver communities the vistas of the striking Front Range mountain backdrop.

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Deer with fawn.

- The Rocky Flats site provides habitat for many wildlife species, including a number of threatened and endangered species, and is marked by the presence of rare xeric tallgrass prairie plant communities. Establishing the site as a unit of the NWRS will promote the preservation and enhancement of those resources for present and future generations.

Purpose and Direction

As discussed previously, the Rocky Flats NWR was established by the Refuge Act. The Refuge Act identified four purposes of the Rocky Flats NWR:

- Restoring and preserving native ecosystems
- Providing habitat for and population

management of native plants and migratory and resident wildlife

- Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act)
- Providing opportunities for compatible scientific research

The Refuge Act also provided some direction for managing the Refuge. The Service is to manage the Refuge to ensure that wildlife-dependent public uses and environmental education and interpretation are the priority public uses of the Refuge and to comply with all response actions.

VISION

At the beginning of the planning process, the Service developed a vision for the Refuge. A vision describes what will be different in the future as a result of the CCP and is the essence of what the Service is trying to accomplish at the Refuge. The vision is a future-oriented statement designed to be achieved through Refuge management by the end of the 15-year CCP planning horizon. The vision for the Refuge is:

> *Rocky Flats National Wildlife Refuge is a healthy expanse of grasslands, shrublands and wetlands, including rare xeric tallgrass prairie, where natural processes support a broad range of native wildlife. The Refuge provides striking mountain and prairie views and opportunities to appreciate the Refuge resources in an urbanized area through compatible wildlife-dependent public uses and education. Working with others, the Refuge conserves the unique biotic communities and sustains wildlife populations at the interface of mountains and prairies on Colorado's Front Range.*

GOALS

The Service also developed a set of goals based on the Refuge Act and information developed during project planning. The Service established six goals for Refuge management.

Goal 1. Wildlife and Habitat Management. Conserve, restore and sustain biological diversity of the native flora and fauna of the mountain/prairie interface with particular consideration given to threatened and endangered species.

Goal 2. Public Use, Education and Interpretation. Provide visitors and students high quality recreational, educational and interpretive opportunities and foster an understanding and appreciation of the Refuge's xeric tallgrass prairie, upland shrub and wetland habitats; native wildlife; the history of the site; and the NWRS.

Goal 3. Safety. Conduct operations and manage public access in accordance with the final Rocky Flats' cleanup decision documents to ensure the safety of the Refuge visitors, staff and neighbors.

Goal 4. Effective and Open Communication. Conduct communication outreach efforts to raise public awareness about the Refuge programs, management decisions and the mission of the Service and the NWRS among visitors, students and nearby residents.

Goal 5. Working with Others. Foster beneficial partnerships with individuals, government agencies, non-governmental organizations, and others to promote resource conservation, compatible wildlife-related research, public use, site history and infrastructure.

Goal 6. Refuge Operations. Based on available funds, provide facilities and staff to fulfill the Refuge vision and purpose.

1.3. PROPOSED ACTION/PREFERRED ALTERNATIVE

The Service will adopt and implement a CCP for the Rocky Flats National Wildlife Refuge. Alternative B, which addresses the major issues identified during public scoping and is consistent with sound fish and wildlife management, was identified as the Service's proposed action for the Draft CCP/EIS. For this Final CCP/EIS, the Alternative B is identified as the "Preferred Alternative".

1.4. PLANNING PROCESS

The Final CCP and EIS for the Rocky Flats NWR is intended to comply with the Improvement Act, and the National Environmental Policy Act (NEPA), and their implementing regulations. The Service issued a final refuge planning policy in 2000 that established

requirements and guidance for NWRS planning, including CCPs and step-down management plans, and ensured that planning efforts comply with the provisions of the Improvement Act (U.S Fish & Wildlife Service 2000). The planning policy identified several steps of the CCP and EIS process (Figure 2):

- Form a planning team and conduct pre-planning
- Initiate public involvement and scoping
- Review Draft Vision Statement and Goals and determine significant issues
- Develop and analyze alternatives, including the Preferred Alternative
- Prepare Draft CCP and EIS
- Prepare and adopt Final CCP and EIS and issue a ROD
- Implement plan, monitor and evaluate
- Review and revise plan

The Service began the pre-planning process after the Refuge Act was passed in December 2001. A planning team composed of Service staff and outside consultants was formed in May 2002. The planning team held an interagency workshop to identify a draft Refuge vision and goals in July 2002.

The planning team also developed a public involvement/outreach plan that described how agencies and the public could participate in the planning process (U.S Fish & Wildlife Service 2002). Public involvement in the planning process ensured that interested and affected individuals, organizations, agencies and governmental entities were consulted and provided opportunities to participate. Public involvement in the Refuge CCP/EIS process served the following functions:

- Informed public about Rocky Flats NWR
- Collected public input on key issues and concerns and
- Provided help in determining management direction of Rocky Flats NWR

Several communication tools were used to engage the public, including "planning updates" to provide periodic reports to stakeholders, workshops to solicit public input, and a webpage for posting general information

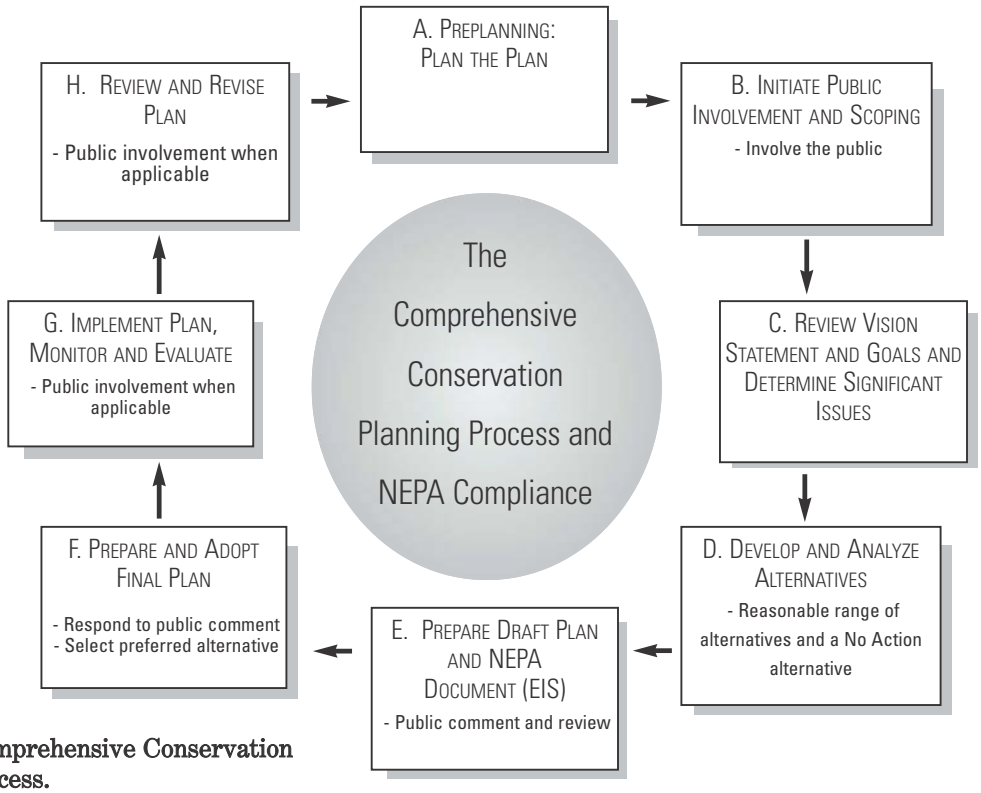

Figure 2. Comprehensive Conservation Planning Process.

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The amount and type of public use was a significant scoping issue.

and planning documents. In addition, notifications of public meetings and document availability were distributed through Federal Register notices and media press releases. Furthermore, presentations and briefings of project status were made to key stakeholder groups.

After the Service published a Notice of Intent to prepare an EIS in August 2002, the Service held scoping meetings in Broomfield, Arvada, Westminster and Boulder, Colorado. The scoping period ended on October 31, 2002. Public involvement with the planning process is described in more detail in Chapter 6. Based on the qualities, issues and recommendations identified in the scoping process, as well as guidance from the Improvement Act, NEPA and the Service's planning policy, the planning team identified the significant issues that are the focus of the CCP/EIS:

- Vegetation Management
- Wildlife Management
- Public Use
- Cultural Resources
- Property
- Infrastructure
- Refuge Operations

These issues are discussed in greater detail in Section 1.5. The Service prepared a scoping report that describes in detail the scoping process and results (U.S Fish & Wildlife Service 2003a). After scoping was completed, the planning team collected available information about the resources of Rocky Flats and the surrounding area. This information is summarized in a resource inventory report for the site (U.S Fish & Wildlife Service 2003b). The resource inventory provides the basis for Chapter 3.

This CCP provides long-term guidance for management decisions; sets forth goals, objectives and strategies needed to accomplish Refuge purposes; and identifies the Service's best estimate of future needs. This CCP details program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. This CCP does not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.

The Improvement Act requires that a CCP be in place for each refuge by 2012 and the public has an opportunity for active involvement in plan development and revision. The Service is committed to securing public input throughout the CCP development process.

1.5. PLANNING ISSUES

Several significant issues were identified following the analysis of all comments collected through the various public scoping activities and a review of the requirements of the Improvement Act and NEPA. These issues, as well as the many other substantive issues identified during scoping, were considered during the formulation of alternatives for future Refuge management. The significant issues are summarized in the following sections.

Vegetation Management: Native plant community preservation and restoration, fire management and weed control.

Wildlife Management: Wildlife species protection and management, including strategies to address species reintroduction, population management, migration corridors and coordination with regional wildlife managers.

Public Use: Policies and facility options to address several scenarios, from no access to multiple recreational and educational uses. This includes a range of facility development to accommodate these scenarios.

Cultural Resources: Preservation and recognition of elements related to site history, including Lindsay Ranch structures and Cold War heritage.

Property: Privately owned mineral rights, transportation right of way, and adjacent land owner relationships.

Infrastructure: Facilities, such as roads, fences, signs and water systems, that accommodate Refuge needs and user comfort/safety. Also includes surface water hydrology and maintenance of water quality.

Refuge Operations: Staffing requirements and management strategies to preserve significant resources and coordinate with surrounding communities and landowners.

1.6. DECISION TO BE MADE

The decision to be made by the Mountain and Prairie Regional Director of the Service is the selection of an alternative that will be implemented as the Rocky Flats National Wildlife Refuge CCP. This decision will be made in recognition of the environmental effects of each of the alternatives considered. The decision will be disclosed in a ROD no sooner than 30 days after the Final EIS is filed with the EPA and made available to the public. Implementation of the CCP will begin after the DOE transfers primary administrative jurisdiction of Rocky Flats lands to the Service and the Refuge is formally established.

1.7. ADJACENT LAND PROTECTION

While the CCP/EIS does not constitute a commitment for funding the protection of lands outside the Refuge's boundary, the Service may pursue habitat-protection partnerships, conservation easements and/or acquisition of lands west of the Refuge. The protection of the grassland habitat that buffers the Refuge's western boundary (east of Highway 93) is important for the health of ungulate populations that migrate from the foothills down to the prairie. The protection of wildlife corridors was raised as an issue in public scoping and was frequently reiterated in subsequent public meetings. Degradation of this habitat may deter

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The Service has recommended a barbed-wire fence to demarcate the boundary between the Refuge and DOE retained lands.

Figure 3. Rocky Flats Industrial Area and DOE Retained Area.

wildlife from migrating to the Refuge and threaten existing ungulate populations that reside and/or calve within the Refuge.

The Service is currently working on a new national land conservation policy and strategic policy and growth initiative. This policy will develop a decision-making process for the growth of the NWRS and guide individual refuges in evaluating lands suitable for addition to the NWRS. The process will help ensure that lands the Service protects are of national and regional importance and meet certain nationwide standards and goals.

The Service's land acquisition policy is to obtain the minimum interest necessary to satisfy refuge objectives. Conservation easements can sometimes be used in this context, when they are proven to be a cost-effective habitat protection measure. In general, conservation easements must preclude the destruction or degradation of habitat and allow refuge staff to adequately manage uses of the area for the benefit of wildlife.

1.8. ACTIVITIES OUTSIDE THE SCOPE OF THIS EIS

The Rocky Flats site is undergoing cleanup by the DOE with oversight of CDPHE and EPA. The Service will not accept transfer of administrative jurisdiction, or as discussed previously, assume full responsibility for managing the Refuge until the EPA has deemed the cleanup complete. It is not known exactly how long cleanup might take, or what effect cleanup activities might have on Refuge resources and uses. The DOE currently anticipates portions of the site will be transferred to the Service sometime between 2006 and 2008.

The legislation establishing Rocky Flats NWR requires that the DOE retain jurisdiction, authority, and control over portions of Rocky Flats necessary for cleanup response actions. DOE anticipates that it will retain land in and around the Industrial Area to maintain institutional controls, and to protect cleanup facilities and monitoring systems. The DOE-retained area may be up to 1,200 acres, but the area's final size and configuration will not be determined until the final cleanup is completed and the retained area is agreed to by the RFCA Parties. The DOE retained area tentatively identified is shown in Figure 3; it is subject to change before DOE transfers lands to the Service.

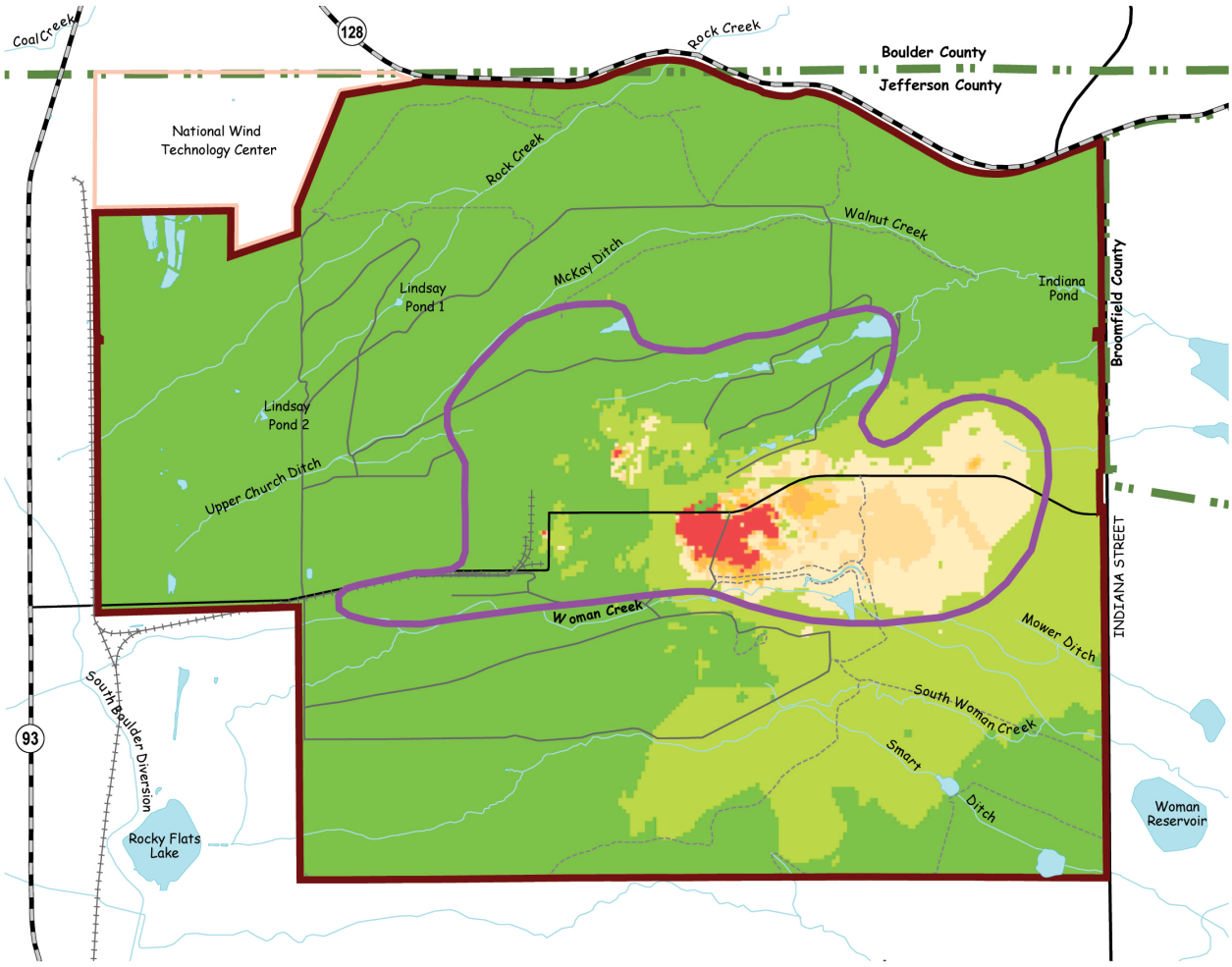
Management alternatives for the DOE retained area are not considered in this CCP because the lands will not be part of the Refuge and the Service will not have authority to decide how those lands are managed. However, RFCA requires that the entire site, including the area retained by DOE, be cleaned up to a level that will protect human health and the environment as well as ecological receptors. Specifically, the cleanup will protect the Refuge worker and the less exposed Refuge visitor. Existing concentrations of plutonium, a contaminant found in soils inside and outside the anticipated DOE retained area, are very low in surface soils in the lands to be transferred to the Service. Further characterization of the future Refuge area is ongoing. Pursuant to Attachment 5 of RFCA, which was approved by EPA and CDPHE, DOE removed surface soils with a plutonium level of 50 picocuries per gram (pCi/g) or more (Figure 4). A curie is a unit of measurement for plutonium, and a picocurie is a trillionth of a curie. Fifty pCi/g will be protective of a Refuge worker who is exposed to this level on a full-time basis at Rocky Flats. DOE anticipates retaining certain lands containing less than 50 pCi/g of plutonium for remedy-related purposes. An example boundary for DOE retained lands is shown in Figure 4. However, no decisions have been made regarding the specific boundary and acreage of the DOE retained lands. These decisions will be made during the RI/FS-CAD/ROD process described earlier. The majority of land that will become the Refuge will contain less than 1 pCi/g of plutonium.

Some areas within the DOE retained area had a plutonium concentration of more than 50 pCi/g. As discussed in Chapter 3, elevated plutonium concentrations are associated with an area known as the 903 pad. As part of cleanup, DOE removed all surface soils with a plutonium concentration of more than 50 pCi/g around the 903 pad.

US Fish & Wildlife Service

Rocky Flats National Wildlife Refuge

Jefferson County, CO



Pre-Cleanup Plutonium Concentrations in Surface Soils

Plutonium 239/240 (pCi/g)

- > 50 (Surface soils to be removed during cleanup)
- 7 - 50 (Areas anticipated to be retained by DOE)
- 1 - 7 (Refuge Lands)
- < 1 (Refuge Lands)
- DOE Retained Area (Subject to Change)

Data provided by U.S. Department of Energy
(Additional characterization will occur throughout the ongoing cleanup process.)

0 0.5 1 Mile

October 2004

N

Estimated Increased Cancer Risk from Human Exposure

	7 pCi/g	1 pCi/g	0.1 pCi/g
Refuge Worker	1 in 1 million	1 in 6.7 million	1 in 66.7 million
Refuge Visitor	1 in 1.7 million	1 in 11.1 million	1 in 125 million

Figure 4. Pre-Cleanup Plutonium Concentrations in Surface Soils

Table 1. Estimated Increased Cancer Risk from Exposure to Residual Contamination

	Soil Plutonium Concentration			
	50 pCi/g	**7 pCi/g**	**1 pCi/g**	**0.1 pCi/g**
	Area retained by DOE	*Areas to become the Refuge*		
Refuge Worker*	1 in 133.3 thousand	1 in 1 million	1 in 6.7 million	1 in 66.7 million
Refuge Visitor*	1 in 227.3 thousand	1 in 1.7 million	1 in 11.1 million	1 in 125 million

Source: Point estimations from the Remedial Soil Action Level Model
*Exposure Assumptions:
Refuge Worker – 4 hours indoors and 4 hours outside for 250 days a year for 18.7 years
Refuge Visitor – 2.5 hours outside for 100 days a year for 6 years (child) or 24 years (adult)

The Service believes that the health risk from working on or visiting Refuge lands would be low. As shown in Table 1, the estimated increased cancer risk from exposure to residual soil contamination of 7 pCi/g is 1 in 1 million for the Refuge worker, and 0.6 in 1 million (or 6 in 10 million) for the Refuge visitor. As shown in Figure 4, the majority of the public use facilities would be located in areas where the residual contamination is much lower (less than 1 pCi/g).

Lands that would require additional safety requirements or restrictions for either the refuge worker or visitor will not be transferred to the Service for the Refuge. The risk assessment efforts that resulted in the 50 pCi/g surface soil cleanup action level were inclusive of Refuge management activities such as trail building, fence construction and prescribed fire, and visitor use activities such as hiking, biking, and horseback riding. The risk assessment and cleanup protections were designed to be safe for the Refuge worker, Refuge visitor, and the greater community.

A Memorandum of Understanding (MOU) between the Department of the Interior and DOE will guide the transition of Rocky Flats to its status as a National Wildlife Refuge. The Service does not intend to accept transfer of primary administrative jurisdiction for any land at Rocky Flats until the MOU is finalized. Following cleanup and closure, future agreements may provide for Service involvement in managing the wildlife and habitat resources on the retained area, under DOE supervision. Because DOE will retain administrative jurisdiction and manage the retained area, which will be surrounded by the Refuge, the Service is recommending a 4-strand, barbed-wire fence that allows wildlife movement be built around the retained area. The Service is also recommending that appropriate signs be placed near the boundary to distinguish Refuge lands from DOE lands (see Appendix E, letter to RFCA parties). Although no public access to the DOE retained area is proposed in this CCP, and the Service has recommended that the DOE retained lands be posted with signs that prohibit public entry, the cleanup levels being implemented will result in a landscape that is safe for human entry.

The Service will not use the land at Rocky Flats for residential or "bunkhouse" facilities during the life of this CCP. If such a use is considered in the future, the Service will obtain approval from the CDPHE and the EPA, and will notify the public during the planning process.

This EIS does not analyze different scenarios for the cleanup activities because they are outside the scope of Refuge management activities considered in the CCP. A cleaned-up site provides the baseline for analysis. Detailed information describing the remaining contamination at the site will be presented in DOE's RI/FS Report to be published prior to EPA's certification of completion of the cleanup. Readers interested in additional information on cleanup activities should contact the DOE at (303) 966-4546, the EPA at (303) 312-6251, or the Colorado Department of Public Health and Environment at (303) 692-3300.

1.9. FUTURE PLANNING

The CCP will be adjusted to include new and improved information as it becomes available over the course of the CCP's 15-year duration.

Implementation of the CCP will be monitored and reviewed regularly during inspections and programmatic evaluations. Budget requests and annual work plans will be tied directly to the CCP. Fifteen years after the Refuge has been established, the CCP will be formally revised, following the process used on this CCP. Any substantive changes to the CCP before the 15-year period will involve a public process. However, the Refuge Manager has the authority under Title 50 CFR, to take immediate actions outside this plan as necessary to respond to emergencies and protect wildlife and public safety.

The CCP describes the desired future conditions of the Refuge and provides long-range guidance and management direction. Chapter 2 describes objectives and strategies that the Service would use to achieve the desired future conditions. During the 15-year life of this plan, the Service would prepare additional plans, called step-down management plans. A step-down management plan provides specific guidance for the Service to follow to achieve objectives or implement management strategies related to specific management topics such as habitat, fire and public use. Step-down plans will be developed as the need arises. The preparation of new step-down plans typically will require further compliance with Service planning policies and procedures, including opportunities for public review and comment. The Service anticipates the following plans would be needed at the Refuge:

- Vegetation and Wildlife Management Plan
- Integrated Pest Management Plan
- Fire Management Plan
- Hunting Plan
- Visitor Services Plan
- Health and Safety Plan
- Historic Preservation Plan

A Visitor Services Plan would be an umbrella document that would include interpretation, environmental education, hunting management and research protocols.

1.10. REFERENCES

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chapter 2

ALTERNATIVES

Chapter 2. Alternatives

This chapter describes the four alternatives analyzed in detail in this EIS, including the Preferred Alternative and the No Action Alternative. The following sections describe how the alternatives were developed, how they address the significant issues identified during the scoping process, and how each alternative would achieve the objectives and strategies identified for the Refuge. The chapter's last two sections describe options considered but dismissed from detailed analysis, and activities that could result in cumulative effects when combined with the effects of the Preferred Alternative.

2.1. DEVELOPMENT OF ALTERNATIVES

Significant Issues

In 2002, the Service held several meetings with the public and agencies to identify the issues and concerns that were associated with the establishment and management of the Rocky Flats NWR. The public involvement process is summarized in greater detail in Chapter 6. Based on input from the public scoping process, as well as guidance from the Improvement Act, the NEPA and the Service's planning policy, the planning team selected seven significant issues that will be addressed in the alternatives:

1. Vegetation Management
2. Wildlife Management
3. Public Use
4. Cultural Resources
5. Property
6. Infrastructure
7. Refuge Operations

Resource Management Zones

Early in the planning process, the planning team identified three management zones that correspond to general vegetation communities at Rocky Flats. These management zones are xeric tallgrass prairie, wetlands and riparian corridors, and mixed prairie grasslands. These management zones were developed to organize management concepts and provide direction to the objectives and strategies under each alternative.

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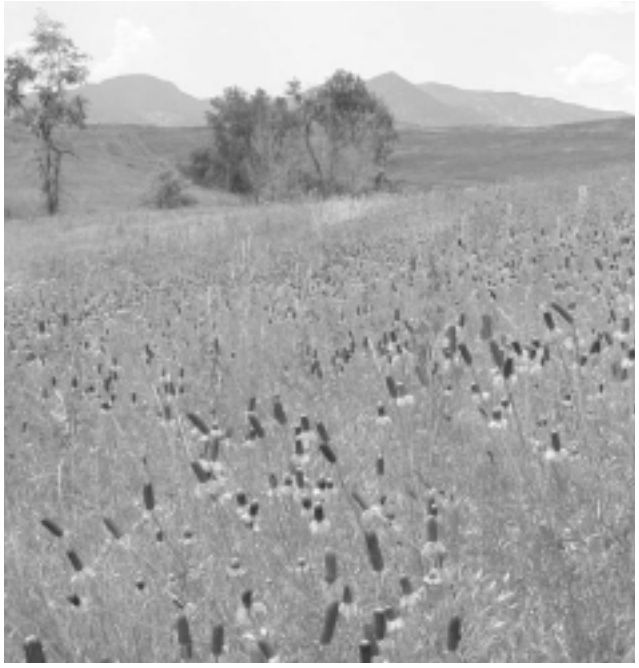


Prairie coneflower in the mixed prairie grassland.

Xeric Tallgrass Prairie

Rocky Flats supports an example of the rare xeric tallgrass prairie community, which is generally found on cobbly soils in the western portions of the site. While the quality and species composition of this community vary, all of the xeric tallgrass management area has similar characteristics and management needs.

Wetlands and Riparian Corridors

Located primarily along the drainages at Rocky Flats, the wetlands and riparian corridors management zone is generally composed of plant communities that depend on moist conditions. While the vegetation communities in this management zone range from various wetlands to riparian woodland, they all share similar characteristics and management needs.

Mixed Prairie Grasslands

The eastern portions of Rocky Flats largely are composed of short and mixed-grass prairie communities. The various grassland communities in this grassland management zone share similar characteristics and management needs.

2.2. DESCRIPTION OF ALTERNATIVES

Development of the alternatives was based on the public scoping process and workshops involving the planning team and Service staff. The public scoping process identified the significant issues to be addressed by the alternatives. The planning workshops allowed the Service to develop a range of possible alternatives and specific objectives and strategies for those alternatives. The workshops resulted in four alternatives that are analyzed in detail in this EIS. A fifth alternative was considered early in the process, but was eliminated from consideration (this alternative is discussed Section 2.9). The four alternatives are:

- Alternative A: No Action
- Alternative B: Wildlife, Habitat and Public Use (Preferred Alternative)
- Alternative C: Ecological Restoration
- Alternative D: Public Use

ALTERNATIVE A: NO ACTION

In the No Action Alternative, the Service would not develop any public use facilities and would not implement any new management, restoration, or education programs at the Refuge. In this alternative, the Service would continue to manage the Rock Creek Reserve in accordance with the Rock Creek Reserve Integrated Natural Resources Management Plan (DOE 2001). The Rock Creek Reserve is 1,800 acres surrounding Rock Creek in the northern part of the Refuge (Figure 5).

Management activities within the Rock Creek Reserve would include ongoing resource inventories and monitoring, use of prescribed fire, habitat restoration, weed control, and road removal and revegetation. As “caretakers” of remaining portions of the site, the Service would emphasize minimal resource stewardship (such as weed control) outside of the Rock Creek Reserve. Public use opportunities would be limited to guided tours to the Rock Creek Reserve (Figure 5).

ALTERNATIVE B: WILDLIFE, HABITAT AND PUBLIC USE (PREFERRED ALTERNATIVE)

Alternative B, the Service’s Preferred Alternative, emphasizes both wildlife and habitat conservation along with a moderate level of wildlife-dependent public use. Refuge-wide habitat conservation includes management of native plant communities, restoration of disturbed areas, removal and revegetation of unnecessary roads and stream crossings, management of deer and elk populations, and protection of Preble’s meadow jumping mouse habitat. Restoration would strive to replicate pre-settlement conditions and would use a variety of integrated pest management (IPM) tools including prescribed fire and grazing.

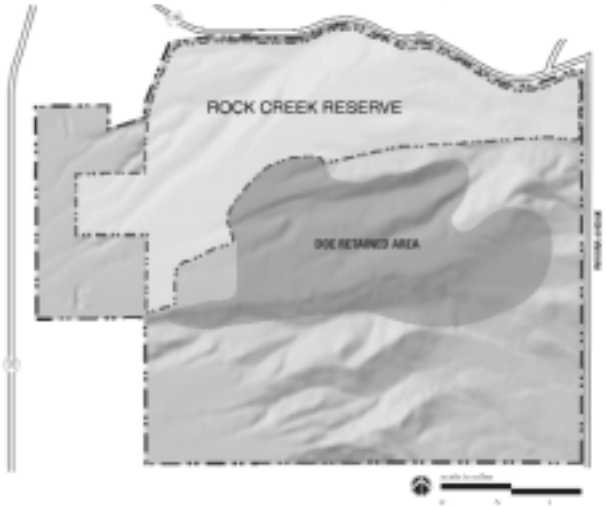
Visitor use facilities would include about 16 miles of trails, a seasonally staffed visitor contact station, trailheads with parking, and developed overlooks (Figure 7). With the exception of one trail opened immediately, restoration would begin before other trails are opened. Most trails would use existing road corridors. Public access would be by foot, bicycle, or horse, with limited car access to two parking areas on the Refuge. A limited public hunting program would be developed in collaboration with the Colorado Division of Wildlife (CDOW). On- and off-site environmental education programs would focus on the prairie ecosystem and would target primarily high school and college students.

The Service would provide compatible scientific research opportunities focused on wildlife habitat and interactions between wildlife and human use. Partnerships would be sought with federal, state and municipal agencies and private entities to help achieve Refuge goals and conserve contiguous lands.

ALTERNATIVE C: ECOLOGICAL RESTORATION

Alternative C emphasizes Refuge-wide conservation and restoration of large areas of wildlife habitat. Restoration and management activities would strive to replicate pre-settlement conditions. Restoration efforts

Figure 5. Rock Creek Reserve Boundary.



would focus on disturbed areas such as road corridors, stream crossings, cultivated fields and developed areas and would use a variety of IPM tools including prescribed fire and grazing.

Limited public use and minimal facility development would occur in this alternative (Figure 8). Any facilities on the Refuge would be built for specific resource protection and management purposes. Because of this, office space would be leased off-site. One trail would provide access to the Rock Creek drainage. Access would be limited to pre-arranged, guided tours only. Environmental education programs would be limited to publication and local distribution of educational materials about the Refuge and its ecological resources.

In Alternative C, the Service would facilitate increased opportunities for applied research relating to long-term habitat changes and species of special concern. Partnerships would be expanded with governmental agencies, educational institutions and others to assist in wildlife and habitat protection, resource stewardship and the preservation of contiguous lands.

Alternative D: Public Use

In Alternative D, the Service would emphasize wildlife-dependent public uses. Wildlife and habitat management would focus on the restoration of select plant communities and ongoing conservation and management of existing native plant and wildlife species. A variety of IPM tools would be used, although prescribed fire and grazing would not be used. Some roads and other disturbed areas not used for trails or public use facilities would be restored with native vegetation.

A broad range of public use opportunities would be provided, including wildlife observation and photography, interpretation, environmental education and a limited hunting program (Figure 9). Access through the Refuge would be provided by a 21-mile trail system that would accommodate hiking, bicycling and equestrian use. Most trails would be constructed along existing roads. A visitor center would be constructed on the Refuge or at a nearby location. Environmental education efforts would include on- and off-site programs for kindergarten through college age students.

Research opportunities would focus on the integration of public use into the Refuge environment and interactions between wildlife and visitors. Partnerships would be sought with various public agencies to help sustain Refuge goals and preserve contiguous lands. The Service also would work with local communities and tourism organizations to promote wildlife-dependent public uses on the Refuge.

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The Front Range mountain backdrop provides a beautiful setting for wildlife observation.

Table 2: Summary of Proposed Management Actions

GOALS	ALTERNATIVE A — *No Action* *Continue current habitat and wildlife management practices that focus on the Rock Creek drainage. Limit habitat and wildlife management in other areas to the protection of existing conditions. Restrict general public use. Continue limited compatible scientific research opportunities.*	ALTERNATIVE B — *Wildlife, Habitat, & Public Use* *Implement extensive habitat and wildlife management and conservation focused on the restoration to pre-settlement conditions. Accommodate wildlife-dependent public use. Facilitate compatible scientific research that focuses on habitats, wildlife, and public use.* **Preferred Alternative*
Wildlife & Habitat	Maintain current conservation and restoration approaches. Increase weed control and restoration in the Rock Creek drainage only.	Throughout the site, use a variety of techniques (including prescribed burning) to restore disturbed areas, conserve native plant communities and wildlife populations, and reduce coverage of invasive weeds.
Public Use, Education, Interpretation	Programs – Public access permitted by organized guided tours only. Public use programming limited to the distribution of a Refuge fact sheet that outlines the Refuge's history and its natural and cultural resources. No environmental education programming. Facilities – Public use facility development limited to a restroom facility.	Programs – Access limited to a trail down to Lindsay Ranch during years 1-5. Following year 5, open Refuge to general public and provides interpretation and an organized youth/disabled hunting program. Environmental education programs for high school and college-level students. Facilities – Hiking, biking and limited equestrian trails (16.5 miles total). Wildlife viewing blind, overlooks, interpretive signage, kiosk, visitor contact station and restrooms.
Safety	Staff – Trained staff knowledgeable about the site's institutional controls, requirements, and resources. Visitors – All visitors would remain under the supervision of Refuge staff.	Same as A plus: Visitors – Staff and outreach materials would inform visitors about opportunities and restrictions for access, and any safety hazards.
Open & Effective Communication	Outreach limited to the distribution of a Refuge fact sheet to interested parties that request information.	Programs and materials developed to inform the public about the Refuge's resources, the NWR System, the Service's stewardship role, risk and management issues and to recruit visitors and support for the Refuge.
Working with Others	Partnership – Maintain relationships with CDOW and surrounding open space agencies and landowners.	Partnerships – More extensive partnerships to address the conservation of habitat across boundaries, to interpret cultural resources and to recruit more compatible scientific research. Volunteers – Develop a volunteer program to assist Refuge staff with public use programming and other refuge operations.
Refuge Operations	2 full-time employees. Renovate existing shed to house tractors and a small office space. Maintain the existing stock fence.	4 full-time employees. Construct a storage/maintenance building and a contact station with office space. Maintain the existing stock fence.

ALTERNATIVE C — *Ecological Restoration* *Maximize habitat and wildlife management and conservation focused on the restoration to pre-settlement conditions. Limit general public use. Implement compatible scientific research that focuses on habitat and wildlife.*	ALTERNATIVE D — *Public Use* *Focus habitat and wildlife management on the restoration of select plant communities and the conservation of existing native plant communities and wildlife species. Provide opportunities for a diversity of compatible public uses. Facilitate compatible scientific research focused on habitats, wildlife, and the related impacts of public use.*
Same as B plus: Institute more extensive restoration and monitoring.	Throughout the site, restore some disturbed areas (no burning or grazing), conserve native plant communities and wildlife species, and limit the spread of invasive weeds. Accept prairie dogs from off-site.
Programs – Access limited by organized guided tours only. Public use programming limited to the distribution of a Refuge fact sheet habitat types, wildlife populations and the Service's restoration practices and the development of simple learning materials for high school college educators. No environmental education programming. **Facilities** – Limited facility development including a hiking trail (0.6 miles), an overlook with an interpretive sign panel and a restroom.	**Programs** – Greatest amount of public use opportunities including increased natural and cultural interpretation programs. Environmental education programs expanded to serve kindergarten - college-level students. **Facilities** – Extensive facility development including hiking, biking and equestrian trails (21.2 miles total), wildlife viewing blinds, interpretive signage, kiosk, outdoor classroom, visitor center and restrooms.
Same as A	**Same as B**
Same as B	**Same as B**
Same as B plus: **Partnerships** – Partnerships and research emphasis is on habitat and wildlife conservation. **Volunteers** – Volunteers would assist with restoration and conservation operations rather than public use programming.	**Same as B**
5 full-time employees. Construct a storage/maintenance building and lease office space. Maintain the existing stock fence.	8 full-time employees. Construct a larger storage/maintenance building and a visitor center with office space. Maintain the existing stock fence.

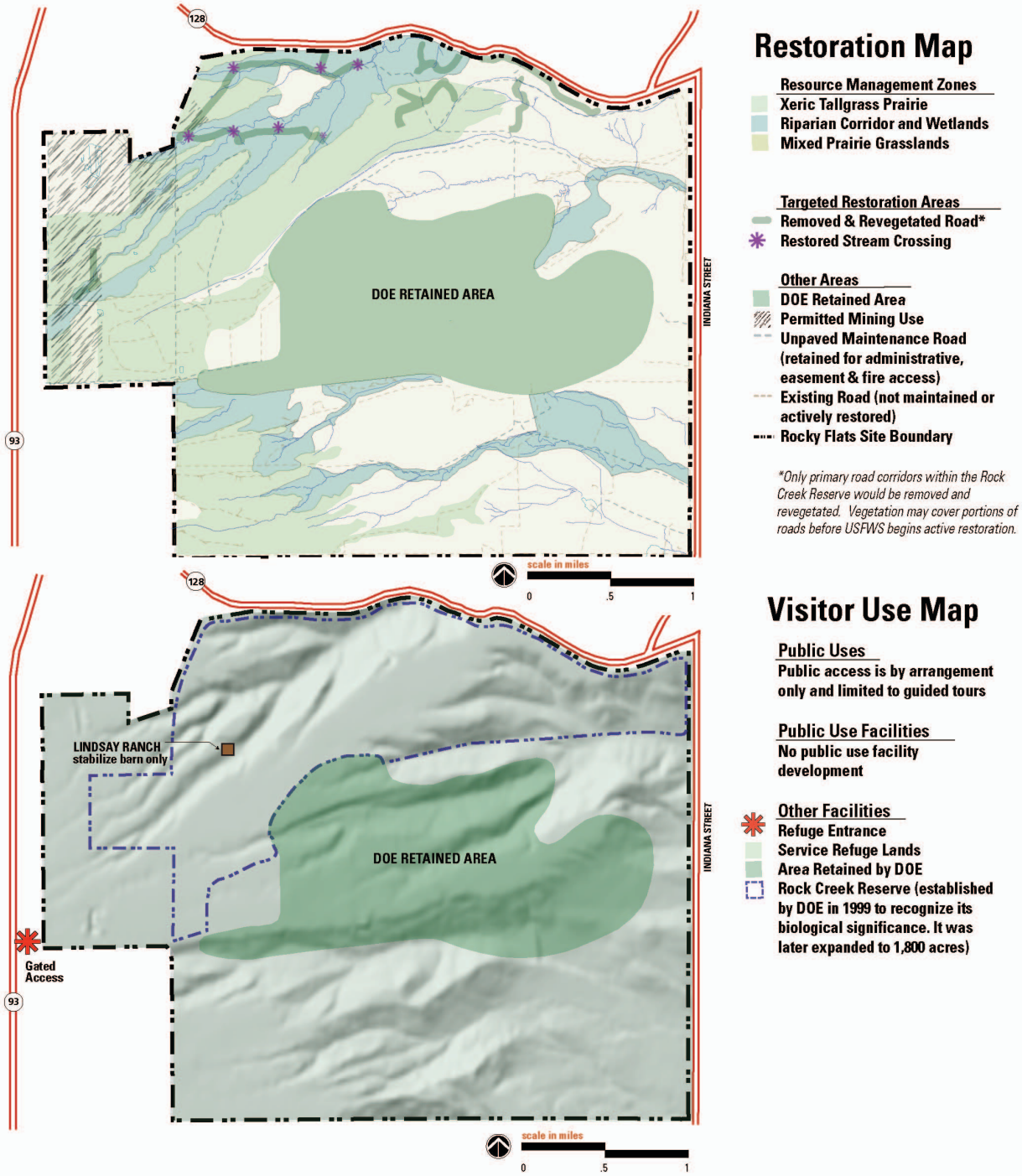

Figure 6. Alternative A

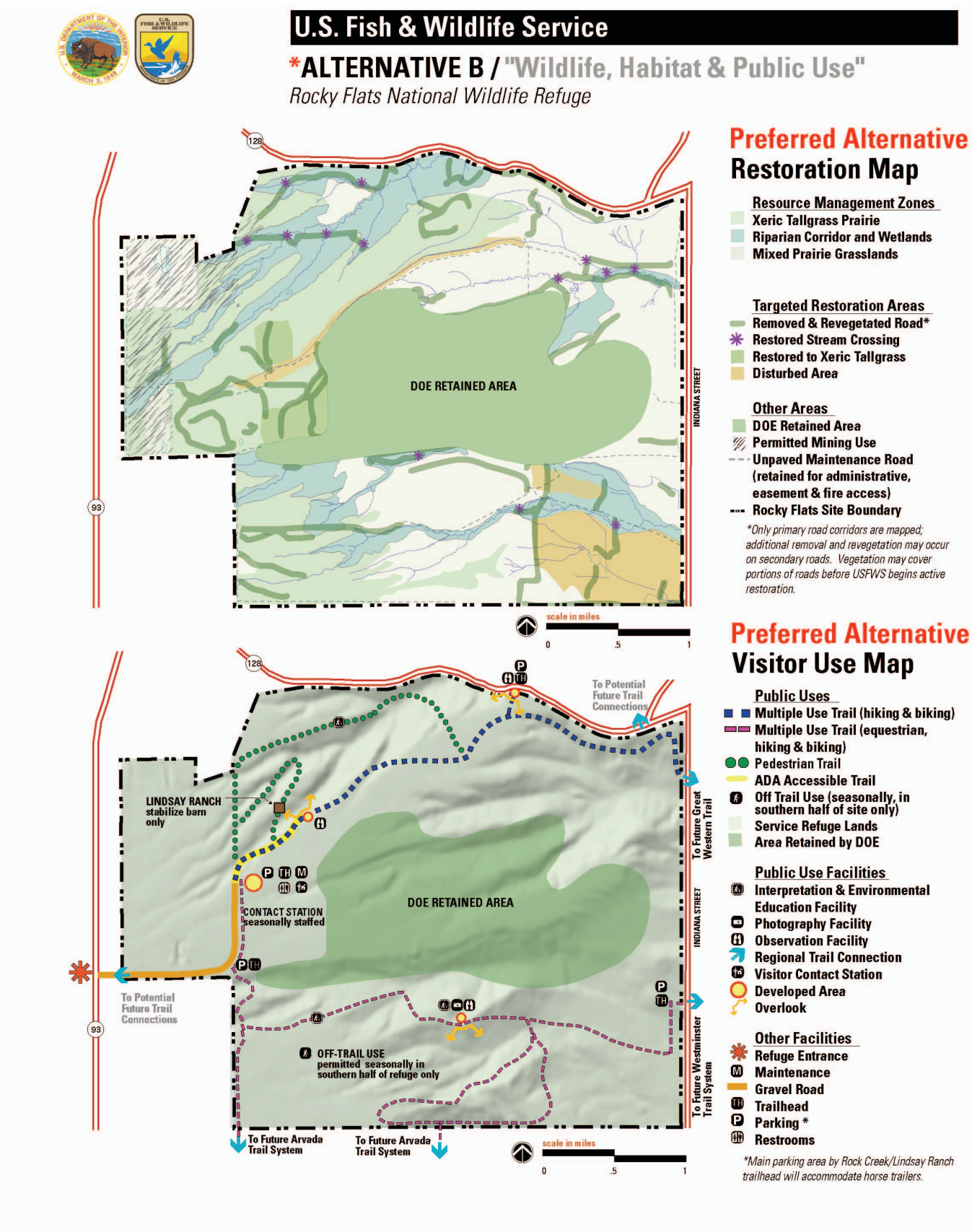

Figure 7. Alternative B

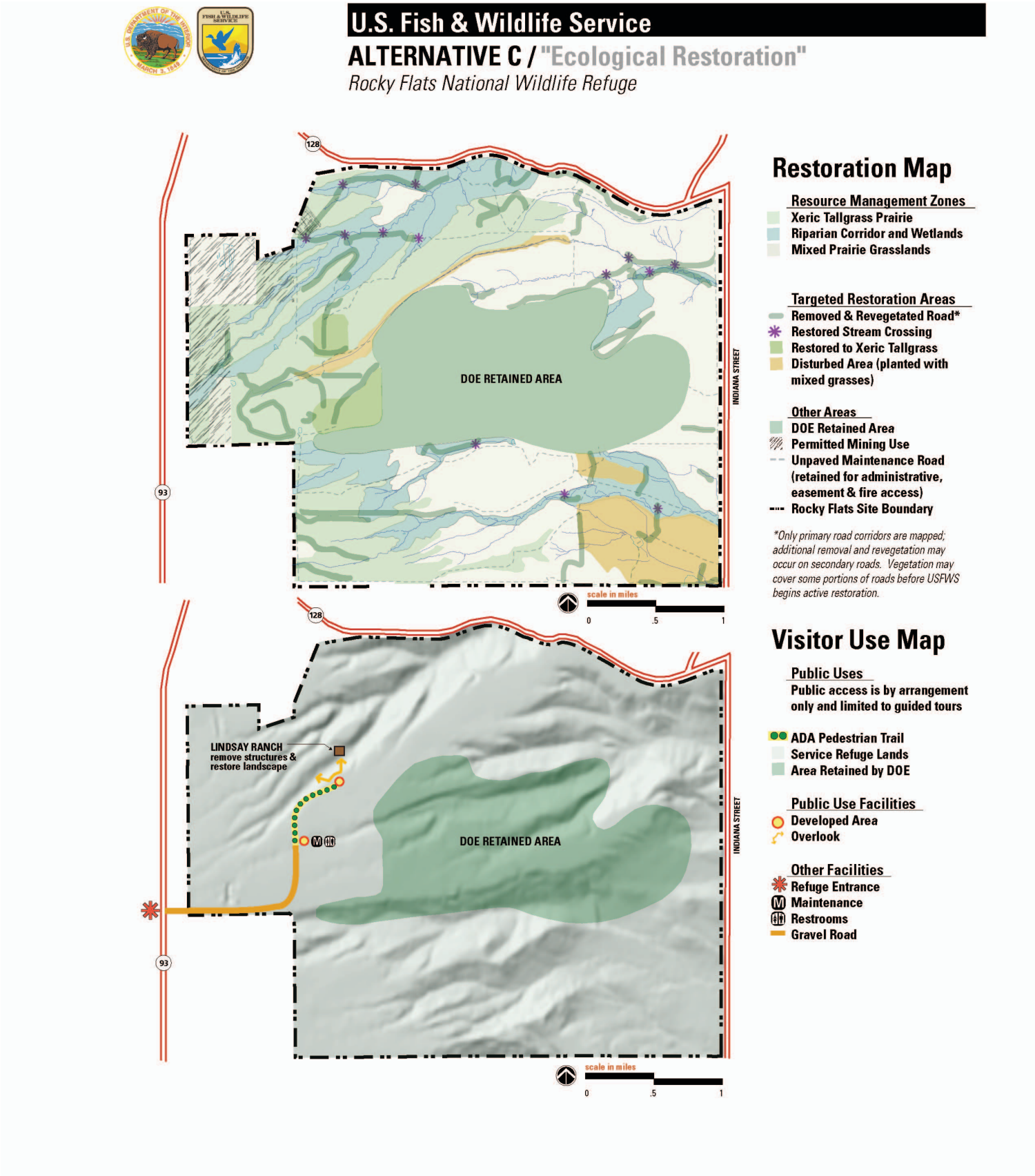

Figure 8. Alternative C

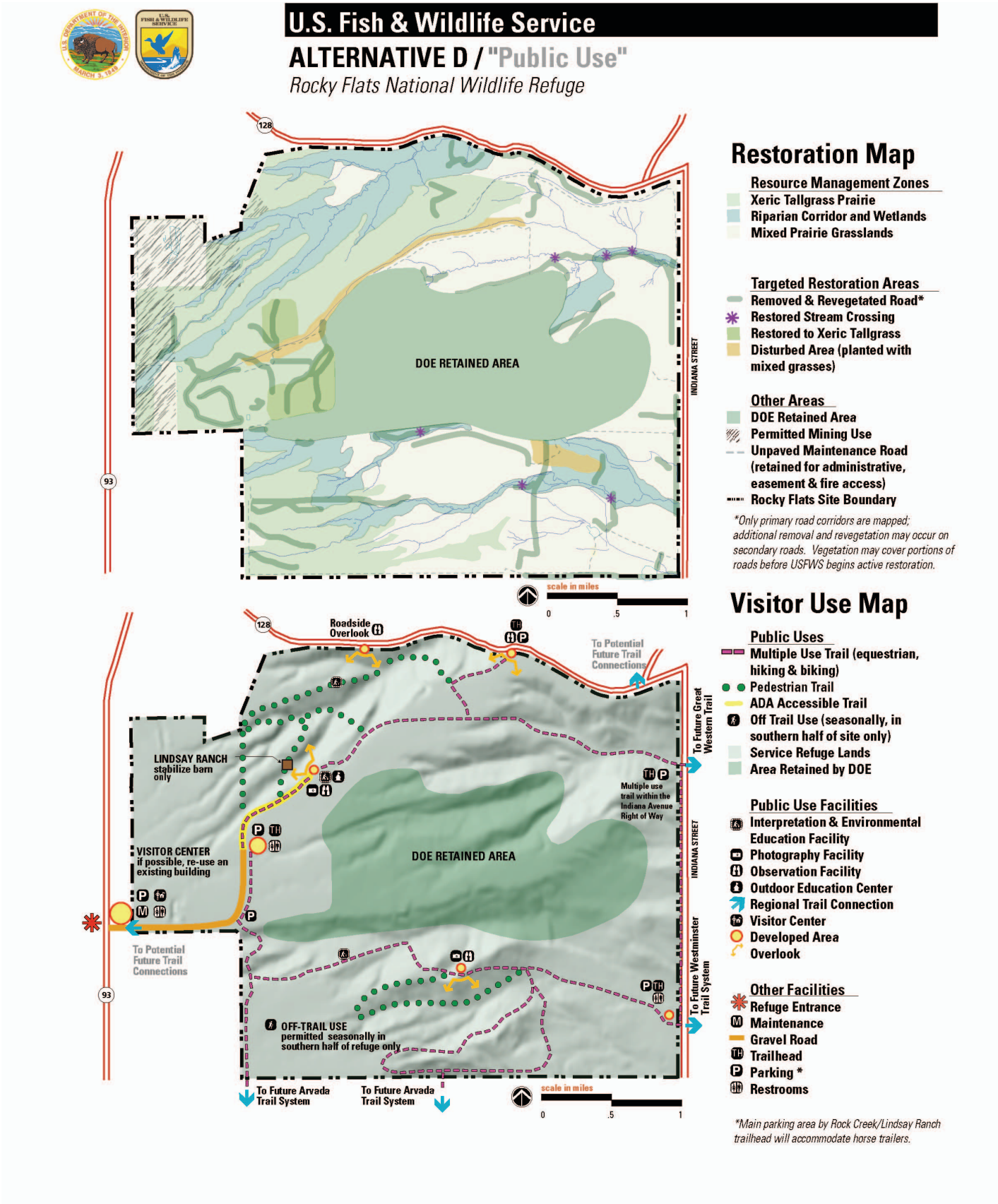

Figure 9. Alternative D

2.3. WILDLIFE AND HABITAT AND PUBLIC USE MANAGEMENT DESCRIPTIONS

With many miles of trail, thousands of acres of grassland habitat and a beautiful mountain backdrop, the Refuge could become a popular destination for wildlife enthusiasts, naturalists and students within the Denver metropolitan area. The visitor experience at the Refuge would be characterized by the Service's commitment to providing visitors with an understanding and appreciation of the flora and fauna of the prairie ecosystem. The Service's efforts to connect visitors to their natural resource heritage would build upon regional efforts to promote an appreciation for the grassland environments.

Given the current cleanup of the Rocky Flats Environmental Technology Site and the Service's commitment to habitat conservation and enhancement, the Refuge would provide an excellent opportunity to educate the public about the processes of grassland restoration and to actively involve them in the rehabilitation of the landscape.

WILDLIFE AND HABITAT MANAGEMENT

Preble's Habitat Management

Riparian and wetland communities at the Refuge support habitat for a variety of wildlife species, including the threatened Preble's meadow jumping mouse. In all alternatives, the Service would protect and maintain Preble's habitat throughout the Refuge. While meeting the Service's obligations under the Endangered Species Act, the protection of Preble's habitat also would serve other species that depend on riparian and wetland communities for survival.

Alternative A would protect and maintain Preble's habitat; Alternatives B, C and D also would direct the Service to improve habitat for the mouse (and other riparian species). Part of the riparian habitat enhancement efforts in Alternatives B, C and D would be the removal and revegetation of unused roads and stream crossings. In Alternative A, this revegetation would only occur within the Rock Creek Reserve.

In all alternatives, the Service would conduct surveys of Preble's habitat every 2 to 3 years to detect changes in size and location of existing populations. Alternatives B, C and D would expand the surveys to include monitoring plant diversity in riparian areas. In Alternatives B and D, where there would be trail use through some riparian habitat areas, the Service would seek funding and partnerships to assist in monitoring the impacts of recreational use on Preble's and its habitat.

Xeric Tallgrass Management

The rare xeric tallgrass grassland community, which dominates the pediment tops in the western portion of the Refuge, is an important natural resource that needs special consideration and management. In all alternatives, the Service would manage the xeric tallgrass to maintain the extent and improve the native species composition of this community. The Service would develop a vegetation management plan to direct management efforts (including herbicide application, biological controls, prescribed fire, grazing and mowing) and would monitor species composition and weed infestations every few years to ascertain the effectiveness of management efforts. In Alternative A, no grazing would be used and prescribed fire would be limited to the Rock Creek Reserve. Prescribed fire and grazing would not be used in Alternative D.

Mixed Grassland Prairie Management

Nearly half of the Refuge consists of mixed grassland prairie communities. While these communities are relatively common along the Colorado Front Range, they play an important role in providing habitat for various wildlife species. Management strategies for the mixed grassland prairie include the use of prescribed fire in Alternatives A, B and C and the use of managed grazing in Alternatives B and C. In the southeast corner of the Refuge, a former agricultural field has been planted with non-native grasses. In Alternatives B and C, the Service would revegetate this and other disturbed areas with native grassland species that would improve the extent and diversity of grassland habitat. In all alternatives, additional management strategies would be implemented in the mixed grassland prairie communities according to the objectives and strategies outlined under weed management, prairie dog management, habitat restoration and species reintroduction.

Road Restoration and Revegetation

Rocky Flats currently has over 70 miles of roads, of which about 50 miles will be under Service jurisdiction. All of the alternatives call for the removal and revegetation of roads and stream crossings that would not be used for maintenance access, fire control, trails, or other Refuge purposes. The extent of restoration efforts would be:

- Alternative A (in the Rock Creek Reserve): 12 miles of road; 7 stream crossings

- Alternative B: 26 miles of road; 13 stream crossings
- Alternative C: 26 miles of road; 13 stream crossings
- Alternative D: 24 miles of road; 6 stream crossings

While Alternative C would have fewer roads and trails overall, the length of road to be revegetated in Alternative B is the same as Alternative C because in Alternative B, a new trail segment would replace the existing road in the Woman Creek drainage. See Figures 25 and 26.

Weed Management

Noxious weeds present a tremendous challenge to the health and diversity of native plants and wildlife habitat on the Refuge. Under Alternatives B, C and D, the Service would control the spread and reduce the density of diffuse knapweed, Dalmatian toadflax and Canada thistle during the 15-year timeframe of the CCP. In Alternative A, this reduction would only occur within the Rock Creek Reserve; outside of Rock Creek, the Service would control the spread of weeds, but would not commit resources to weed reduction.

Under Alternatives B and C weed management scenarios would employ a comprehensive IPM approach, including the use of herbicides, biological controls, mechanical removal, prescribed fire and controlled grazing. Weed infestations would be mapped annually. Prescribed fire and grazing would not be used in Alternative D and no grazing would occur in Alternative A. In Alternative A, however, limited prescribed fire would be used in the Rock Creek Reserve. Additional methods used in Alternatives B and C would include informal surveys along roads and trails and temporary fences to collect tumbleweeds which disperse seeds with the wind.

Deer and Elk Management

While the sizes and locations of deer and elk populations at the Refuge are well known, the carrying capacity of the habitat at the Refuge relative to population size has not been determined. In all alternatives, the Service and/or CDOW would determine a target population for deer and elk on the Refuge and would seek to manage those levels. Tools to attain these population goals include culling by Service and/or CDOW staff. In Alternatives B and D, a limited public hunting program also would be used.

Managing deer and elk within target population levels for the Refuge would minimize the potential for overgrazing and overbrowsing of sensitive riparian habitat. In all alternatives, the Service would monitor sensitive areas for such impacts.

Prairie Dog Management

The short and mixed grassland communities in the eastern portions of the Refuge provide up to 2,460 acres of habitat for black-tailed prairie dog. About 113 acres of prairie dog colonies were mapped at the Refuge in 2000. Due to recent plague outbreaks, about 10 of those acres are currently occupied. In all alternatives, prairie dog populations would be allowed to expand naturally within their primary habitat areas. In Alternative A, this expansion would not be limited. In Alternative B colonies would be limited to 750 acres, in Alternative C colonies would be limited to 500 acres and in Alternative D colonies would be limited to 1,000 acres. Alternative D would allow the Service to evaluate the suitability of accepting unwanted prairie dogs that are relocated from other jurisdictions; the other alternatives would not allow prairie dog relocation onto the Refuge.

Species Reintroduction

The task of restoring native species to the Refuge has already begun. In 2003, two native fish species that have been decreasing regionally were introduced into Rock Creek. Additionally, the CDOW, the City of Boulder, and Boulder County introduced a population of sharp-tailed grouse onto their open space properties north of the Refuge. In all alternatives, the Service would continue to work with CDOW to facilitate

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Prairie dogs would be managed differently under each alternative.

species reintroduction at the Refuge. In Alternatives B, C and D, the Service would take active steps to evaluate the suitability of additional species reintroductions and to complete a management plan for sharp-tailed grouse reintroduction on the Refuge.

Alternative C would promote the overall goal of restoring the Refuge environment to pre-settlement conditions. In Alternative C, the Lindsay Ponds on Rock Creek, which currently provide habitat for the reintroduced fish species, would be removed and Rock Creek restored.

Public Use Management

This section offers a preview of the visitor experience of the Refuge in each alternative. Alternatives A and C would have limited and controlled access with few visitors; for Alternatives B and D, the Refuge would be open to the public for a variety of uses. The three primary components that will shape the visitor's Refuge experience would be public outreach, interpretation, and public use activities and facilities. These components are described to illustrate how a visitor would experience the Refuge.

The public outreach component describes methods used to educate the potential visitor about the Refuge, pique their interest, and recruit them to participate in public use programs. The interpretation component identifies critical stories to be told and the natural and cultural resources that will become the basis for educational and interpretive activities. How visitors access the site, what activities they enjoy, where they travel and what facilities they encounter are outlined in the public use activities and facilities component.

Public Outreach

Improving public perception of the Refuge by informing visitors about the site's natural resources and addressing safety concerns is essential to the development of successful public use programs. Past concerns about contamination, radiation exposure and other environmental risks have fostered apprehension about visiting the Refuge. The Rocky Flats site has been closed to the general public for over 50 years and the lack of access opportunities has also contributed to fearful speculation about the site's condition.

In an effort to assuage public safety concerns, the Service would develop public outreach programs in all alternatives. The Service would attempt to build a stronger base of public understanding, support and stewardship within the Denver metropolitan area through a variety of outreach methods.

Communication

The "Open and Effective Communication" goal (described in Chapter 1) is driven by the Service's commitment to provide the public with clear information about the safety of the site, instill confidence in the Service's ability to provide safe visitor experiences and to develop community support for the Service's programs and management policies. In response to the concerns raised during public scoping regarding the site's history and contamination, the Service sees the value in developing a communication goal to guide public outreach efforts. The goal clearly emphasizes the importance of educating the public about the Refuge, the Service and the NWRS.

With the exception of Alternative A (only limited public outreach), all alternatives would include the development of a variety of public outreach methods to inform the public about environmental stewardship, risk communication, CCP implementation, and the mission of the Service and the NWRS. For example, a visitor may learn about the Refuge and opportunities to visit the site through media coverage, newsletters and flyers, or by attending community events. To reach a broad range of people, the Service would coordinate with local partners to participate in community events and provide input on local environmental issues. The outreach efforts would be instituted during the first year of the Refuge's establishment and would be ongoing throughout the life of the CCP. Public outreach efforts in Alternative A would be limited to the distribution of a Refuge fact sheet to interested parties that request information.

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Alternatives B and D would have environmental education programs.

Table 3. Interpretive Themes

Theme: *Habitat Restoration:* "Diverse wildlife populations require healthy plant communities."	
Subthemes: Explore the various types of habitat at the Refuge and promote visitors' awareness, understanding and appreciation of both the prairie ecosystem and the Service's restoration efforts.	*Plants for Wildlife:* Riparian and prairie plant communities including the rare xeric tallgrass and tall upland shrublands provide shelter and food for wildlife. *Battling Invasive Weeds:* Invasive weeds crowd native plants and degrade habitat at the Refuge and throughout the West. *Restoring the Prairie:* Restoring and maintaining the native prairie requires a variety of tools and techniques.
Theme: *Wildlife:* "Wildlife take refuge at Rocky Flats."	
Subthemes: Explore the relationships between habitat types and the kinds of wildlife they support.	*Home to Wildlife:* Refuge wildlife forage and nest in the grasslands, occupy the riparian areas and migrate to and from adjacent open space lands. *Threatened and Endangered Species:* Preble's meadow jumping mouse, a threatened species, resides in the riparian habitat found at the Refuge. *Returning to the Prairie:* Reintroducing prairie species to the Refuge boosts biodiversity and creates unique viewing opportunities.
Theme: *Wildlife and People:* "Wildlife comes first."	
Subthemes: Explore how wildlife and people co-exist and how both will benefit from habitat restoration and conservation.	*Watchable Wildlife:* Viewing wildlife in a natural setting. *Respecting Wildlife:* While an enjoyable activity, wildlife observation requires respect and consideration for wildlife.
Theme: *History:* "Native Americans, settlers and the DOE all used Rocky Flats. Today, it is protected for wildlife."	
Subthemes: Interpret the historical periods that have shaped the site and how generations have managed to survive in the harsh climactic conditions of the prairie landscape.	*Prehistoric Prairie Settlement:* Native American activity on the plains – describing settlements, hunting and day-to-day survival on the prairie. *Settling the Frontier:* Homesteading on the Great Plains and the establishment of the Lindsay Ranch. *Plutonium Trigger Production:* DOE's development and management of a nuclear weapons production site and the cold war history. The Service will work in collaboration with the Cold War Museum to tell the story of the site as a nuclear production site. *A Renewed Purpose:* DOE's cleanup and closure of the production site and the Service's ongoing efforts to restore and conserve the prairie in order to provide habitat for wildlife and wildlife-dependent public uses.

Interpretation

The goal of the interpretive programs at the Refuge is to inform the public about the Rocky Flats site, educate about resident wildlife and their habitats, and cultivate a stewardship ethic. Committed to fostering an appreciation of the Refuge's natural resources, the Service developed interpretive themes that focus on wildlife, wildlife habitat and the site's history. Providing the public with interpretive information would enhance the public's understanding of their surrounding natural environment and increase support for the Service's habitat conservation efforts. Alternatives B and D would include substantial interpretive programming and signage. Alternative C would contain minimal signage. Alternative A would not include interpretive programs or facilities.

Interpretive Themes

Interpretive themes would provide a basis for the development of public use activities and facilities in Alternatives B, C and D. The themes capture the essence and importance of ideas, concepts and features that emerged from the Service's review of the Refuge's natural and cultural resources.

The four themes represent the central messages that the Service wants to convey to visitors. The themes provide the foundation for all interpretive programming and facility development. Each theme is summarized by a simple statement and supported by several subthemes. Linked specifically to certain resources, the subthemes further define the stories about Refuge resources and the Service's role in transforming the site (Table 3).

Interpretive Facilities

In Alternatives B and D, a variety of facilities would be developed to help the visitor better understand the interpretive themes. The primary interpretive facilities would be signage, displays and a Refuge website. Facility development in Alternative C would be limited to an interpretive sign panel at the Rock Creek overlook.

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Under Alternatives B and D, volunteers would have an opportunity to be involved in many aspects of refuge operations.

Signage/Displays: Signs and displays varying in design would help illustrate the historical and natural stories of the Refuge. Listed below are the types of signage a visitor would find upon entering and exploring the Refuge:

- **Roadside and Boundary Signs:** Signage is needed to notify people of the Refuge's location and direct visitors to the Refuge. In all alternatives, a refuge entrance sign would be placed outside the main entrance along Highway 93, and the exterior boundary would be posted with standard NWR boundary signs. All alternatives also would include small, metal boundary signs along the fence line.
- **Interpretive Signs:** Located at all trailheads and in selected spots along trails, small signs would display a map and/or interpretive facts about a specific location or topic. Trailhead signs would include information about the site's history, clean up and access restrictions.
- **Interpretive Sign Panels:** Larger signs at the Rock Creek and Highway 128 (Alternative D only) overlooks, the contact station/visitor center, and Lindsay Ranch would display interpretive information about the Refuge's resources and/or visitor orientation information.
- **Directional Signs:** Located at select trail intersections, signs would provide visitors direction and announce trail rules and regulations.
- **Visitor Kiosk:** Located outside the contact station/visitor center in Alternatives B and D, the kiosk would consist of three panels fastened to a wooden structure. The kiosk would provide orientation, regulatory and interpretative information for visitors entering the Refuge.
- **Interpretive Displays:** Within the contact station/visitor center, Alternatives B and D would have both permanent and changing displays that highlight the Refuge's natural resources.

Website: In Alternatives B and D, a Refuge website would provide a reference resource for students and the general public to learn from their classroom and/or home computer fun facts about the Refuge as well as scientific data related to the grassland ecosystem and its wildlife. The website would serve several education levels.

Interpretive and Environmental Education Programs
Outlined below are general descriptions of the types of interactive and field-based interpretation and educational activities for each alternative. Directly tied to the interpretive themes, the programs would bolster environmental awareness and appreciation by highlighting the natural features and history of the Refuge. Refuge staff would develop and run the programs with the assistance of volunteers. Programs would be tailored to attract a diversity of visitors and the types of programs and their topics would change seasonally. The programs listed below apply to Alternatives B and D except where noted.

- **Guided Tours:** Included in all alternatives although tours in Alternatives A and C would be very limited and would be pre-arranged with Service staff. Refuge staff or a volunteer would lead interpretive walks that focus on wildlife, habitat needs, or the site's other natural and cultural resources. Tours would highlight unique characteristics of the site and identify the interrelationship

between prairie plant communities and wildlife populations.

- **Nature Programs/Presentations:** Conducted either in the field, in surrounding communities, or in the visitor center, presentations would offer an in-depth explanation of a specific topic. To the extent possible, Refuge volunteers and/or partners would lead these programs/presentations.
- **Hands-On Work:** Programs developed to recruit volunteer participation in prairie restoration may include seed collection, weed removal, or seeding. The work activities would include information sessions on restoration techniques and the benefits of restoring prairie habitat. Volunteers also may be involved with Refuge enhancement projects such as trail construction and general maintenance.
- **Teacher Resource Guides and Workshops:** Refuge staff would develop teacher resource guides that present the necessary information for teachers to conduct their own environmental education programs at the Refuge. The guides would meet Colorado's model content standards and would likely include pre-visit activities, on-site activities, post-visit activities and assessment activities. Additionally, the Service would sponsor teacher training workshops to familiarize local educators with the Refuge's resources.

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Wildlife observation is a priority wildlife-dependent public use.

Public Use Activities and Facilities

Although guided by a "Wildlife First" mission that promotes the "conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats," the Refuge System is also committed to investing in public use facilities and programs that foster an appreciation of the Refuge's natural resources. By raising public awareness and understanding of the prairie habitat and wildlife, the Service hopes to cultivate a land stewardship ethic among visitors.

Access

In all alternatives, access to the site would be obtained via a two-lane road off of Highway 93. In Alternatives A and C, access would be pre-arranged with the Service and the visitor experience would be limited to a guided tour with Refuge staff. In Alternatives B and D, the access road would direct visitors to orientation information, trailheads and parking areas.

To tie into surrounding existing and proposed trail systems, Alternatives B and D would include additional access points located on the north, east and south boundaries of the Refuge. Strategically located to provide links to proposed trail networks, the secondary access points along the Refuge boundary would permit visitors to enter the site on foot, bike and in some cases by horse. In these two alternatives, the Refuge would remain open from sunrise to sunset.

Because visitors in Alternatives B and D would be able to enter the site from a number of access points, each entry would serve as a "use portal" where signage would inform users about the distinction between where they came from (e.g., municipal open space) and where they are going (a National Wildlife Refuge). In addition to clarifying access opportunities and restrictions and information on the site's history and cleanup, the signage would inform visitors to the conservation practices and priorities that may differ from surrounding open space areas.

Wildlife-Dependent Public Uses

The four alternatives would present a spectrum of wildlife recreation opportunities ranging from guided tours, to hiking, to interactive interpretation programs. While visitors in Alternatives A and C would be guided through the site, visitors in Alternatives B and D would explore and learn about the site independently with the aid of interpretive facilities including signage, kiosks and printed materials. Through the careful siting of trails and the design of visitor use facilities, it would be possible to shape the Refuge environment so that it

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Limited hunting, wildlife observation and photography would be included in Alternatives B and D.

invites exploration and reveals natural processes while minimizing impact to sensitive areas. Interpretive and educational programs would promote appreciation of the ecology of the prairie environment and inspire a greater appreciation for the Front Range's remaining grassland habitat. Dogs and other pets would not be permitted on the Refuge in any of the alternatives.

Wildlife-dependent public uses that would be made available to visitors in each alternative are as follows.

Alternative A
All public access would be pre-arranged with the Service prior to entering the Refuge. In Alternative A, the visitor experience would be restricted to a guided driving and/or walking site tour and opportunities to view or photograph wildlife would be incidental. The Service tour guide would interpret the Refuge's resources throughout the site tour.

Alternative B
The visitor experience in Alternative B would include opportunities for the public to engage in hunting, wildlife observation, photography, interpretation and environmental education. The public use activities would be carefully managed to avoid harmful impacts to wildlife and their habitat. Because the Service would focus on restoration and facility development during the first 5 years of Refuge operation, most of these activities would not be instituted until the Refuge is fully open to the general public (by year 6).

- **Hunting:** A highly controlled youth and/or disabled hunting program would be held a few weekends a year. This program would allow youth and disabled individuals to hunt deer and elk with the assistance of Service staff (and Refuge partners) in a safe environment where they would have reasonable harvest opportunities. If necessary, the Service could consider expanding the hunting program to include the general public (depending on wildlife management needs). During special hunting weekends, the Refuge would be closed to all other visitors.

- **Wildlife Observation and Photography:** Trails, blinds and overlooks would provide numerous vantage points for observing wildlife. Naturalists, photographers and other wildlife enthusiasts would also enjoy opportunities to view and photograph wildlife off-trail (between October and May in areas south of Woman Creek).

- **Interpretation:** Upon entering the Refuge, visitors would find signage, maps and interpretive panels outside a visitor contact station. Interpretive and informational materials at trailheads, overlooks, and the contact station would educate visitors about specific site resources such as grassland restoration, early settlement of the prairie and wetland ecology.

- **Volunteers:** A volunteer program would be developed to provide support for Refuge staff. Volunteers would assist with orienting and educating visitors. Any visitor interested in learning more about the Refuge and, in turn, improving the Refuge experience for others would have the opportunity to volunteer.

- **Environmental Education:** Throughout the life of the CCP, the target audience for on- and off-site environmental education programs would be high school and college-level students. During the initial years of Refuge establishment (years 1 through 5), students would be encouraged to engage in research-oriented and independent study. Following year 5, guided tours and other nature programs would be designed to explore the site's natural and cultural resources and foster an understanding and lasting appreciation for the prairie environment.

Alternative C

In Alternative C, the Refuge staff would lead visitors on guided walking tours along a trail leading to the Rock Creek overlook. Upon request, the Refuge staff also could conduct guided auto tours that would provide opportunities to observe a diversity of habitat types. Limited public access opportunities would be made available upon Refuge establishment. Wildlife observation, photography and interpretation would be incorporated into the tour at the discretion of the Service guide. No hunting or environmental programs would be developed.

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Most of the trails would be converted from existing roads.

Public access would be restricted in Alternative C; however, guided tours would seek to enhance a visitor's appreciation of the Refuge's resources. The Rock Creek overlook offers views of a variety of habitats including riparian, wetland, xeric tallgrass and upland shrub. The overlook and hike also would reveal the Service's ongoing restoration efforts including road removal, stream crossing restoration, and re-seeding of the historic Lindsay Ranch landscape. The overlook's elevated perch on the pediment above Rock Creek would provide impressive distant views to the Rocky Mountain foothills and the Indian Peaks.

Alternative D

Among the alternatives, Alternative D would offer the greatest amount of wildlife-dependent public uses. The Refuge would be open to the general public about 6 months to 1 year after Refuge establishment, although it is likely that some of the facility development and programming would be phased in over the course of the CCP. Public use activities that would be offered in addition to those described above in Alternative B include:

- **Wildlife Observation and Photography:** A more extensive trail system in concert with additional wildlife blinds and overlooks would increase opportunities for visitors to view and photograph wildlife.

- **Volunteers:** A larger volunteer force would allow for the development of additional interpretive programming. The

volunteers would be available to educate visitors and host workshops, tours or lectures. Enrollment in the volunteer naturalist program would be open to the public and would entail training by Service staff on how to interpret the site's natural resources.

- **Interpretation:** Alternative D would have the same programming as Alternative B, but would have more facilities including a visitor's center and an outdoor education facility. Located just inside the Refuge entrance, a visitor center would attract visitors, provide a central location for visitor orientation and display interpretive exhibits.
- **Environmental Education:** The audience for educational programming in this alternative would be expanded to include K-8th graders as well as high school and college level students.

Other Public Uses

In Alternatives B and D, visitors would have the opportunity to bike and ride horses on some of the Refuge's multi-use trails. Although biking and equestrian uses are not priority public uses, they would provide means for visitors to access the Refuge's interior to observe wildlife and explore the prairie landscape.

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A pedestrian trail would overlook the Rock Creek drainage.

Alternative B

Biking would be allowed on all multi-use trails, but equestrian use would be limited to the multi-use trails in the southern half of the site. The southern multi-use trails would provide equestrians with links to adjacent trail systems in Westminster, Broomfield and Arvada.

Off-trail use would be permitted seasonally in the southern half of the Refuge. Off-trail use would provide visitors with increased opportunities to view wildlife and to explore the grasslands.

Alternative D

All multi-use trails would be open to equestrian and biking use. Off-trail use would be permitted seasonally in the southern half of the Refuge. Off-trail use would provide visitors with increased opportunities to view wildlife and to explore the grasslands.

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A future trail would follow the road corridor down to the Lindsay Ranch barn in Alternatives B and D.

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Future trail corridor leading to the Woman Creek overlook.

Facilities

The types and scale of public use facilities would vary considerably in the four alternatives. Alternatives B and D contain the greatest amount of facility development. Facility development in Alternative A would be limited to a portable restroom. In Alternative C, facility development would consist of one trail, an overlook and a restroom. The trail system in Alternatives B and D would be planned to provide access to a variety of habitat types and to facilitate wildlife observation.

Alternative A

Other than providing a portable restroom, no public use facilities would be developed. Visitation to the Refuge would be by arrangement only and visitors would most likely be taken on auto tours along the access roads.

Alternative B

Facility development within Alternative B would carefully balance opportunities for visitors to explore the prairie with habitat conservation. Facility development would include trails, trailheads, overlooks, information kiosks, viewing blinds, contact station (with restrooms) and parking areas.

For the first 5 years of Refuge establishment, the site would only be open to the general public at scheduled times and one trail (1.75 miles) to Lindsay Ranch would be open to pedestrians. The initial trail would extend from the parking area to the Rock Creek overlook and make a loop within the Rock Creek drainage.

Outlined below are all facilities that would be developed and open to the public 5 years after the Refuge is established:

- **Trails:** Approximately 12.8 miles of multi-use trails and 3.8 miles of pedestrian-only trails would be developed. The majority of the trails would follow converted road corridors away from riparian areas. Trails within the Rock Creek drainage and other sensitive areas would be subject to seasonal closures as needed to protect wildlife. Looped pedestrian-only and multi-use trails as well as connections to adjacent trail systems would accommodate a variety of trail users.
- **Kiosk:** Within a kiosk located outside the contact station, visitors would find maps of the trail system, rules and regulations, and information on Refuge wildlife and habitat. The kiosk would consist of three sign panels hung on a wooden structure. The kiosk would be accessible to all visitors when the contact station is closed. During the early years of refuge establishment when access is limited and before development of the contact station, the kiosk will provide information on current and future public use opportunities.
- **Equestrian Uses:** Only multi-use trails in the southern portion of the site would be open to equestrian uses. Hitching posts would be located near the contact station, allowing equestrian users to hike to Lindsay Ranch.
- **Trailheads:** All entries to the Refuge trail system would be posted with signage that clearly demarcates the visitor's entry into a National Wildlife Refuge.
- **Overlook:** Three overlooks would provide views of the site and the outlying landscape. The overlooks would be simple and designed to fit into the prairie landscape. They would likely entail a graded, gravel area sited for its nearby and distant views. The Rock Creek and Highway 128 overlooks would feature interpretive sign panels. Benches at the Woman Creek and Rock Creek overlooks would provide a resting point for visitors.
- **Blinds:** Wildlife viewing blinds would be sited to optimize observation opportunities. The blinds would be designed to blend in with the surrounding landscape and minimize disturbances to wildlife.

- **Parking:** Four parking areas (spaces for about 54 cars and one bus) would be constructed. The largest parking lot (30 spaces) would be located at the entry drive terminus and adjacent to the contact station. This main parking area would be designed to accommodate horse trailers. An additional parking lot (20 spaces) would be situated on the site's northern edge with convenient access from Highway 128. Pull-offs along the main access road, south of the visitor contact station, and along Indiana Street would provide additional parking spaces (3 to 4 spaces each) for visitors using trails in the southern portion of the Refuge. All parking areas would be gravel and enclosed by a post and beam fence.

- **Restrooms:** Restrooms would be located near and/or within the visitor contact station.

- **Contact Station:** A small structure (approximately 750 to 1,000 square feet) would house an interpretive display and staff office space. The contact station would be the primary orientation point for visitors where they would collect information about the Refuge. The station also would serve as the meeting ground for guided tours and other Refuge programs. Located outside the main parking area, the contact station would be staffed seasonally (e.g., weekends from May through October), to provide visitor contact with Refuge staff.

Alternative C

Public access would also be "by arrangement only" and facility development would be minimal. There would be no designated parking areas, blinds or visitor contact station.

- **Trails:** Under the supervision of a tour guide, visitors would be able to experience the Refuge on foot. The approximately 0.75 mile soft surface pedestrian trail would lead visitors to an overlook on top of the pediment. The trail would be built along a converted road.

- **Overlook:** One overlook would be located above the Rock Creek drainage.

- **Restroom:** Toilets would be located at the trailhead.

Alternative D

Alternative D would involve the greatest degree of public use facility development. This alternative would build on the facilities included in Alternative B and include a more extensive trail system, more parking/trailheads, facility development, a visitor center and additional blinds and overlooks. Listed below are facilities that would be built in addition to those included in Alternative B:

- **Trails:** The trail system would expand slightly on the trail routes planned for Alternative B with the addition of 3.8 miles of trails (21.2 total – 14.9 multi-use and 6.3 pedestrian-only).

- **Equestrian Trails:** All multi-use trails would be open to equestrian use. Hitching posts would be located at the parking areas designed to accommodate horse trailers and at the Rock Creek overlook.

- **Trailheads:** With trailheads on the east, west and north sides of the Refuge and a trail connection with Arvada trails to the south, Alternative D would provide several access points and trail linkages. All entries to the Refuge trail system would be posted with signs that clearly demarcate entry into a National Wildlife Refuge.

- **Overlooks:** An additional overlook (four total) would be located in the northwest corner of the Refuge along Highway 128. This roadside overlook would allow potential visitors to pull over and view the Rock Creek drainage from the Refuge's northern boundary. All overlooks would be identical in design to those in Alternative B and would include interpretive sign panels and benches.

- **Blinds:** A second wildlife observation/photography facility would be located in an optimal viewing location.

- **Outdoor Classroom:** A "living classroom" would be designed to accommodate up to 60 students. The structure would comprise a 1,000-square foot, primitive shelter over a hard surface, with tables and benches to accommodate students. Also included would be 100-square feet of enclosed storage for education materials and moveable furniture. Programs conducted at the classroom would actively engage students in the exploration and study of the prairie.

2.4 OBJECTIVE AND STRATEGY OVERVIEW

The following table provide a general overview of the activities that are proposed in the CCP alternatives. The table does not include all of the Refuge management activities and does not represent all of the objectives and strategies. Detailed descriptions of all of the proposed management actions are presented in this chapter.

Table 4. Objective and Strategy Overview

z = Activity is proposed for that alternative
= Magnitude of activity varies

GOAL 1: WILDLIFE AND HABITAT MANAGEMENT	ALTERNATIVES A	B	C	D
PREBLE'S HABITAT MANAGEMENT				
Preble's surveys	z	z	z	z
As needed, exclude ungulates from Preble's habitat		z	z	z
Monitor effects of recreation on Preble's		z		z
XERIC TALLGRASS MANAGEMENT				
Vegetation Management Plan	z	z	z	z
Monitor species composition		z	z	z
Use restoration tools to stimulate growth	z	z	z	z
- Potential use of prescribed fire		z	z	
- Potential use of grazing (cattle)		z	z	
MIXED GRASSLAND PRAIRIE MANAGEMENT				
Restore hay meadow to native prairie		z	z	
ROAD RESTORATION AND REVEGETATION				
Revegetate unused roads				
Monitor restoration success		z	z	z
WEED MANAGEMENT				
Develop Integrated Pest Management Plan		z	z	z
Control weeds with biological controls and herbicides	z	z	z	z
Potential use of grazing to control weeds		z	z	z
Potential use of prescribed fire to control weeds		z	z	
Interior fencing to collect tumbleweeds		z	z	
DEER AND ELK MANAGEMENT				
Establish target populations	z	z	z	z
Use population control methods	z	z	z	z
- Culling	z	z	z	z
- Public hunting		z		z
Monitor for effects of overpopulation		z	z	
Protect movement corridors	z	z	z	z
Monitor fawns			z	
PRAIRIE DOG MANAGEMENT				
Limit expansion of colonies				
Monitor size and location of colonies	z	z	z	z
Exclude from Preble's habitat	z	z	z	z
Consider relocations from off-Refuge				z
Monitor for plague		z	z	z
SPECIES REINTRODUCTION				
Introduce/monitor sharp-tailed grouse	z	z	z	z
Complete grouse management plan		z	z	
Monitor native fish reintroduction		z	z	z

GOAL 2: Public Use, Education and Education	ALTERNATIVES A	B	C	D
Public Access				
Guided tours by arrangement				
Open public access		z		z
Hiking trails				
Allow bicycles and horses on some trails				
Interpretation and Environmental Education				
Implement on-site interpretive programs		z		z
Education programs for school students				
Construct outdoor classroom				z
Hunting				
Allow youth/disabled hunting		z		z
Recreation Facilities				
Trails				
Overlooks		z		z
Wildlife viewing blinds		z		z
Visitor contact station		z		
Visitor center				z

GOALS 3, 4 and 5: Safety, Communication, and Partnerships	A	B	C	D
Staff and Visitor Safety				
Staff orientation/first aid training	z	z	z	z
Develop a Health and Safety Plan	z	z	z	z
Brief all visitors on safety issues	z		z	
Provide safety information		z		z
Outreach and Emergency Response				
Distribute Refuge fact sheet	z			
Use several hands-on outreach methods		z	z	z
Coordinate with other agencies		z	z	z
Conservation and Research				
Coordinate with other agencies	z	z	z	z
Partner to maintain wildlife corridors		z	z	z
Prioritize research needs		z	z	z
Volunteers				
Create and implement volunteer program		z		z

GOAL 6: Refuge Operations	A	B	C	D
Staffing				
Share staff with Rocky Mountain Arsenal	z	z	z	z
Biological staff				
Public use staff				
Fire staffing	z	z	z	
Law enforcement staff		z		z
Management Facilities				
Storage/maintenance facility				
Small office space on-site		z		z
Prepare fire cache	z	z	z	z
Cultural Resource Management				
Develop Historic Preservation Plan		z		z
Stabilize Lindsay Ranch barn	z	z		z
Survey following prescribed fire	z	z	z	

2.5. OBJECTIVES AND STRATEGIES

The objectives and strategies are the specific actions that the Service would implement to achieve the goals of the Refuge. An objective is a general statement about what the Service wants to achieve on the Refuge, while a strategy is a specific action, tool, technique or combination of the above used to meet objectives. Because each alternative has a different emphasis, the objectives and strategies would vary by alternative. The following sections provide the objectives and strategies for each alternative. In each alternative, the objectives and strategies are arranged by the six goals discussed under the Goals section in Chapter 1. Several goals were subdivided into topics. For example, Goal 1 addresses wildlife and habitat management. Objectives and strategies within this goal were developed for species reintroduction, deer and elk management, prairie dog management and other topics.

An overview of the management activities that would occur under each alternative is illustrated in Table 4. A detailed summary of the objectives and strategies for each alternative are summarized in Table 6 and the end of Chapter 2.

Detailed descriptions of all the proposed management actions are located in the text that follows.

Goal 1. Wildlife and Habitat Management

Conserve, restore and sustain biological diversity of the native flora and fauna of the mountain/prairie interface with particular consideration given to threatened and endangered species.

The Refuge supports about 250 species of wildlife and several rare or sensitive plant communities. While some of these species and communities have specific management requirements that are directly addressed in the following objectives, there are many others that are not specifically addressed. These include animals such as the short-horned lizard and red-tailed hawk and rare plants such as the tall upland shrubland community and forktip three awn. The Service will address these species and communities by focusing on sustaining and improving the habitat conditions that support their life processes. For example, the protection and improvement of Preble's meadow jumping mouse habitat (Objective 1.1) would benefit many other species that depend on riparian areas for survival, as well as wetlands and the tall upland shrubland community. Weed management strategies

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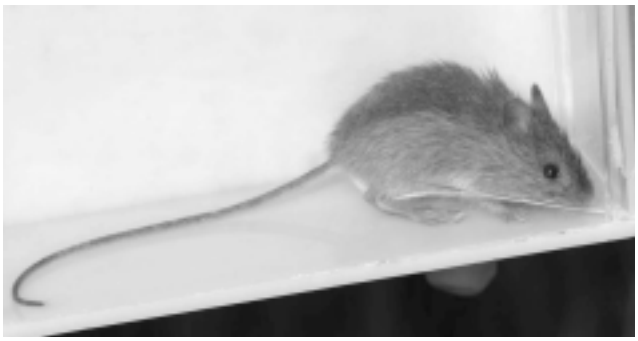

Preble's meadow jumping mouse is a threatened species found on the Refuge.

(Objective 1.5) would improve habitat conditions for numerous grassland-dependent species, including the short-horned lizard, various ground nesting birds and small mammals, and some rare plants such as the forktip three awn.

While it is not outlined specifically in the objectives, the Service would continue to informally monitor general wildlife populations and rare plant communities on the Refuge. In addition, the Service would work with CDOW, the Colorado Natural Heritage Program, area universities and other partners to ensure that general wildlife and rare plants that are not directly addressed in the objectives are protected and managed on the Refuge.

Objective 1.1—Preble's Habitat Management

Background
As the only known federally listed species that resides on the Refuge, it is the Service's responsibility to protect and conserve the threatened Preble's meadow jumping mouse and its habitat. The life history of this species has not been studied thoroughly. What has been gleaned from habitat studies is that the species is a habitat specialist relying on well-developed shrub-dominated riparian vegetation. Not only riparian areas are utilized; upland shrub and grasslands provide travel corridors, nest sites and forage. The replacement of native vegetation by noxious weeds and excessive grazing is shown to reduce the quality and quantity of suitable Preble's habitat (Compton and Hugie 1993).

Alternative A
Beginning in the first year and throughout the life of the CCP, protect about 1,000 acres of Preble's habitat on the Refuge.

Rationale: The Service is obligated by law and agency policy to protect Preble's habitat where it exists

throughout the Refuge. Currently, about 1,000 acres of riparian, wetland and adjacent grassland habitat areas have the potential to support Preble's. In Alternative A, the Service would manage these areas to prevent the degradation of Preble's habitat on the Refuge.

Strategies:
1.1.1 – Every 2 to 3 years, survey each drainage for the presence/absence and abundance of Preble's using live-traps in randomly selected linear transects parallel to the stream, recording dominant vegetation type at trap locations (Kaiser-Hill 2001).

1.1.2 – Allow natural revegetation of native species on lightly used roads in Preble's habitat including unimproved stream crossings.

1.1.3 – While the species is under the consideration of the ESA, consult with the Service's Ecological Services field office on actions potentially adversely affecting Preble's.

1.1.4 – Develop habitat-sensitive weed management strategies for use in Preble's habitat areas.

1.1.5 – Control noxious weeds in Preble's habitat to prevent an increase in weed distribution and density using IPM tools (biological, mechanical, chemical applications and limited prescribed fire).

Alternative B
Beginning in the first year and throughout the life of the CCP, protect Preble's habitat, maintaining and improving approximately 1,000 acres of Preble's habitat on the Refuge.

Rationale: In Alternative B, the Service would place a priority on the protection and improvement of riparian, wetland and adjacent grassland habitat that have the potential to support Preble's. Preble's have evolved with grazing and browsing by ungulates, especially deer, and under normal circumstances should not be impacted by ungulate behavior. If, however, Refuge deer become overpopulated, over grazing/browsing within riparian areas has the potential to adversely affect Preble's habitat in isolated areas.

Strategies:
1.1.1 – Establish permanent transects in each stream drainage and survey these transects every 2 to 3 years for the presence/absence and abundance of Preble's using live-traps in linear transects parallel to the stream, recording dominant vegetation type at trap locations (Kaiser-Hill 2001; Burnham et al. 1980). Establish exclosures to determine a baseline level of browsing and grazing.

1.1.2-1.1.5 – *Same as A.*

1.1.6 – If necessary, protect Preble's habitat by using fencing and ungulate population control to exclude grazing/browsing animals if the quality of the habitat is threatened.

1.1.7 – Seek partnerships and funding for the performance of biannual surveys for the presence and distribution of Preble's in areas where existing and proposed Refuge recreational trails cross Preble's habitat using live-trapping in grid patterns that encompass the stream and uplands. Record level and type of recreation use in the Preble's survey areas.

1.1.8 – Manage for species recovery as indicated in the Service Recovery Plan (in draft 2003).

Alternative C
Same as B.

Rationale: Same as B.

Strategies:
1.1.1 – Every 3 years survey established trapping transects using line intercept method for foliage density, foliage height diversity and plant species diversity (Kaiser-Hill 2001; Burnham et al. 1980) in the riparian woodlands, riparian and tall upland shrub communities in Preble's habitat. Record dominant vegetation type at trap locations.

1.1.2-1.1.5 – *Same as A.*

1.1.6 – *Same as B.*

1.1.8 – *Same as B.*

Alternative D
Same as B.

Rationale: Same as B.

Strategies:
1.1.1– *Same as B.*

1.1.2-1.1.4 – *Same as A.*

1.1.5 – Control weeds by biological control and spot mechanical and chemical application each growing season to prevent an increase and density of infestation in Preble's habitat.

1.1.6 – *Same as B.*

1.1.7 – Establish a monitoring plan to determine the effect of trails and recreation activity on Preble's.

Objective 1.2—Xeric Tallgrass Management

Background

Xeric tallgrass prairie is a rare vegetation community type that would be protected, maintained and restored in suitable locations. Tallgrass prairie evolved with the natural processes of fire and grazing, which are important in supporting and invigorating the prairie ecosystem. The disruption of these natural processes renders the prairie community prone to the establishment of noxious weeds that often out-compete native plants. Infested native plant communities are reduced in their capacity to support native wildlife populations. A variety of techniques are needed to restore healthy, balanced native communities. IPM involves using techniques that simulate natural processes and could include: prescribed fire; revegetation with native species; mechanical control methods such as mowing, root grubbing and hand pulling; chemical applications; grazing; and biological agents.

As IPM tools, prescribed fire and grazing are useful in helping to control weeds, reduce plant litter, recycle nutrients and improve the overall health and vigor of the native grasslands. Prescribed fire would be conducted considering state air quality regulations, ecological timing (to maximize benefits to desirable species and effectiveness in controlling weed species), weather conditions and operational logistics. Grazing for ecological restoration purposes would likely consist of managed cattle for short periods of time to simulate natural processes and invigorate native grasses (grazing for the specific purpose of weed control is typically conducted using goats). Monitoring of these treatments and their effectiveness would allow the Service to adapt and alter techniques to improve long-term effectiveness.

Alternative A

Manage the existing extent (about 1,000 acres) of the xeric tallgrass prairie within the Rock Creek Reserve using IPM strategies (as described in Objective 1.5 - *Weed Management*).

Rationale: In Alternative A, the focus would be on controlling weeds throughout the 1,000 acres of xeric tallgrass within the Rock Creek Reserve. In other parts of the Refuge, xeric tallgrass management would be limited to general weed management, as described in Objective 1.5 - *Weed Management*. Prescribed fire within the Rock Creek Reserve would be conducted to stimulate native plant growth, reduce plant litter, and help control weeds in the xeric tallgrass community.

Strategies:

1.2.1 – Within 2 years, produce a long-term vegetation management plan that identifies detailed strategies for weed management, restoration and xeric tallgrass prairie species composition to be attained by the end of the CCP.

1.2.2 – Throughout the growing season, conduct informal monitoring of grasslands for noxious weeds.

1.2.3 – At a minimum, every 3 years survey selected vegetation point intercept transects to determine ground cover, vegetation density, species and species richness, document effectiveness of weed control, assess impacts of disturbance on plant communities, track ratio of warm season to cool season species and provide overall assessment of the status of the tallgrass community (Kaiser-Hill 1997; Owensby 1973). Detailed surveys would be limited to the Rock Creek Reserve.

1.2.4 – Use prescribed fire (in Rock Creek Reserve only), mowing and other restoration tools to stimulate the growth of native plants in the xeric tallgrass community and reduce fuel for wildfire. Grazing would not be used.

1.2.5 – Participate in regional efforts to implement tallgrass prairie conservation measures.

1.2.6 – Suppress all wildfires.

Alternative B

By year 15, manage the existing extent (about 1,500 acres) of the xeric tallgrass prairie across the Refuge to achieve an average relative cover of no less than 60 percent (± 4 percent) native grasses and 10 percent (± 5 percent) forbs, with no more than 10 percent of the average cover to be invasive non-native species. Maintain the total number of native species to be at least 80 percent of the about 285 plant species that have been identified in the tallgrass community prior to Refuge establishment.

Rationale: Under Alternative B, the focus would be on maintaining and improving the 1,500 acres of xeric tallgrass across the site from the conditions that existed at the time of Refuge establishment. IPM techniques, as described in Objective 1.5 - *Weed Management*, would be used to maintain the native composition of species in the xeric tallgrass communities. While the number of plant species within the community fluctuates annually according to climactic conditions, a total of about 285 species are consistently found within this community. Not meeting the objective as stated above does not necessarily

indicate the xeric tallgrass is critically imperiled but would warrant a more thorough investigation. Prescribed fire would be conducted Refuge-wide to stimulate native plant growth, reduce plant litter and help control weeds in the xeric tallgrass community.

Strategies:
1.2.1-1.2.2 – *Same as A.*

1.2.3 – *Same as A*, *except:* Surveys would be conducted in xeric tallgrass areas Refuge-wide.

1.2.4 – Use prescribed fire in conjunction with other restoration tools such as grazing, mowing, herbicides and biological controls to simulate natural processes that once existed at Rocky Flats.

1.2.5 -1.2.6– *Same as A.*

1.2.7 – Use prescribed fire in areas identified in Figure 10. Prescribed fire may be used in grassland areas at a average frequency of 5 to 7 years (riparian areas 5 to 10 years). These can occur for two years in a row but not less frequently than once every 10 to12 years. Burn areas would average about 200 to 500 acres per year of both xeric and mixed grasslands and portions of riparian communities across the site.

1.2.8 – Use grazing in areas identified in Figure 10. Grazing on a specific grassland area would be limited to short duration with high animal numbers (flash grazing for an average of 2 weeks) as identified in the Vegetation and Wildlife Management Plan. Temporary paddocks with electric fencing would be used to contain livestock in specific areas.

1.2.9 – Monitor ecological conditions before and after the application of any specific restoration tool.

1.2.10 – In accordance with Objective 3.2 - *Visitor Safety*, close the Refuge to all public use prior to and during the use of prescribed fire on the Refuge.

Alternative C
Same as B.

Rationale: Same as B.

Strategies:
1.2.1 -1.2.2 – *Same as A.*

1.2.3 –1.2.4 – *Same as B.*

1.2.5 - 1.2.6 – *Same as A.*

1.2.7 -1.2.9 – *Same as B.*

Alternative D

Same as B.

Rationale: Same as B.

Strategies:
1.2.1-1.2.2 – *Same as A.*

1.2.3 – *Same as B.*

1.2.4 – Do not use prescribed fire or grazing. Use other restoration tools such as mowing, herbicides and biological controls.

1.2.5 -1.2.6 – *Same as A.*

Objective 1.3—Mixed Grassland Prairie Management

Background
Nearly one half of the Refuge is vegetated with shortgrass prairie communities, including mesic mixed grassland, xeric needle and thread grassland, short grassland, and reclaimed mixed grassland. While these communities are habitat for a variety of wildlife species on the Refuge, the Service has not outlined very many specific management strategies for the mixed grassland prairie at the Refuge. Instead, management strategies that are important to these prairie communities, including managing weeds, managing prairie dogs, restoring unused roads and sustaining habitat for introduced species, are covered under other wildlife and habitat management objectives. However, because many native wildlife species rely on diverse habitat components that are not present in agricultural fields, hay meadows, or a monoculture of plant species, the Service has outlined specific management strategies related to restoration of these areas. Maintenance and enhancement of these mixed grassland prairie communities is integral to other, more specific objectives.

As outlined in Objective 1.5 - *Weed Management*, a variety of IPM tools, including managed grazing and prescribed fire, would be used to maintain the health and integrity of the mixed grassland prairie communities. Prescribed fire would be conducted considering state air quality regulations, ecological timing (to maximize benefits to desirable species and effectiveness in controlling weed species), weather conditions and operational logistics. Grazing for ecological restoration purposes would likely consist of managed cattle for short periods of time to simulate natural processes and invigorate native grasses (grazing for the specific purpose of weed control is typically conducted using goats). Monitoring of these

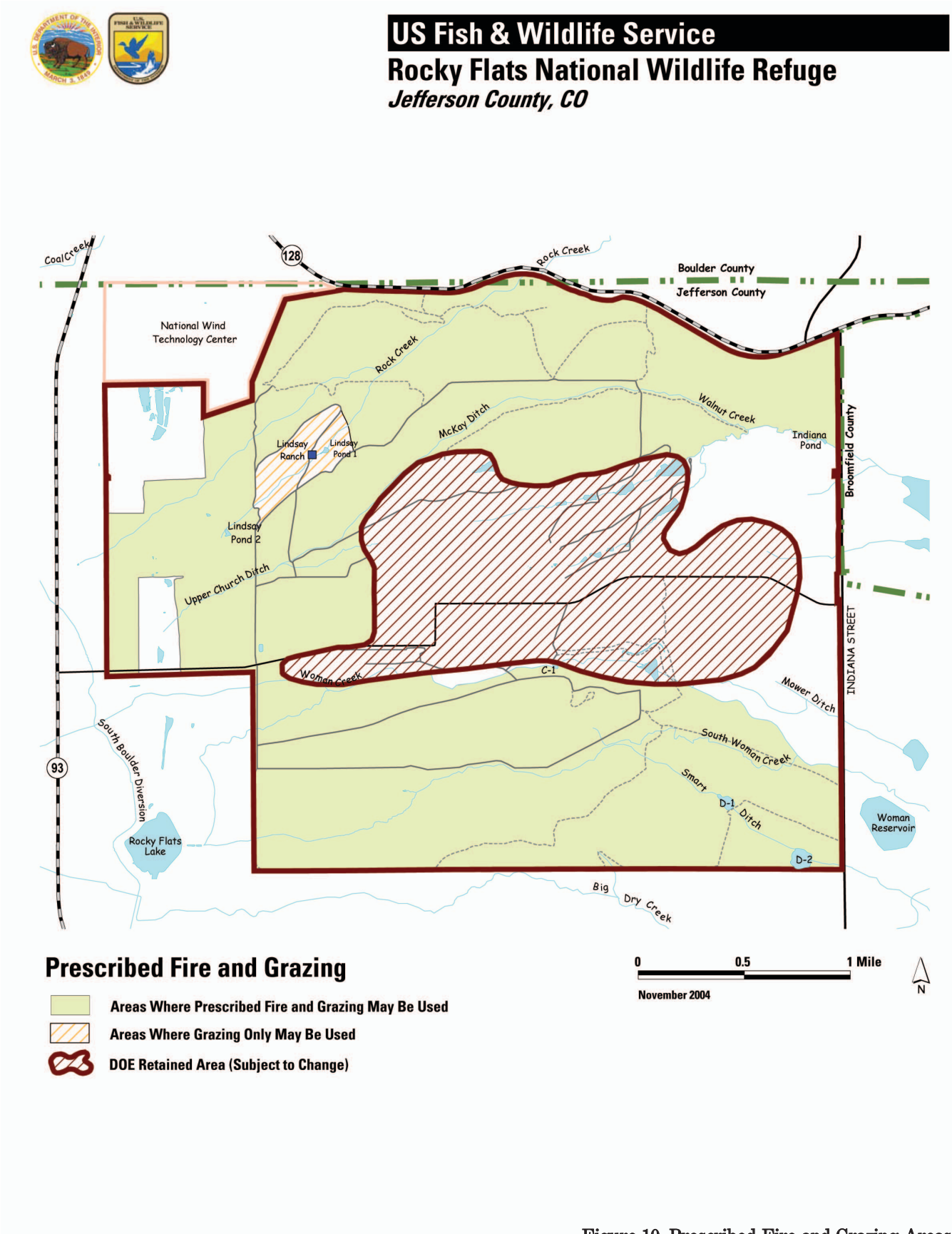

Figure 10. Prescribed Fire and Grazing Areas

treatments and their effectiveness allows for adaptation and alteration of techniques to improve long-term effectiveness.

Alternative A
Through the life of the CCP, maintain and improve the vigor and native species composition of short and mesic mixed grassland habitat according to the management objectives for weed management, prairie dog management, habitat restoration and species reintroduction.

Rationale: The mixed grassland prairie communities at the Refuge provide habitat for a variety of wildlife species. In Alternative A, these communities would be managed according to the specific purposes of other objectives. Prescribed fire would be conducted in the Rock Creek Reserve to stimulate native plant growth, reduce plant litter and help control weeds in the mixed grassland prairie communities.

Strategies:
1.3.1 – Use IPM strategies to control or reduce noxious weed infestations and maintain or improve the vigor of native short and mesic grassland according to Objective - 1.5 *Weed Management* and Objective 1.4 - *Road Restoration and Revegetation*.

1.3.2 – Allow short and mesic grassland communities to support prairie dog expansion, according to Objective 1.7 - *Prairie Dog Management*.

1.3.3 – Maintain short and mesic grassland communities as needed to support the reintroduction of sharp-tailed grouse or other species, as directed under Objective 1.8 - *Species Reintroduction*.

1.3.4 – Suppress all wildfires.

1.3.5 – Use prescribed fire (in Rock Creek Reserve only), mowing and other restoration tools to stimulate the growth of native plants in the mixed grassland prairie communities and reduce fuel for wildfire. Grazing would not be used.

Alternative B
Same as A, except restore 300 acres of non-native grassland in the southeast corner of the Refuge (hay meadow), as well as other reclaimed grassland areas, to a native mixed grassland community.

Rationale: The mixed grassland prairie communities at the Refuge provide habitat for a variety of wildlife species. In Alternative B, the Service would restore non-native grassland areas, including the hay meadow, to improve the diversity of habitat for a variety of species. In addition, the mixed grassland prairie communities would be managed according to the specific purposes of other objectives. Prescribed fire would be conducted Refuge-wide to stimulate native plant growth, reduce plant litter and help control weeds in the mixed grassland prairie communities.

Strategies:
1.3.1-1.3.4 – *Same as A.*

1.3.5 – Use prescribed fire in conjunction with other restoration tools such as grazing, mowing, herbicides and biological controls to simulate natural processes that once existed at Rocky Flats.

1.3.6 – Restore non-native reclaimed grasslands in the hay meadow and other areas to a native mixed grassland community.

1.3.7 – Use prescribed fire in areas identified in Figure 10. Prescribed fire may be used in grassland areas at a average frequency of 5 to 7 years (riparian areas 5 to 10 years). These can occur for two years in a row but not less frequently than once every 10 to 12 years. Burn areas would average about 200 to 500 acres per year of both xeric and mixed grasslands and portions of riparian communities, across the site.

1.3.8 – Use grazing in areas identified in Figure 10. Grazing on a specific area would be limited to short duration with high animal numbers (flash grazing for an average of 2 weeks) as identified in the Vegetation Management Plan. Temporary paddocks with electric fencing would contain the livestock in specific areas.

1.3.9 – Monitor ecological conditions before and after the application of any specific restoration tool.

1.3.10 – In accordance with Objective 3.2 - *Visitor Safety*, close the Refuge to all public use prior to and during the use of prescribed fire on the Refuge.

Alternative C
Same as B.

Rationale: Same as B.

Strategies:
1.3.1-1.3.4 – *Same as A.*

1.3.5 -1.3.10– *Same as B.*

Alternative D
Same as A.

Rationale: Same as A.

Strategies:
1.3.1-1.3.4 – *Same as A.*

Objective 1.4—Road Restoration and Revegetation

Background
Currently about 70 miles of roads occur at the Refuge (of which about 20 miles will remain under DOE's jurisdiction). The removal and revegetation of extraneous roads would provide more wildlife habitat and reduce the effects of fragmentation. Fragmentation results from roads, trails and other disturbances interrupting continuous habitat with unsuitable and possibly hostile environments. Fragmentation can affect plants and animals, resulting in the isolation of populations or individuals, reduction of genetic diversity, reduction of carrying capacity and other effects. Roads provide corridors for predators and are prone to weed infestations. Abrupt vegetation changes at road edges alter light, temperature and wind exposure. Revegetation and the restoration of natural contours, either by natural succession or mechanical grading, would increase the quality and quantity of native wildlife and plant habitats.

In all alternatives, the Service would retain about 25 miles of roads for maintenance, fire control, utility and ecological monitoring access. In some cases, the roads would also be used as trails. Unless designated otherwise, access roads would be closed to public use.

Alternative A
Beginning in the first 3 years and completed during the life of the CCP, revegetate—in the Rock Creek Reserve—12 miles of unused roads with seven stream crossings.

Rationale: The 2001 Rock Creek Reserve Integrated Natural Resources Management Plan (DOE 2001) calls for the removal and revegetation of unused roads within the Rock Creek Reserve. In Alternative A, the roads in the Rock Creek Reserve would be restored and revegetated, while the roads in the remainder of the Refuge would be left in place.

Strategies:
1.4.1 – Allow natural revegetation of native species on lightly used roads and unimproved stream crossings, in areas not dominated by weeds.

1.4.2 – In select locations, prepare (including soil prep, culvert removal, fill, regrading to match original contours, herbicide application) and seed roadways and uplands with native species appropriate to soil type, slope and aspect.

1.4.3 – Where suitable, revegetate stream crossings with woody riparian species.

1.4.4 – Informally survey roadways for noxious weeds during the growing season and apply IPM techniques.

1.4.5 – Work with the Service's Ecological Services office and other agencies for ESA consultation and necessary permits in Preble's habitat and wetlands and adjacent buffer zones.

Alternative B
Beginning in the first year and completed within the life of the CCP, revegetate approximately 26 miles of unused roads with 13 stream crossings. This would include about 7 miles of xeric tallgrass habitat and about 11 miles of mixed grassland prairie.

Rationale: In Alternative B, roads across the Refuge that are not being used for public use, fire protection, or maintenance access, would be restored and revegetated, while others would be narrowed to the width of a trail.

Strategies:
1.4.1-1.4.5 – *Same as A.*

1.4.6 – Every 3 years survey restored habitat areas along selected vegetation point intercept transects to determine ground cover, vegetation density, species and species richness; document effectiveness of weed control; assess impacts of disturbance on plant communities; and provide overall assessment of the vegetation community and restoration success (Kaiser-Hill 1997; Owensby 1973).

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Prescribed fire would be used as a management tool in Alternatives A, B and C.

Alternative C
Beginning in the first year and within the first 10 years, revegetate about 26 miles of unused roads with 13 stream crossings. This would include about 8 miles of xeric tallgrass habitat and about 11 miles of mixed grassland prairie.

Rationale: In Alternative C, restore and revegetate to a pre-settlement condition almost all roads not needed for fire or Refuge access.

Strategies:
1.4.1-1.4.5 – *Same as A.*

1.4.6 – *Same as B.*

Alternative D
Beginning by year 3 and completed within the life of the CCP, revegetate approximately 24 miles of unused roads with 6 stream crossings. This would include about 7 miles of xeric tallgrass habitat and about 12 miles of mixed grassland prairie.

Rationale: Same as B.

Strategies:
1.4.1-1.4.5 – *Same as A.*

1.4.6 – *Same as B.*

Objective 1.5—Weed Management

Background
Noxious weeds are nonnative plant species that invade an area that has been disturbed or where vegetation is stressed. Noxious weed infestations reduce the capacity of native plant communities to support wildlife populations and a diversity of organisms. Soil disturbances and cessation of the natural processes such as fire and grazing have resulted in a proliferation of noxious weed species at Rocky Flats.

IPM involves techniques that simulate the processes that contribute to the integrity of the ecosystems and can be applied when conditions are optimum for greatest effectiveness: prescribed fire; revegetation with native species; mechanical methods of mowing, root grubbing and hand collection; chemical applications; and biological agents. Depending on the location and treatment, controlled grazing by goats or cattle can be used as ecological restoration tools (as discussed in Objective 1.2 - *Xeric Tallgrass Management*) or for weed management purposes.

Monitoring the effectiveness of treatment allows adaptation and alterations of techniques to improve long-term effectiveness. Diffuse knapweed and Dalmatian toadflax are the principal threats to the grasslands, while Canada thistle threatens wetlands and riparian areas. Weed management efforts will seek to prevent the spread of existing infestations and the establishment of new ones.

In accordance with the Colorado Noxious Weed Act, the control of “list B” noxious weed species such as Diffuse knapweed, Dalmatian toadflax, and Canada thistle would be prioritized over the control of “list C” species such as field bindweed and jointed goatgrass. Biological controls would be planned to minimize potential impacts to native species.

Alternative A
In the Rock Creek Reserve, reduce the density of diffuse knapweed and Dalmatian toadflax populations by 15 percent within the first 5 years, 25 percent within 10 years and 50 percent within 15 years (as described in Kaiser-Hill 2002). Reduce the density and control the spread of other noxious weed species, especially Canada thistle by 50 percent within 15 years. Prevent the establishment of weed species (Jefferson County, Boulder County and State of Colorado weed lists) not yet observed on the Refuge. For the Refuge outside of Rock Creek, limit and control the spread and density of existing weed infestations beginning in the first year.

Rationale: In Alternative A, staff resources would concentrate weed reduction efforts in the Rock Creek Reserve while attempting to limit the expansion of weeds over the rest of the Refuge. Although the Rock Creek Reserve management plan (DOE 2001) did not specify weed reduction targets, the Service has established targets for the Rock Creek Reserve.

Strategies:
1.5.1 – Employ an IPM approach to include the application of herbicides to perimeters of knapweed and toadflax patches to prevent their spread. Redistribute established biological control agents across the Rock Creek drainage and continue releases. Rake along fence lines and dispose of all tumbleweeds. Grub and handpull where needed.

1.5.2 – Annually identify and map weed patches using a Global Positioning System (GPS) to demarcate the areal extent and relative severity of infestations. Map treatment sites and monitor for efficacy in subsequent growing season.

1.5.3 - Correlate weed management with prairie dog management to minimize weed infestations in prairie dog expansion areas.

Alternative B
Reduce the density of diffuse knapweed and Dalmatian toadflax populations by 15 percent within the first 5 years, 30 percent within 10 years and 60 percent within 15 years (as described in Kaiser-Hill 2002). Reduce the density and spread of other noxious weed species, especially Canada thistle by 50 percent within 15 years. Limit and control the establishment of weed species (Jefferson County, Boulder County and State of Colorado weed lists) not yet observed on the Refuge.

Rationale: In Alternative B, the full range of IPM tools, including chemical, biological and mechanical control, prescribed fire and grazing, would be available to reduce noxious weed concentrations throughout the Refuge. Prescribed fire would be subject to an approved fire management plan and state air quality regulations. Grazing also would be subject to an approved plan. Burning along fence lines would reduce seed spread of noxious weeds, and the removal of plant litter would reduce the amount of herbicide that would be required to control weed infestations in that area.

Strategies:
1.5.1-1.5.3 – *Same as A.*

1.5.4 – Develop a comprehensive IPM plan.

1.5.5 – Conduct annual informal survey for new infestations during the growing season, focusing on roadways, trails, restoration areas and disturbed sites.

1.5.6 – If necessary, establish temporary interior fencing in areas where weeds are wind dispersed to collect weeds and limit dispersal. Burn along fence lines and dispose of all tumbleweeds.

1.5.7 – Use managed grazing of goats, or other livestock as appropriate for short periods to control weed infestations and simulate natural grassland processes.

Alternative C
Same as B.

Rationale: Same as B.

Strategies:
1.5.1-1.5.3 – *Same as A.*

1.5.4 -1.5.7 – *Same as B.*

Alternative D
Same as B, except reduce diffuse knapweed and Dalmatian toadflax by 10, 15 and 30 percent within 5, 10 and 15 years, respectively (instead of 15, 30 and 60 percent).

Rationale: Same as B, except prescribed fire and grazing would not be used.

Strategies:
1.5.1-1.5.3 – *Same as A.*

1.5.4 – *Same as B.*

Objective 1.6— Deer and Elk Management

Background
CDOW has primary responsibility for the management of deer and elk herds throughout the state and cooperated with the DOE for wildlife management at Rocky Flats before Refuge establishment. CDOW strives to set population levels at 80 percent carrying capacity, but the Service believes that setting a target population level for the Refuge will provide for better management of the ungulate population and would present fewer difficulties in determining what the carrying capacity should be. The resulting target population level may be lowered if degradation is occurring in Preble's habitat (riparian and upland shrubs). Continued cooperation with the CDOW will provide continuity in management, sharing of resources and provide larger habitat areas for deer and elk. Management of deer and elk populations is necessary to maintain the health of the herds and prevent the degradation of sensitive habitats such as riparian woodlands and shrublands and tallgrass prairie.

Alternative A
Work with CDOW to establish target populations and manage deer and elk populations as needed to prevent overpopulation, the spread of disease and adverse impacts to Preble's habitat.

Rationale: In Alternative A, due to limited resources, the Service would cooperate with CDOW's population management efforts on the Refuge. The Service would seek the assistance of CDOW in the event that deer populations excessively degrade Preble's habitat, or if chronic wasting disease or any other wildlife concern is suspected on the Refuge.

Strategies:
1.6.1 – Work with CDOW in population monitoring and control through culling and other methods.

1.6.2 – Assist CDOW in establishing target populations for deer and elk on the Refuge.

1.6.3 – Every 2 years monitor for ungulate induced degradation using multiple methods for foliage

density, foliage height diversity and plant species diversity (Anderson and Ohmart 1986) in the riparian woodlands, riparian and tall upland shrub communities in Preble's habitat.

Alternative B
Within 3 years, establish deer and elk population targets to be achieved by year five. Adverse effects to Preble's or other federally endangered or threatened species and their habitats may necessitate reduced population target levels.

Rationale: In Alternative B, a public hunting program may be all that is necessary to control the herd size; however, additional culling by Refuge staff and CDOW, or keeping the herd away from sensitive habitat areas with exclosures or temporary fencing may be required. The Service would correlate the establishment of population targets with the public hunting program to maximize the utility of hunting as a management tool and to ensure that it does not adversely impact populations.

Strategies:
1.6.1 – Coordinate and assist CDOW to monitor and manage populations through a public hunting program, culling by Refuge or CDOW personnel, or temporary exclosures.

1.6.2-1.6.3 – *Same as A.*

1.6.4 – Perform annual deer and elk relative abundance or relative density study by direct count.

1.6.5 – Establish permanent vegetation photo points in riparian and upland shrubs and use them to monitor for excessive habitat degradation by ungulates every 2 years. Establish exclosure plots to determine the extent of browsing.

1.6.6 – Work with other agencies to protect movement corridors between the Refuge and nearby habitat areas.

Alternative C
Same as B.

Rationale: In Alternative C, no public hunting or culling of the herd would be permitted. Other strategies including temporary fencing may be required.

Strategies:
1.6.1 – *Same as B*, except coordinate and assist CDOW to manage populations using culling and other strategies (public hunting would not be used).

1.6.2- 1.6.3 – *Same as A.*

1.6.4 – Seasonally monitor ungulate distribution and movement patterns by direct count.

1.6.5- 1.6.6 – *Same as B.*

1.6.7 – Annually survey by direct count population number, composition, fawning rate and fawn survival.

Alternative D
Same as B.

Rationale: A public hunting program may be all that is necessary to control the herd size, but additional culling by Refuge staff may be required to keep herd size within target population limits. Due to the number of resources being used to accomplish public use and restoration objectives, it may take longer to establish and achieve population targets. The Service would correlate the establishment of population targets with the public hunting program to maximize the utility of hunting as a management tool and to ensure that it does not adversely impact populations.

Strategies:
1.6.1 – *Same as B.*

1.6.2 – *Same as A.*

1.6.3 – *Same as A*, except monitor every 3 years (instead of every 2 years).

1.6.4 – *Same as B.*

Objective 1.7—Prairie Dog Management

Background
Prairie dogs are important components in the short and mesic grasslands systems. They are commonly considered a "keystone" species because their activities (burrowing and intense grazing) provide food and shelter for many other grassland species. While black-tailed prairie dogs are no longer a candidate species for threatened status listing under the ESA (as of August 2004) the Service still has a strong interest in conserving the species and habitat where appropriate.

Rocky Flats contains about 2,460 acres of potential prairie dog habitat, based on an analysis of suitable soils, vegetation, and slope. While about 113 acres of prairie dog colonies have been identified in recent years, active prairie dog colonies at Rocky Flats currently comprise an area of about 10 acres. Thresholds for prairie dog expansion in the various alternatives are based on these existing conditions and the extent of potential habitat.

Alternative A
Allow prairie dog populations to expand naturally across the Refuge outside of recognized Preble's habitat.

Rationale: In Alternative A, the Service would depend on natural habitat conditions and predation to regulate the size and location of prairie dog colonies. If prairie dogs colonize and degrade Preble's habitat areas (such as wetlands and riparian grasslands), the Service would consider relocation to more suitable habitat areas on the Refuge.

Strategies:
1.7.1 – Trap and relocate on site, or use other methods to exclude prairie dogs from Preble's habitat in the Rock Creek Reserve.

1.7.2 – Use intra-Refuge relocation as required.

1.7.3 – Do not accept prairie dogs from off-Refuge relocation projects.

1.7.4 – Cooperate with DOE's stewardship designee to manage prairie dogs on DOE retained lands through visual and vegetative barriers where necessary.

1.7.5 - Correlate prairie dog management with weed management efforts to minimize weed infestations in prairie dog expansion areas.

Alternative B
Allow prairie dog populations to expand up to 750 acres in areas of non-native grassland as well as short and mixed native grasslands outside of recognized Preble's habitat across the Refuge

Rationale: Restoration is a key component of Alternative B. The Service would manage for a sustainable prairie dog population that contributes to the overall function and integrity of the grassland communities and does not degrade other sensitive resources (such as wetlands, shrublands and xeric tallgrass prairie). With limited staff resources, it could be difficult to limit prairie dog expansion if they populate large areas, so it is important that the Service maintain a manageable prairie dog population on the Refuge. If necessary, the Service would try to limit the expansion of prairie dogs into sensitive areas that do not provide primary habitat for prairie dogs. Because human recreation is a significant component of Alternative B, plague control methods may be needed in prairie dog management to protect prairie dog colonies as well as Refuge visitors.

Strategies:
1.7.1 – If necessary, trap and relocate within the Refuge, or use other methods to exclude prairie dogs from Preble's habitat and xeric tallgrass throughout the Refuge.

1.7.2-1.7.5 – *Same as A.*

1.7.6 – Annually monitor and map the location, extent and distribution of prairie dog populations including densities and vegetation characteristics within prairie dog towns.

1.7.7 – Annually monitor for plague and respond with flea control if appropriate.

Alternative C
Same as B, except allow prairie dog populations to expand up to 500 acres.

Rationale: With the limited staff resources in Alternative C, it could be difficult to limit prairie dog expansion if they populate large areas. Because of the emphasis on ecological restoration of the site to a pre-settlement condition in this alternative, large expansion of prairie dogs would be limited to the extent possible until restoration is completed. The integrity of the xeric tallgrass and riparian woodland, riparian shrublands and uplands considered Preble's habitat across the site would be protected.

Strategies:
1.7.1 – *Same as B.*

1.7.2-1.7.5 – *Same as A.*

1.7.6 – *Same as B.*

1.7.7 – Informally monitor for the presence of plague and consult with local public health officials.

Alternative D
Same as B, except allow prairie dog populations to expand up to 1,000 acres.

Rationale: With the emphasis on providing more public use opportunities in Alternative D, prairie dogs would be allowed to populate larger areas than in Alternatives B and C recognizing that it could be difficult to limit prairie dog expansion if they populate large areas. To the extent possible, the integrity of the xeric tallgrass and riparian woodland, riparian shrublands and uplands considered Preble's habitat across the site would be protected. Because human recreation is a significant part of Alternative D, plague control methods would be used in prairie dog management to protect prairie dogs and visitors.

Strategies:
1.7.1 – *Same as B.*

1.7.2 – *Same as A.*

1.7.3 – Evaluate the suitability of accepting prairie dogs from off-site locations.

1.7.4 -1.7.6 – *Same as A.*

1.7.7 – *Same as B*, except annually monitor and quantify prairie dog populations, but do not monitor densities and vegetation characteristics within prairie dog towns.

1.7.8 – *Same as B.*

Objective 1.8—Species Reintroduction

Background
CDOW holds the primary responsibility for wildlife management in Colorado and cooperated with the DOE for wildlife management on Rocky Flats before Refuge establishment. CDOW, through a cooperative effort with City of Boulder, introduced a small number of plains sharp-tailed grouse just north of the Refuge on Boulder's open space land during spring 2003 and is interested in expanding the introduction of the grouse onto the Refuge. The Service worked with CDOW to introduce northern redbelly dace and the common shiner in Rock Creek during summer 2003.

Alternative A
During the 15-year life of the CCP, facilitate and assist reintroduction of native extirpated species by, or in coordination with, the CDOW. Implement population monitoring of existing reintroductions (redbelly dace, common shiner) and any new reintroductions until successfully established.

Rationale: In Alternative A, Service cooperation with CDOW on introductions/reintroductions would provide continuity in management, sharing of resources and benefit the ecosystems and native communities present on the Refuge. The Service, however, would not take a leading role in species reintroduction. An alternating year monitoring program would enable the limited staff resources to rotate population monitoring.

Strategies:
1.8.1 – Coordinate with CDOW to introduce and monitor plains sharp-tailed grouse.

1.8.2 – Coordinate with CDOW in species release, monitoring and habitat maintenance needs on the Refuge.

1.8.3 – Coordinate with CDOW on monitoring native fish reintroduction (northern redbelly dace and common shiner) in Rock Creek, until they are successfully established.

Alternative B
Within 3 years of Refuge establishment, evaluate the suitability for introducing/reintroducing plains sharp-tailed grouse and other native species, prioritize the species that could be introduced/reintroduced during the life of the CCP and implement population monitoring of reintroduced species at least annually until populations are established.

Rationale: In Alternative B, a full evaluation of Refuge habitat suitability is needed before introductions/ reintroductions are planned. Service staff would play an active role in evaluating the suitability of reintroduction efforts and would partner with CDOW to manage implementation. Population monitoring by Service staff would be implemented as necessary.

Strategies:
1.8.1 – Coordinate with and assist CDOW in evaluating the suitability of the Refuge for plains sharp-tailed grouse and other native species.

1.8.2 – Oversee and assist CDOW with species release, monitoring and habitat maintenance on the Refuge.

1.8.3 – Annually monitor native fish (northern redbelly dace and common shiner) in Rock Creek. If needed, reintroduce them in the Walnut Creek drainage and Woman Creek (provided suitable habitat exists), until successful establishment.

1.8.4 – If found suitable for introduction, during the first 2 years of the CCP, complete a management plan for the plains sharp-tailed grouse.

Alternative C
Same as B, except within 3 years, remove the introduced common shiner and redbelly dace from the Lindsay Ranch ponds and determine if they can be relocated elsewhere on the Refuge (in order to restore the ponds to native wetlands).

Rationale: Similar to Alternative B, Service staff would partner with CDOW to evaluate the suitability of reintroduction efforts and implement and monitor those efforts. With the focus on ecological restoration of the site to pre-settlement conditions under Alternative C, stocked native fish populations in the Lindsay Ranch ponds would need to be transplanted to the other drainages (on site, if possible) and the ponds restored to a native wetland condition.

Strategies:
1.8.1-1.8.4 – *Same as B.*

Alternative D
During the first 3 years of the 15-year CCP, complete an evaluation of the Refuge's suitability for the reintroduction of plains sharp-tailed grouse and implement population monitoring.

Rationale: In Alternative D, additional resources would be focused on providing a full range of public use opportunities and aside from the grouse and native fish, no other reintroductions/introductions would be proposed.

Strategies:
1.8.1 – *Same as B.*

1.8.2 – *Same as B*, except coordinate with and assist CDOW (but not oversee CDOW).

1.8.3 – *Same as B.*

Goal 2. Public Use, Education and Interpretation

Provide visitors and students high quality recreational, educational and interpretive opportunities and foster an understanding and appreciation of the Refuge's xeric tallgrass prairie, upland shrub and wetland habitats; native wildlife; the history of the site; and the NWRS.

Objective 2.1—Visitor Experience

Alternative A
For the life of the CCP, provide guided interpretive tours for less than 300 visitors annually (less than 2 tours a month). During their visit, 90 percent of site visitors would be informed about the safety steps that were taken prior to Refuge establishment.

Rationale: In this alternative general public access is restricted. The only public use permitted would be organized guided tours of the Refuge. Because Service staff would accompany all visitors, all visitors would enjoy a safe, informative tour of select high-quality resource areas within the Refuge. In an effort to make visitors feel safe, all tours would include information about the steps that were taken to ensure safety prior to Refuge establishment. One survey would be developed to measure all visitor experiences and would include questions related to use patterns, satisfaction and understanding of the resource (as referred to in objectives 2.1, 2.2, 2.3, 2.4 and 2.5).

Strategies:
2.1.1 – Develop a guideline and reservation system to manage public use and arrange tours.

2.1.2 – Provide a staff contact for every tour to explain the site's history and resources as well as the Refuge System's mission and help ensure that visitors feel safe during their visit.

2.1.3 – Develop a survey to measure the quality of the visitor experience.

Alternative B
Within the first 5 years of the Refuge's establishment, the Service would initiate efforts to make Refuge visitors feel safe and would ensure that at least 75 percent of visitors would be informed about the safety steps that were taken prior to Refuge establishment.

Rationale: Access to the Rocky Flats site has been highly restricted during both the nuclear production and the cleanup phases of the site's history. A substantial amount of public skepticism about the site's safety and a lack of familiarity with the site's resources are likely to hamper visitation. To ease public apprehension about the site, it would be crucial to ensure that visitors feel welcome, safe and comfortable. During focus groups about visitor use and outreach programs, specialists emphasized the importance of communicating with the public and explaining cleanup results and ongoing safety measures. One survey would be developed to measure all visitor experiences and would include questions related to use patterns, satisfaction and understanding of the resource (as referred to in objectives 2.1, 2.2, 2.3, 2.4 and 2.5).

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Refuge tours, open visits and interpretive programs would increase public awareness of the Refuge system.

Strategies:
2.1.2 – Provide a staff contact during peak seasons to welcome visitors and address safety concerns.

2.1.3 – Develop a survey designed to measure how safe visitors feel during their visit.

2.1.4 – Develop an outreach program that reaches beyond the site's boundaries and educates surrounding communities about the Refuge's safety and amenities.

2.1.5 – Use signage, staff contact, brochures, website and other means to convey safety information.

2.1.6 – Implement a volunteer program focused on helping the public and site visitors understand efforts that have been made to ensure the safety of site users.

2.1.7 – Keep surrounding communities including, but not limited to, Jefferson, Boulder and Broomfield counties, the cities of Westminster, Arvada, Boulder, Golden and Broomfield and nearby school districts informed about Refuge events and the progress of the CCP's implementation.

Alternative C
For the life of the CCP, provide guided interpretive tours for less than 1,000 visitors annually. During their visit, 90 percent of site visitors would be informed about the safety steps that were taken prior to Refuge establishment.

Rationale: The primary emphasis for this alternative is ecological restoration and protection with limited public use. All public use would be through arranged tours including classes and other research groups. Visitor numbers would be low because Refuge's funding would be directed primarily toward resource preservation and restoration rather than visitor use. Because Service staff would accompany all visitors, they would enjoy a safe, informative tour of select high quality resource areas within the Refuge. In an effort to make visitors feel safe, all tours would include information about the steps that were taken to ensure safety prior to Refuge establishment. One survey would be developed to measure all visitor experiences, using questions related to use patterns, satisfaction and understanding of the resource (as referred to in objectives 2.1, 2.2, 2.3, 2.4 and 2.5).

Strategies: Same as A.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Objective 2.2—Public Access

Alternative A
Initiate limited guided tours (fewer than 300 visitors annually) of the Refuge within the first year of the Refuge's establishment and provide opportunities for wildlife observation, photography and limited interpretation. The tours would be conducted throughout the life of the CCP. About 75 percent of visitors would report satisfaction with their guided Refuge experience.

Rationale: Visitor access and wildlife-dependent uses would only be permitted on a guided tour. Site tours would provide visitors the opportunity to view unique xeric tallgrass prairie, upland shrub and wetland habitats and to understand the site's history and the NWRS. Hunting, equestrian and bicycling uses would not be permitted. In all alternatives, dogs would be prohibited on the Refuge because they pose a threat to the wildlife resources on the Refuge. In order to minimize disturbances to the natural environment, visitors would be restricted to designated areas.

Strategies:
2.2.1 – Develop and implement a survey that measures visitor satisfaction and use patterns.

2.2.2 – Do not permit dogs on the Refuge.

2.2.3 – Use existing roads as routes for the tour. No trail or other visitor use facilities would be developed.

Alternative B
By the end of 15 years, visitors would have opportunities to observe and photograph wildlife and to experience the Refuge's unique habitats, mountain and prairie views on foot, bike and horse. Satisfaction with their Refuge experience would be reported by 75 percent of visitors.

Rationale: One of the goals of the Refuge System is to foster an understanding of wildlife and its habitat by providing the public with safe, high quality, wildlife-dependent public uses. The Refuge provides opportunities for the public to experience the unique xeric tallgrass prairie, upland shrub, wetland habitats and learn about the site's history and the NWRS. Trails and overlooks would be designed to allow visitors to experience the diverse areas of the site and expansive views of the mountain backdrop and the Denver/Boulder metropolitan area.

Off trail use would be allowed on a seasonal basis for pedestrian access only in the southern portion of the Refuge during specific times of the year (October-April). Limiting off trail use to the late fall and winter would limit impacts to ground nesting birds and deer fawning in the uplands. Off trail use would provide opportunities for amateur naturalists, wildlife photographers and others to access their subjects.

To protect Preble's and other wildlife habitat, closures in the Rock Creek area and other drainages would be instituted on an as needed basis. Overlooks, however, would remain open and provide views into the riparian areas. Dogs would be prohibited on the Refuge because they are permitted on nearby open spaces and pose a threat to wildlife resources.

Strategies:
2.2.1-2.2.2 – *Same as A.*

2.2.3 – Develop trails to provide multiple opportunities for viewing and photographing wildlife.

2.2.4 – Allow off-trail use in the southern portion of the Refuge (south of Woman Creek) between October and April.

2.2.5 – Establish seasonal trail closures in Rock Creek and other drainages as necessary to minimize impacts to wildlife. Keep portions of the rim trails open for viewing the riparian areas.

2.2.6 – Provide a seasonally staffed visitor contact station to inform visitors about the Refuge's resources and how to best experience the Refuge during different seasons.

2.2.7 - Open the Refuge to the public from sunrise to sunset.

2.2.8 - Maintain public access on the main access road only. Close all other roads to public access.

2.2.9 - Do not permit motorized vehicles on the Refuge except in designated parking/access areas, refuge maintenance access and access to utility easements, ditches, and private mineral rights.

Alternative C
Initiate limited guided tours (limited to 1,000 visitors annually) of the Refuge within the first year of the Refuge's establishment and provide limited opportunities for wildlife observation, photography and interpretation. The tours would be conducted throughout the life of the CCP. About 75 percent of visitors would report satisfaction with their guided Refuge experience.

Rationale: Same as A.

Strategies:
2.2.1-2.2.2 – *Same as A.*

2.2.10 – Provide the minimum amount of public use facilities, including trails and overlooks, to allow visitors to obtain views of key resource areas while minimizing impacts to wildlife.

2.2.11 – Minimize the scale of all facilities, where appropriate, place them in previously disturbed areas.

Alternative D
Throughout the life of the CCP, visitors would have opportunities to observe and photograph wildlife and to experience the Refuge's unique habitats and mountain and prairie views. About 75 percent of visitors would report satisfaction with participation in a wide range of wildlife dependent recreational uses.

Rationale: Same as B.

Strategies:
2.2.1-2.2.2 – *Same as A.*

2.2.3-2.2.5 – *Same as B.*

2.2.6 – Provide a staffed visitor center to inform visitors about the Refuge's resources and opportunities for experiencing the Refuge.

2.2.7-2.2.9 – *Same as B.*

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Refuge access would be limited to guided tours in Alternatives A and C.

Objective 2.3—Appreciation of the National Wildlife Refuge System

Alternative A
For the life of the CCP, 90 percent of the visitors who are allowed site access would understand and appreciate the NWRS mission, the purpose of the Refuge and most importantly, the natural and cultural resources of the Refuge.

Rationale: All visitors would be on guided tours with knowledgeable staff that would explain the NWRS mission, the purpose of the Refuge and the resources of the Refuge.

Strategies:
2.3.1 – Keep Refuge visitation very low and provide staff contact on all tours. Adjust visitation limits as needed to minimize impacts on Refuge resources.

2.3.2 – Develop a visitor use tracking system to measure the number of visitors. Use it in conjunction with the visitor experience survey to identify changes needed to improve the visitor's experience.

2.3.3 – Distribute a survey to tour participants every 7 years (twice during the life of the CCP). Distribute the survey over the course of a year to ensure that feedback is collected during all four seasons.

Alternative B
By the end of the CCP, 65 percent of visitors would understand and appreciate the NWRS, the purpose of the Refuge and the natural and cultural resources of the Refuge.

Rationale: Given the drastic shift in the use of Rocky Flats from nuclear weapons production to a wildlife refuge, the public is unfamiliar with the site's new mission and its natural resources. As people begin to feel safe and comfortable with accessing the Refuge, the Service would strive to foster public awareness and appreciation of the Refuge System and the purpose of the Refuge. The Refuge's proximity to urban areas presents a good opportunity to educate a large number of people about the NWRS and its role in conservation across the country.

Strategies:
2.3.1 – Include questions in the visitor surveys and questionnaires (strategy 2.2.1) that measure visitors' understanding of the NWRS and the Refuge's resources.

2.3.2 – Create the interpretive media and programs identified in the environmental education component of the Visitor Services Plan, a step-down plan that will outline visitor services in more detail than the CCP.

2.3.3 – Work with outside partners to ensure visitors understand the Refuge's natural and cultural resources. Potential partners include the CDOW, surrounding city and county environmental education entities (government, non-profit and profit), Cold War Museum, Boulder and Jefferson County high schools and the State Historic Preservation Office.

2.3.4 – During peak seasons, provide adequate personnel to ensure that staff contact is available to visitors.

2.3.5 – Develop an interpretive signage system that educates visitors about the natural and cultural resources at the Refuge.

2.3.6 - Educate visitors about the National Wildlife Refuge System.

Alternative C
For the life of the CCP, 90 percent of the visitors who are allowed Refuge access would understand and appreciate the NWRS mission, the purpose of the Refuge and most importantly, the natural and cultural resources of the Refuge.

Rationale: Same as A.

Strategies:
2.3.1-2.3.2 – *Same as A.*

2.3.3 – *Same as A, except:* distribute a survey to tour participants every 5 years (three surveys during the life of the CCP). Distribute the survey over the course of a year to ensure that feedback is collected during all four seasons.

Alternative D
By the end of the CCP, 50 percent of visitors would understand and appreciate the NWRS mission, the purpose of the Refuge and the natural and cultural resources of the Refuge.

Rationale: Same as B, except. Alternative D would offer the greatest amount of public use programs and likely attract the most visitors. Given the increased number of visitors, Refuge staff would not be able to communicate personally with as many people; therefore, the percentage of visitors who develop an understanding and appreciation of the Refuge System and the Refuge's legislated purpose would be lower than in Alternatives B and C.

Strategies: Same as B.

Objective 2.4—Public Use Tracking

Alternative A
Not applicable to Alternative A.

Alternative B
Within the first year of the Refuge's establishment, open a pedestrian-only trail to Lindsay Ranch and monitor the number of visitors to the Refuge. During years 5 through 7, as more trails are opened, develop baseline data for numbers of visitors and their use patterns.

Rationale: The Refuge has not been open to the public; therefore, no visitor use data exists. Establishing quality baseline data is needed for future management decisions. A quantitative understanding of visitor activity (numbers of visitors, trail and use patterns) combined with an analysis of the quality of their experience would allow Service staff to enhance or limit visitor use opportunities.

Strategies:
2.4.1 – Develop a visitor use tracking system to measure the number of visitors. Use it in conjunction with a visitor experience survey to identify changes needed to improve the visitor's experience.

2.4.2 – Use trail or vehicle counters to record Refuge visitor numbers.

2.4.3 - Use the results of tracking to guide the design and planning of public use facilities and programs.

Alternative C
Not applicable to Alternative C.

Alternative D
Within the first 2 years of establishment, determine baseline data for numbers of visitors and their use patterns.

Rationale: Same as B.

Strategies: Same as B.

Objective 2.5—Public Use Assessments

Alternative A
Not applicable to Alternative A.

Alternative B
By the end of the CCP, 25 percent of visitors would demonstrate an appreciation of the Service's stewardship mission and would have the desire to apply the conservation ethic to their own lives and share it with others.

Rationale: The goal of interpretation and environmental education is to foster an understanding and appreciation for natural processes that inspires people to behave in a more environmentally conscious manner. In addition to providing on-site recreation and education opportunities, the public use program would strive to inspire citizens to become better land stewards in their own communities and stronger advocates for the Refuge system. This objective is in keeping with the goals of the System that promote establishment of a greater appreciation of fish, wildlife and plants and their conservation.

Strategies:
2.5.1 – Develop survey questions that gauge visitors understanding and appreciation of natural resources, stewardship and environmentally sensitive ethics.

2.5.2 – Distribute the survey, on and off-site, every 5 years (twice during the life of the CCP). Distribute the survey over the course of a year to ensure that feedback is collected during all four seasons.

2.5.3 – Design simple, low cost methods of gathering change of behavior data (e.g., web, volunteers, environmental education students).

2.5.4 - Use survey data to guide interpretive and educational program development as well as public outreach.

Alternative C
By the end of the CCP, 50 percent of visitors would demonstrate an appreciation of the Service's stewardship mission and would have the desire to apply the conservation ethic to their own lives and share it with others.

Rationale: Given Alternative C's emphasis on restoration and conservation, it would be important for tour guides to communicate the Service's mission and ongoing efforts to protect and enhance habitat on the Refuge. Although Alternative C does not involve formal public use programming, Refuge staff would accompany all visitors during their guided tours. Tour guides would have opportunities to educate visitors about the Service's mission and promote the value of a stewardship ethic. This objective is in keeping with the goals of the System that promote the establishment of a greater appreciation of fish, wildlife and plants and their conservation.

Strategies: Same as B.

Alternative D
By the end of the CCP, 10 percent of visitors would express an understanding of the land stewardship mission of the Service and would express the desire to apply this conservation ethic to their own lives.

Rationale: This objective is in line with NWRS goals that promote the establishment of a greater appreciation of fish, wildlife and plants and their conservation. However, the increased number of visitors in Alternative D would hamper efforts to personally communicate with visitors and, as a consequence, a lower percentage of visitors are likely to adopt environmental ethics.

Strategies: Same as B.

Objective 2.6—Interpretative Planning

Alternative A
Within 1 year of the Refuge's establishment, develop a fact sheet on the Refuge's history and its natural and cultural resources. The fact sheet would be updated annually and would also outline ongoing scientific research.

Rationale: Because visitor use would be limited and highly controlled, the purpose of the fact sheet would be to provide staff with a basis for presenting information to visitors on guided tours. The content of the fact sheet would be broad and cover topics ranging from the Refuge's Cold War history to descriptions of habitats to ongoing scientific research. The fact sheet would also be used as a mailer to interested parties that request information on the Refuge.

Strategies:
2.6.1 – Use the fact sheet to develop guides for staff who are leading visitor tours.

Alternative B
Within 4 years of the Refuge's establishment, develop the interpretive component of a Visitor Services Plan outlining interpretive facilities and programs.

Rationale: An interpretive plan would be prepared as a component of an umbrella Visitor Services Plan. The interpretive plan would focus on creatively and accurately informing visitors and students about the new Refuge. The first step would be to communicate about the site's history and safe opportunities for access. During the early years of the Refuge's establishment, it also would be important to inform the public about the Refuge's wildlife, natural resources and scenic values and encourage people to visit the site. Gradually, the Service would need to develop and implement comprehensive interpretation programs that build an appreciation for the intricacies of the site's natural systems.

Strategies:
2.6.1 – Work with outside partners to develop the interpretive component of the Visitor Services Plan. Potential partners include CDOW, surrounding city and county environmental education entities (government, non-profit and private), Cold War Museum, Boulder and Jefferson county high schools and the State Historic Preservation Office.

Alternative C
Within 1 year of the Refuge's establishment develop a fact sheet on the Refuge's habitat types, wildlife populations and the Service's restoration practices. The fact sheet would be updated annually and would also outline ongoing scientific research. Following year 3, Refuge staff would use the fact sheet as a basis for creating simple learning materials about the Refuge's natural resources that would be distributed to high school and college educators.

Rationale: The fact sheet is intended to provide staff with a basis for presenting information to visitors on guided tours and for developing simple learning materials that focus on the Refuge's ecology. Given Alternative C's emphasis on ecological restoration, the fact sheet would describe the Refuge's habitats, wildlife populations as well as the Service's management techniques for restoring and maintaining the grassland ecosystem. The fact sheet would also be used as a mailer to parties that request information on the Refuge.

Strategies:
2.6.1 – *Same as A.*

2.6.2 – Work with local educators to determine what resource learning materials would best supplement their curriculum.

Alternative D
Within 2 years of the Refuge's establishment, develop the interpretive component of a Visitor Services Plan outlining interpretive facilities and programs.

Rationale: Same as B, plus: The interpretive component of the Visitor Services Plan would be developed in the early CCP implementation stages because this alternative has a strong focus on providing a diversity of compatible public uses.

Strategies: Same as B.

Objective 2.7—Interpretative Programs

Alternative A
Not applicable to Alternative A.

Alternative B
Within 15 years of the Refuge's establishment, implement the interpretive component of the Visitor

Services Plan. Implementation would include the development of a wide range of interpretive programs and facilities.

Rationale: An interpretive plan would be prepared as a component of an umbrella Visitor Services Plan. The interpretive plan would be developed by Refuge staff and would describe interpretive as well as environmental education programs and related facilities. Initially, interpretation efforts would focus on providing information related to visitor comfort and safety. During later years of the CCP implementation, the focus would shift to the development of site-related interpretive programs and facilities. The range of programs and facilities would include guided tours about native flora and fauna, interpretive signage with both cultural and natural themes and overlook structures.

Strategies:
2.7.1 – Develop interpretive programs that explore the site's natural and cultural resources and are accessible to children and adults.

2.7.2 – Distribute interpretive media (newsletter, flyers, website) in accordance with outreach techniques outlined in the Visitor Services Plan.

2.7.3 - Develop interpretive facilities including interpretive signage and interpretive displays.

Alternative C
Not applicable to Alternative C.

Alternative D
Within 15 years of the Refuge's establishment, implement the interpretive component of the Visitor Services Plan. Implementation would include the development of a wide range of interpretive programs and facilities including a visitor center.

Rationale: Same as B.

Strategies:
2.7.1-2.7.2 – *Same as B.*

2.7.3 – Design and build (or retrofit) a visitor's center and interpretive/orientation exhibits.

2.7.4 – Develop an interpretive naturalist program.

Objective 2.8—Environmental Education Planning

Alternative A
No educational programs in Alternative A.

Alternative B
Within 5 years of the Refuge's establishment, develop a plan outlining on- and off-site environmental education programs for high school and college-level students as well as training for educators. Environmental education programs would meet state standards for learning, accommodate independent studies and tie to the mission of the NWRS and the site's natural resources and history.

Rationale: In the Denver Metropolitan area, natural resource study sites are needed to accommodate high school and college level research. This need was identified by educators and interpretive specialists at an environmental education focus group in the fall of 2002 and is based on the Refuge's proximity to the Colorado School of Mines and University of Colorado.

Specialists noted that there are several environmental programs for elementary and middle school children in communities surrounding the Refuge, but programs that provide opportunities for high school students to develop research skills through field study are limited. Since high school and college students are more independent, the costs and staffing resources needed to develop these types of programs would be less than they would be for programs for younger students. Environmental education programs at the Refuge would be research oriented and would involve independent study and would therefore require only limited assistance and supervision from Refuge staff. The Service would, however, sponsor teacher workshops for local educators so they could effectively lead environmental education programs on the Refuge.

Given current public apprehension about the site's safety, an independent and off-site approach to environmental education is appropriate during the first 5 years of the Refuge's establishment. Although the educational program would focus on high school and college level students, limited on and off-site activities for visitors of all ages would also be included.

Strategies:
2.8.1 – Partner with area universities, high schools, the Cold War Museum and other educational institutions to develop the environmental education components of the Visitor Services Plan.

2.8.2 – Pursue environmental education grants in collaboration with area universities, high schools, the Cold War Museum and other educational institutions.

2.8.3 – Use website, email and other media to distribute information on refuge resources and data for student use.

Alternative C
No educational programs in Alternative C.

Alternative D
Within 3 years of the Refuge's establishment, develop a plan outlining environmental education programs for on- and off-site programs for kindergarten (K)-eighth graders, high school and college level students, as well as training for educators. Environmental education programs would meet state standards for learning and accommodate independent studies and would be tied to the mission of the NWRS and the site's natural resources and history.

Rationale: Same as B, plus programs for younger students (K-eighth) also would be provided and would distinguish themselves from other youth programs by focusing on the prairie ecosystem. The environmental education programs would include both teacher-led and staff-led programs as well as independent research.

Outdoor classrooms and educational signage would enhance the educational programs.

Strategies: Same as Alternative B.

Objective 2.9—Environmental Education Implementation

Alternative A
No educational programs in Alternative A.

Alternative B
Within 8 years of the Refuge's establishment implement the environmental education components of the Visitor Services Plan and the program it outlines for high school and college level students.

Rationale: Once the Refuge becomes established and the public becomes more comfortable with site visitation through public education and outreach efforts, the Refuge staff would begin implementing the plan. Education programs would adopt the state's model content curriculum standards and focus on the Refuge's natural resources. Implementation of the program would include teacher workshops in which Service staff train local educators about the Refuge's resources. Educators would be required to attend a Service-sponsored workshop prior to leading environmental education programs on the Refuge.

Strategies:
2.9.1 – Work with area universities, high schools, the Cold War Museum and other educational institutions to implement environmental education programs.

2.9.2 – Collaborate with area universities, high schools, the Cold War Museum and other educational institutions and pursue grants to support environmental education programs.

2.9.3 – Use a variety of media to distribute a wide range of data that can be used by high school and college students.

2.9.4 - Sponsor teacher workshops in order to inform educators about the Refuge's resources and facilitate teacher-led environmental education programs.

Alternative C
No educational programs in Alternative C.

Alternative D
By year 15, implement the environmental education components of the Visitor Services Plan and the program it outlines for K-8th, high school and college level students.

Rationale: Same as B.

Strategies:
2.9.1-2.9.4 – *Same as B.*

2.9.5 – Construct educational facilities including an outdoor classroom.

2.9.6 – Use a variety of tools to provide educational opportunities, including an interactive website that provides students with current Refuge data on Refuge happenings.

Objective 2.10 – Hunting Program

Alternative A
No hunting programs in Alternative A.

Alternative B
Within the first 2 years of the Refuge's establishment, institute a controlled youth and/or disabled person's deer and/or elk hunting program 2 weekends a year. After 2 years, annually modify the extent of the hunting program (number of permits and frequency) in order to ensure that target level ungulate populations are maintained. If appropriate for wildlife management, expand the hunting program to include able-bodied hunters.

Rationale: Hunting is consistent with the Refuge System's mission and is identified as a priority wildlife dependent use on refuges (outlined in the Improvement Act). Hunting allowed on the Refuge would be subject to state regulations and safety requirements. Hunting would be highly controlled in terms of number of users, user populations, time

frame and allowable weapons. Hunting would be limited to short-range weapons such as archery and shotguns and only open during designated weekends to youth and disabled hunters. There are very few hunting opportunities for these special populations in the region and they would benefit from the tightly managed program at the Refuge.

There have been concerns expressed from the public about the consumption of deer at Rocky Flats if a public hunting program is implemented. Tissue samples, including meat tissues, of deer harvested at Rocky Flats in 2002 have been analyzed for contaminants. The results of the analysis indicate that there is no significant uptake of contaminants by deer or other wildlife species at Rocky Flats. Risk-based calculations based on these measurements indicate very low health risks (less than $1x10^{-6}$ increased cancer risk).

Hunting would also be an important management tool for maintaining target ungulate populations and optimal habitat conditions. If the Service, in consultation with CDOW determines that a larger hunting program is needed to control ungulate populations, the program would be opened to the general public and not limited to youth and disabled hunters. A step-down hunting plan would be prepared as a component of an umbrella Visitor Services Plan.

Strategies:
2.10.1 – By year 1, develop a hunting plan with public involvement.

2.10.2 – Work with the CDOW and other interested entities to develop and implement the hunting plan.

2.10.3 – During the hunting weekends, close the Refuge to other public use.

2.10.4 – Allow hunters with proof of completion of a certified hunter safety course to hunt using archery and shotguns.

Alternative C
No hunting programs in Alternative C.

Alternative D
Same as B.

Objective 2.11—Hunting Program Assessment

Alternative A
No hunting programs in Alternative A.

Alternative B
Following each hunting season, assess the success of the hunting program and adjust hunting opportunities as appropriate.

Rationale: Refuge management would need to monitor and evaluate the newly instituted hunting program and adjust the program based on ungulate population sizes, safety, adjacent communities support and hunter satisfaction (one survey would be developed to address objectives 2.11 and 2.12).

Strategies:
2.11.1 – Develop a survey for hunters, adjacent landowners and surrounding communities to measure their interest and support for the hunting program.

2.11.2 – Monitor deer populations and habitat conditions to understand the effects of the hunting program on wildlife and Refuge resources.

Alternative C
No hunting programs in Alternative C.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Objective 2.12—Hunting Program Benchmarks

Alternative A
No hunting programs in Alternative A.

Alternative B
About 95 percent of hunters would report no conflicts with other users, a reasonable harvest opportunity and overall satisfaction with their Refuge experience.

Rationale: Due to the limited number of hunters and the healthy resident deer population at the Refuge, it is likely that youth and disabled individuals would be afforded a quality hunting experience.

Strategies:
2.12.1 – Develop a brief survey for hunters in order to evaluate their Refuge experience (combined with survey used to measure objective 2.11).

2.12.2 – Staff interaction on a one-on-one with hunters.

Alternative C
No hunting programs in Alternative C.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Objective 2.13—Recreation Facilities

Alternative A
Within 1 year of Refuge establishment, provide a portable restroom facility to accommodate visitors on guided tours.

Rationale: No facility development, other than a restroom, would be required because visitation would be very limited.

Strategies:

2.13.1 – Install a portable restroom facility.

Alternative B
Within 1 year of the Refuge's establishment, begin development of the hiking trail to the Lindsay Ranch and build an un-staffed welcome kiosk and simple restroom facilities at the open access point. By year 5, additional trails would be open to public use. By year 7, 75 percent of all recreation facilities including trails, and interpretive signage at key locations would be established. Parking (4 parking areas ranging in size from 3 to 30 spaces with the largest parking area at the main entrance accommodating horse trailers) would also be developed during this period. By year 15, develop 100 percent of the trail system, including connections to adjacent areas for pedestrians, cyclists and equestrians.

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Viewing blinds and overlooks would facilitate wildlife observation and photography.

Rationale: Recreational facilities would provide public access to the Refuge's many natural and cultural resources. During the early years of the CCP implementation, the Service would focus staffing and budgetary resources on habitat restoration including revegetating unnecessary roads, weed management, and restoring stream crossings. This focus would allow the Service to reduce the severity of noxious weed infestations and gain a foothold on road restoration before public trail use introduces new disturbances onto the landscape. The Service would also need to conduct baseline Preble's surveys before opening the site to public use. Therefore, with the exception of the immediate opening of the Lindsay Ranch hiking trail and welcome kiosk, development of the recreation facilities would need to be postponed until year 5. The un-staffed welcome kiosk positioned nearby the Lindsay Ranch trailhead would inform visitors about current access opportunities and future public use facility development.

If early restoration efforts are effective and budgetary and staffing resources are available, the Service may initiate construction of new trails and the conversion of selected roads to trails before year 5 and, if feasible, may open some trails or portions of trails ahead of schedule.

Bicycles and horses would be permitted on multiple use trails in order to facilitate regional trail linkages and to serve as a mode of transportation for wildlife viewing and accessing the Refuge from surrounding communities. Certain trails would be designated for pedestrian use only. Trails would be designed to provide connections, use existing road corridors and minimize impacts to sensitive wildlife resources.

The unstaffed welcome kiosk would serve as a central information dissemination point at the main entrance to the Refuge. The simple structure would include orientation and interpretive panels to explain Refuge

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The Service would continue to partner with CDOW.

resources and public use opportunities. Eventually, the structure would be augmented with a seasonally staffed visitor contact station that would include permanent displays, administrative offices, Refuge orientation information and educational materials.

Strategies:

2.13.1 – Construct an unstaffed welcome kiosk and portable restroom facilities within disturbed areas at the main parking lot and trailhead.

2.13.2 – Develop a universally accessible trail that links the main parking area to the Rock Creek overlook. Also provide an accessible mounting ramp for equestrian use.

2.13.3 – To provide a quality trail user experience, reduce reclaimed road widths to single lane, unpaved trails. However, maintain adequate width of trail corridors to allow them to also serve as access routes for maintenance or fire protection vehicles.

2.13.4 – Clearly mark all trails with signage indicating permitted uses.

2.13.5 - Prior to opening the Lindsay Ranch trail improve the trail corridor and conduct a Preble's survey.

2.13.6 – Where appropriate, use existing road corridors for trails to reduce negative impacts on site resources and site trails so they minimally impact habitat and provide a quality visitor experience.

2.13.7 – Realign road/trail corridors in specific areas with excessive slopes and/or sensitive wildlife habitat, or where wildlife viewing could be greatly enhanced.

2.13.8 – Designate some sections of the trail for pedestrian use only and create multi-use trails that permit bicycles and horses (equestrian use would be limited to the southern half of the Refuge).

2.13.9 – Implement seasonal trail closures as needed to protect wildlife and their habitats.

2.13.10 – Use existing roads to provide motorized access to parking and trailheads. Make all motorized access and parking areas unpaved.

2.13.11 – Work with adjacent landowners on issues related to trail linkages to trail systems north, south, east and west of the Refuge.

2.13.12 – Work with neighboring landowners, agencies and the Colorado Department of Transportation (CDOT) to develop safe pedestrian crossings at all trailheads.

2.13.13 – Work with others to develop an underpass under Indiana Street if it is deemed necessary for safe pedestrian connections to trails and open space east of the Refuge.

2.13.14 - Post signage at all trailheads that clearly communicates access opportunities as well as information about the site's history, recent clean up efforts, and differences in management between the Refuge and neighboring open space properties.

2.13.15 - Educate equestrian users on the importance of using weed-free hay and removing manure from trails.

2.13.16 - Work with equestrian groups and ensure that they remove horse manure from trails on a volunteer basis.

Alternative C

Within 7 years of the Refuge's establishment, develop all recreational facilities. Facilities would include a short (approximately 1.25 miles) access road, limited parking with turn around space (approximately 10 spaces, which can also be used by a small bus), a pedestrian trail with an overlook, portable toilets and information/ interpretive panels.

Rationale: Limited recreation facilities would be provided to visitors to minimize site disturbance and provide visual access to the Rock Creek drainage. As one of the least disturbed and most diverse portions of the Refuge, Rock Creek is a desirable destination. All facilities would be sited in previously disturbed areas. Facility development would not be completed until year 7 because management resources would be directed toward conservation and restoration efforts during the early years of the CCP.

Strategies:
2.13.1 – Provide portable toilets for both staff and visitor use.

2.13.2 – Design and construct the unpaved access, circulation and parking and trail facilities.

2.13.3 – Reclaim disturbed areas within these corridors by removing paving and reducing 2-track roads to single track trails.

2.13.4 – Place an interpretative panel at the Rock Creek overlook. Post added trail signage to explain limited access opportunities.

Alternative D
Within the first 5 years of the Refuge's establishment, develop 100 percent of the trail system along with simple orientation and interpretive signage at key locations. The trail network would provide pedestrians, cyclists and equestrian users opportunities to access the site's key resource areas and to connect to adjacent trails and communities. During this period, develop an unstaffed welcome kiosk and simple restroom, access and parking facilities (five parking areas ranging in size from 10 to 30 spaces, designed to accommodate horse trailers).

Rationale: Same as Alternative B, except parking areas in this alternative would be larger than in B to accept a greater diversity of users. In Alternative D, the simple welcome kiosk would be supplemented with a staffed visitor center that would include permanent displays, administrative offices, Refuge orientation information and educational materials.

Strategies: Same as B.

Objective 2.14—Enhanced Recreation Facilities

Alternative A
Not applicable to Alternative A.

Alternative B
Within 10 years of the Refuge's establishment, enhance trails, construct a seasonally staffed contact station with upgraded restrooms, develop maintenance facilities and create additional interpretive panels.

Rationale: To bolster the quality of the visitor experience, additional resources would be expended on visitor use facilities in the later years of the CCP. A seasonally staffed contact station would be located in an existing disturbed area where it would not fragment wildlife habitat. The facility would allow for more visitor contact and provide a central location for information dissemination and interpretation.

Trail-related improvements would include upgrading trail surfaces, overlooks and interpretive signage. These improvements would reduce maintenance costs, enhance the quality of the visitor experience and reduce resource damage. Viewing blinds could be constructed to enhance photographic and wildlife observation opportunities.

Strategies:
2.14.1 – Build additional interpretive signs.

2.14.2 – Improve trail alignments, surfaces and overlooks to minimize resource impacts and improve the visitor experience.

2.14.3 – Routinely evaluate trail and public facility impacts and establish measures to minimize impacts on wildlife from trails and other visitor facilities and uses.

2.14.4 – Build a viewing blind to enhance wildlife observation opportunities.

2.14.5 – Construct a small (approximately 750 to 1,000 square feet), seasonally staffed contact station.

2.14.6 - If trail conflicts arise, use signage and expanded trail corridors on sections of trail where site lines are limited to divide equestrians from other trail users.

2.14.7 - If funding is available, position benches at strategic locations along certain trails and construct a limited number of shade structures.

Alternative C
Not applicable to Alternative C.

Alternative D
By the end of the CCP, enhance trails, construct a visitor center with upgraded restrooms and build additional photography and wildlife observation facilities.

Rationale: Same as Alternative B plus; a staffed visitor center would be located in an existing disturbed area where it would not fragment wildlife habitat. The facility would allow for more visitor contact and provide a central location for information dissemination and interpretation.

Strategies:
2.14.1-2.14.3 – *Same as B.*

2.14.4 – Construct additional wildlife observation and photography facilities called for in the interpretation component of the Visitor Services Plan.

2.14.5 – Develop a visitor center.

2.14.6 - 2.14.7 - *Same as B*

2.14.8 – Develop an outdoor classroom outlined in the interpretive component of the Visitor Services Plan.

Objective 2.15— Cold War Museum

Alternative A
Not applicable to Alternative A.

Alternative B
If the Cold War Museum secures a site adjacent to the Refuge and funds to develop a museum within the life of the plan, the Service would partner to co-locate interpretive and other public use facilities with the organization.

Rationale: The Refuge Act (P.L. 107-107,sec.3181) (Refuge Act - Appendix A) states that the Secretary may establish a Rocky Flats Museum to commemorate the contribution that Rocky Flats and its work force provided to winning the Cold War. The legislation states that the museum shall be located in the City of Arvada unless the Secretary determines otherwise. Therefore, there is a possibility that the facility would be constructed on land adjacent to the Refuge should it become available and be deemed appropriate.

Partnering with the Cold War Museum on the development of a museum presents an excellent opportunity for the Service to reduce the footprint of public use facilities on the Refuge. The shared facility would house the simple interpretive displays and staff office space originally intended for the contact station. The Cold War Museum would also be staffed seasonally by Refuge staff and serve as a meeting area for guided tours and other Refuge programs. Additionally, the Cold War Museum facility would present increased opportunities to interpret the the history of the site as ranchland and a nuclear weapons production facility.

Strategies:
2.15.1 - Continue working with the Cold War Museum to explore potential museum sites adjacent to the Refuge.

Alternative C
Not applicable to Alternative C.

Alternative D
Same as B.

Rationale: Same as Alternative B, plus; The Cold War Museum, if located adjacent to the Refuge, would substitute for the visitor center. The shared facility would house the interpretive displays and staff office space originally intended for the visitor center.

Strategies: Same as B

Goal 3. Safety

Conduct operations and manage public access in accordance with the final Rocky Flats' cleanup decision documents to ensure the safety of the Refuge visitors, staff and neighbors.

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Volunteers would help with restoration activities such as seed collection.

Objective 3.1—Staff Safety

Alternative A
Throughout the life of the CCP, all Service staff working at the Refuge would participate in a Refuge orientation and training that would introduce them to the site itself, the institutional controls, CERCLA remedy requirements, safety procedures (both workers and public), biological hazards and physical hazards. The orientation and training would be required prior to beginning an assignment.

Rationale: Rocky Flats National Wildlife Refuge is a CERCLA site that has undergone cleanup. Specific areas will remain under primary jurisdiction of the DOE and may remain off limits to the public. It would be important that Refuge staff receive specific training regarding the site background, remediation actions, CERCLA remedy requirements and institutional controls. This training would help ensure the safety of employees and visitors. Knowledgeable employees would be instrumental in ensuring that visitors are kept informed and feel safe during their visit to the Refuge.

Strategies:
3.1.1 – Develop an orientation training program that clearly addresses key Refuge safety issues.

3.1.2 – Provide first aid training to key staff who may be required to assist the public and staff on site should an accident occur.

3.1.3 – Develop a record keeping system to document worker training.

3.1.4 – As appropriate, develop site-specific appendixes to the Refuge Complex Safety Plan.

3.1.5 – Develop a health and safety plan, within a year of plan approval, to cover all Refuge operations.

3.1.6 – Implement a goal of zero incident performance.

Alternative B
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Alternative C
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Alternative D
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Objective 3.2—Visitor Safety

Alternative A
Throughout the life of the CCP, 100 percent of the visitors on the guided programs would be briefed on the site's history. All Refuge employees would be responsible for ensuring that safety regulations and other compliance policies are met.

Rationale: The Rocky Flats site has been closed to the general public for over 50 years; therefore, it would be important for the Service to clearly report the site's history. The Service, when possible, would work with the DOE to ensure that visitors understand access restrictions.

Strategies:
3.2.1 – Ensure that every guided program addresses the site's history.

3.2.2 – Include safety-related questions in the visitor survey. Surveys would be used to determine the safety knowledge of the visitors and understand how to adjust the safety awareness program based on this information.

Alternative B
Within 5 years of Refuge establishment 75 percent of visitors would be aware that the Refuge is safe and open for public access before they arrive. Upon arrival, these visitors would be informed of public use opportunities and restrictions.

Rationale: Both the EPA and the CDPHE have concurred that the Refuge would be safe for public access (Appendix D). However, given the Rocky Flats site's nuclear weapons production history, it would be important for the Service to clearly inform the public that it is safe to visit the Refuge and that the site offers opportunities to experience unique grassland habitat and many wildlife dependent recreation programs and facilities. In addition to promoting opportunities for accessing the Refuge, the Service would communicate to visitors about the site's history and areas on-site where public access is prohibited. Areas retained by DOE would most likely be closed to public access and access to sensitive habitats would be restricted at times. Similarly, the dilapidated structures within the Lindsay Ranch complex may be fenced off if they pose a safety hazard.

Outreach materials, signage and staff would educate the public about the steps to becoming a refuge, access restrictions and opportunities. DOE would post signage and construct fencing or another means of boundary demarcation to clearly identify all restricted areas that are subject to institutional controls. The Service would continue to work with DOE to ensure that the boundary is clearly visible to the public.

Strategies:
3.2.1-3.2.2 – *Same as A.*

3.2.3 – Provide maps and interpretive signs at all trailheads that inform visitors about the site's history, clean up, and access restrictions.

3.2.4 – Help potential users understand the site's restrictions and public use opportunities through a diversity of media including TV and radio programs, brochures, personal talks, website, public service announcements, news releases and articles. Also work with local school systems to educate teachers and

students about the Refuge's recreational and educational potential.

3.2.5 – Provide Refuge access information to regional map and tour book publishers.

3.2.6 – Develop surveys that are implemented at Refuge access points to determine the safety knowledge of the visitors and understand how to adjust the awareness program based on this information. Data collection would be consolidated into one public use survey encompassing survey needs identified in other goals.

3.2.7 – Maintain a law enforcement presence on-site and ensure that Refuge employees are well informed and can educate visitors on Refuge safety restrictions and allowable uses.

3.2.8 – Document violations and measure the success of the program by the reduction in violations.

3.2.9 – Close the Refuge to public use prior to and during the use of prescribed fire on the Refuge.

3.2.10 - Work with DOE to clearly demarcate the DOE retained land boundary with a barbed-wire agricultural fence, permanent obelisks, signage or other appropriate means.

3.2.11 - Address the site's history in guided programs.

Alternative C
Same as A.

Rationale: Same as A.

Strategies:
3.2.1-3.2.2 – *Same as A.*

Alternative D
Same as B.

Rationale: Same as B.

Strategies:
3.2.1-3.2.2 – *Same as A.*

3.2.2-3.2.11 – *Same as B.*

Goal 4. Effective and Open Communication

Conduct communication outreach efforts to raise public awareness about the Refuge programs, management decisions and the mission of the U.S Fish & Wildlife Service and the National Wildlife Refuge System among visitors, students and nearby residents.

Objective 4.1—Outreach

Alternative A
Throughout the life of the CCP, disseminate information collected on the Refuge through a fact sheet sent to interested parties upon request.

Rationale: Historically, Rocky Flats has been a controversial site with substantial public interest and concern. The Service would respond to inquiries and educate the public about the site's transformation from a nuclear weapons production facility to a National Wildlife Refuge. In order to achieve the Refuge's purposes, vision and goals, the Service would need to communicate with the public.

Strategies:
4.1.1 – Distribute the fact sheet developed in Objective 2.6 to individuals, communities, civic and educational organizations, conservation groups and other interested stakeholders upon request.

Alternative B
Within 5 years of the Refuge's establishment, develop and implement four outreach methods to inform the public about environmental stewardship, safety issues, CCP implementation and educate them on the missions of the Service and NWRS. Once established in year 1, outreach efforts would be ongoing throughout the life of the CCP.

Rationale: Same as Alternative A, plus the Service would work with stakeholders, interest groups and the general public to inform them about the site's resources and the visitor programs and facilities. In order to achieve the Refuge's purposes, vision and goals, the Service would need to maintain open and regular communication with the public.

Strategies:
4.1.1 – At a minimum conduct outreach opportunities in Broomfield, Boulder, Arvada and Westminster and recruit participation from the local municipal governments, business communities, civic and educational organizations, conservation groups, recreational users and other interested stakeholders.

4.1.2 – Establish a monitoring system to measure the diversity of groups in attendance at outreach events.

4.1.3 – Use a variety of outreach communication methods such as a newsletter, website, news releases, local newspaper column and TV and radio programs.

4.1.4 – Encourage Refuge staff to attend selected government and organization meetings and participate with DOE in communicating with the public about long-term stewardship programs.

Alternative C
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Goal 5. Working With Others

Foster beneficial partnerships with individuals, government agencies and non-governmental organizations and others that promote resource conservation, compatible wildlife-related research, public use, site history and infrastructure.

Objective 5.1—Emergency

Alternative A
Within 1 year of the Refuge's establishment, emergency response agreements would be in place with all adjacent fire districts for mutual aid in responding to fire and other emergencies. Additional emergency response and fire protection agreements would be developed with state and local law enforcement agencies as needed.

Rationale: The Refuge is small and in close proximity to a number of communities. Given the Refuge's location and the other on-site safety issues, rapid suppression of fire or response to other emergencies would be essential.

Strategies:
5.1.1 – Meet annually, or as often as needed, with partnering agencies including DOE, to coordinate fire and emergency response plans.

5.1.2 – Coordinate all prescribed fires with all nearby fire districts and other cooperating agencies.

Alternative B
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Alternative C
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Alternative D
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Objective 5.2—Conservation

Alternative A
Within 1 year of the Refuge's establishment, develop an agreement with the CDOW to coordinate habitat and wildlife management strategies related to habitat and resource conservation. Maintain open dialogue with adjacent landowners and local governments.

Rationale: The Service would establish a partnership with CDOW and afford the agency opportunities to supplement the Service's limited habitat and wildlife conservation programs. The Service would cooperate with CDOW on potential species reintroductions. The Service would remain open to partnering with adjacent landowners and local governments if opportunities arise to conserve additional habitat.

Strategies:
5.2.1 – Seek CDOW's input on devising and implementing wildlife management strategies and conservation objectives.

5.2.2 – Work closely with surrounding landowners, open space and natural resource entities such as Jefferson County, City of Boulder, Boulder County, City and County of Broomfield, City of Westminster, Town of Superior and City of Arvada to develop resource management approaches for issues that cross Refuge boundaries.

Alternative B
Throughout the life of the CCP, Refuge staff would meet annually (at a minimum) with local governments and other adjacent landowners, to coordinate habitat management and resource conservation strategies.

Rationale: The Service would encourage a regional management approach for the conservation and restoration of natural resources, which would require collaboration with surrounding landowners. Many natural resource management issues such as invasive weed control, wildlife corridors, recovery of declining species and impacts to resources caused by visitors would need to be coordinated across boundaries.

Strategies:
5.2.1 – Work closely with surrounding open space and

natural resource entities such as Jefferson County, City of Boulder, Boulder County, City and County of Broomfield, City of Westminster, Town of Superior, City of Arvada and CDOW to develop resource management approaches for issues that cross Refuge boundaries.

5.2.2 – Use volunteers to help with conservation and restoration activities.

5.2.3 – Work with adjacent landowners to maintain corridors for ungulate populations and other wildlife that migrate seasonally to and from the Refuge.

Alternative C
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Objective 5.3—Research

Alternative A
Throughout the life of the CCP, maintain agreements with universities and federal agencies for compatible scientific research.

Rationale: The Service would encourage ongoing compatible research efforts to continue after closure and transfer. Due to limited resources allocated to partnerships and research, in particular, the Service would rely on outside researchers from other agencies and universities to broaden its data base. Research having direct implications for Refuge management, such as information gathering and analysis focused on wildlife, habitat and public use would considerably help the Refuge and surrounding entities.

Strategies:
5.3.1 – Establish criteria to evaluate research proposals. Each proposal would be subject to a compatibility determination.

5.3.2 – Emphasize and support research focusing on studies that directly affect Refuge management.

Alternative B
Within the first 5 years of the Refuge's establishment, develop a list of research needs to be addressed by Refuge staff and external researchers and establish a system to evaluate and approve proposals for compatible scientific research that focuses on the Refuge's habitat, wildlife and public use.

Rationale: Because the Refuge would be a newly established refuge with limited resources, it would be important for Service staff to collaborate with outside researchers. Research partnerships would allow the Service to expand its baseline data and study management techniques more efficiently. Research that has direct implications for Refuge management, such as information gathering and analysis focused on wildlife, habitat and public use would be instrumental in shaping the management direction of the Refuge and similar prairie landscapes throughout the life of the CCP and into the future.

Strategies
5.3.1 – Establish criteria to evaluate research proposals that would ensure research is compatible with the Refuge mission, purpose and goals.

5.3.2 – *Same as A.*.

5.3.3 – Partner with others to seek funding to address identified research needs.

Alternative C

Within the first 5 years of the Refuge's establishment, develop a list of research needs to be addressed by Refuge staff and external researchers and establish a system to evaluate and approve proposals for compatible scientific research that focuses on long-term habitat changes and species of concern.

Rationale: Same as B except: Research would not address public use, but focus on habitat and wildlife.

Strategies: Same as B.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Objective 5.4—Volunteer

Alternative A
No volunteer program in Alternative A.

Alternative B
Within 3 years of the Refuge's establishment, create a volunteer program and support the establishment of a Friends group for the Rocky Flats National

Wildlife Refuge.

Rationale: Volunteers are essential for the growth and success of many refuges within the NWRS. Volunteers can assist with both resource conservation activities and visitor use programs. Support of a Friends groups would play an important role in leveraging local private resources and public support for Refuge programs.

Strategies
5.4.1 – Recruit volunteers from equestrian and bicycle groups and others to help maintain trails.

5.4.2 – Develop and implement a volunteer program that defines volunteer opportunities for participation in wildlife habitat and public use programs.

5.4.3 – Work with interested individuals to establish and maintain a nonprofit corporation who's objective is to positively support the Refuge.

Alternative C
No volunteer program in Alternative C.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

Goal 6. Refuge Operations

Based on available funds, provide facilities and staff to fulfill the Refuge vision and purpose.

Objective 6.1—Staffing

Alternative A
Within 2 years of the Refuge's establishment, obtain base funding for one full-time employee (1.0 FTE) and one seasonal (0.5 FTE) at the Refuge and assign collateral duties for Rocky Mountain Arsenal NWR staff. Fire management funding would be used for an additional two full-time (2.0 FTE) and two seasonal (1.0 FTE) employees.

Rationale: Given restrictions on general public use and the limited amount of habitat and wildlife conservation programs, minimal on-site staff would be required. Due to the use of prescribed fire within the Rock Creek Reserve and the high probability and frequency of wildfires in the grasslands of the Refuge, fire personnel are included in the staffing. Refuge fire staff (3.0 FTE) would be responsible for suppressing wildfires, developing prescribed burn plans, overseeing prescribed fires and developing and maintaining mutual aid agreements. Service employees would be available to lead a limited number of Refuge tours.

Strategies:
6.1.1 – Follow Service protocols for budget development and hiring of staff.

Alternative B
Within 2 years of the Refuge's establishment, obtain base funding for three employees (3.0 FTE) for the Refuge and within 5 years, add one employee (1.0 FTE). Also assign collateral duties for Rocky Mountain Arsenal NWR staff. Fire management funding would be used for an additional two full-time (2.0 FTE) and two seasonal (1.0 FTE) employees.

Rationale: Due to the site's urban context, high public interest and extensive restoration requirements, on-site staffing and facilities would be necessary from the onset of the CCP's implementation. Staffing needs would be based on the current and projected NWRS's budgetary environment and the objectives of the CCP. Three full-time employees (3.0 FTE) would be required within 2 years of Refuge establishment to begin instituting habitat and restoration management practices. An increase in public use after year 5 would require one additional employee (1.0 FTE).

Due to the use of prescribed fire in this alternative and the high probability and frequency of wildfires in the grasslands of the Refuge, fire personnel are included in the staffing. Refuge fire staff (3.0 FTE) would be responsible for suppressing wildfires, developing prescribed burn plans, overseeing prescribed fires and developing and maintaining mutual aid agreements. Because the Refuge would be managed as part of a complex, in conjunction with Two Ponds NWR and the RMA, some staffing resources would be shared between the three refuges. Collateral duties for Two Ponds and RMA staff at the Refuge would ensure that the new Refuge benefits from the experience and expertise of trained staff.

Strategies: Same as A.

Alternative C
Within 2 years of the Refuge's establishment, obtain base funding for five employees (5.0 FTE) for the Refuge and assign collateral duties for Rocky Mountain Arsenal NWR staff. Fire management funding would be used for an additional two full-time (2.0 FTE) and two seasonal (1.0 FTE) employees.

Rationale: The extensive site restoration, research, monitoring and habitat management to be initiated upon Refuge establishment would require five

employees (5.0 FTE). Staffing needs would be based on the current and projected NWRS's budgetary environment and the objectives of the CCP.

Staffing for suppressing both prescribed fire and unplanned grassland fires has the same rationale as Alternative B, as does the sharing of staff resources between Two Ponds NWR and the RMA.

Strategies: Same as A.

Alternative D
Within 2 years of the Refuge's establishment, obtain base funding for six employees (6.0 FTE) for the Refuge and within 5 years add two additional employees (2.0 FTE). Also assign collateral duties for Rocky Mountain Arsenal NWR staff. Fire management funding would be used for an additional two full-time staff (2.0 FTE) and one seasonal employee (0.5 FTE).

Rationale: Due to the site's urban context, high public interest and attractive recreational resources, on-site staffing and facilities would be necessary during the early stages of plan implementation. Staffing needs would be based on the current and projected NWRS's budgetary environment and the objectives of the CCP. Six employees (6.0 FTE) would be required within 2 years of Refuge establishment to fulfill the diverse habitat, wildlife and increased public use responsibilities outlined in Alternative D. Two more employees (2.0 FTE) would be needed by year 5, upon implementing additional public use programs. Dedicated visitor services staff would be included among the Refuge staff.

Staffing for suppressing unplanned grassland fires has the same rationale as Alternative B, as does the sharing of staff resources between Two Ponds NWR and the RMA. However, one-half less FTE is needed because prescribed fire is not included in this alternative.

Strategies: Same as A.

Objective 6.2—Operations and Management Facilities

Alternative A
Operations and maintenance (O&M) facilities at RMA would support all maintenance, conservation and administrative activities at the Refuge.

Rationale: Primary maintenance facilities and equipment storage for the Refuge would be at the RMA and no facility development would take place at the Refuge. Refuge O&M funding may be required to

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Prescribed burning would occur in designated areas outside of DOE-retained lands in Alternatives A, B, and C.

support conservation and restoration projects in the Rock Creek Reserve, however, projects would not necessitate the support of onsite O&M facilities.

Strategies:
6.2.1 – Prepare and submit projects for the Refuge Operations Needs System and Maintenance Management System database.

6.2.2 – Prepare a fire cache and install necessary water storage systems (e.g., tanks).

6.2.3 – Coordinate equipment use with RMA staff.

6.2.4 – Install boundary and trailhead signs along the Refuge boundary in order to identify access points and ownership.

6.2.5 – Renovate existing, on-site vehicle search buildings to create a small office space and to use for storage and other refuge operations.

Alternative B
Within 5 years of the Refuge's establishment, develop 50 percent of administrative and visitor use facilities for on-site presence and connectivity with regional trail systems. Within 5 years of the Refuge's establishment, develop 50 percent of O&M facilities needed to support public use and conservation objectives. By year 10, complete all O&M facilities.

Rationale: During the early years of CCP implementation, management resources would be focused on public outreach and education beyond the site boundaries, developing partnerships and securing funding. Habitat conservation and restoration would be the primary management priority. Construction of the trail system, signage and orientation and interpretation facilities would follow the development of restoration measures.

During the first 5 years of the Refuge's establishment, the Service staff would rely on O&M facilities at RMA. Due to public outreach events and word of mouth, visitor numbers are likely to substantially increase once the Refuge is fully open to the general public in the fifth year of the Refuge's establishment, therefore, it would be important to establish on site staffing and complete visitor facilities by year 10. Once visitor use facilities are established, on-site maintenance facilities would be constructed and interpretive signage and trails would be upgraded. Throughout the life of the CCP, RMA O&M facilities and staff would supplement Refuge operations. The Service will not use the land at Rocky Flats for residential or "bunkhouse" facilities during the life of the CCP.

Strategies:
6.2.1- 6.2.5 – *Same as A.*

6.2.6 – Provide administrative offices for Refuge employees within the contact station.

6.2.7 – Pursue partnerships and funding sources including but not limited to challenge cost share projects, Federal Highway Administration, CDOT and other transportation entities, Great Outdoors Colorado, CDOW, Mile High Youth Corps, Colorado Historical Society and Volunteers for Outdoor Colorado.

6.2.8 – Where possible, screen maintenance facilities from visitor use areas.

6.2.9 – Construct a small (1,750 to 2,250 square feet) maintenance/storage facility.

6.2.10 - Install a cistern or other storage system to provide water to the visitor contact station, offices, and maintenance facilities.

6.2.11 - Co-locate O&M facilities with public use facilities and construct facilities in areas that are already disturbed or degraded and will not impact important wildlife habitat.

Alternative C
Within 3 years of the Refuge's establishment, develop a satellite maintenance facility to support Refuge operations.

Rationale: Given the emphasis on ecological restoration in Alternative C, the construction of O&M facilities would precede the development of public use facilities. Primary maintenance facilities and equipment storage for the Refuge would be at the RMA with only a small facility at the Refuge. Limited facility development at the Refuge would reduce O&M expenses and ensure that the maximum amount of land is conserved. The construction of the maintenance facilities within the early years of the Refuge's establishment would also help the Service establish an on-site presence.

Strategies: Same as B.

Alternative D
Within 4 years of the Refuge's establishment, develop 75 percent of the administrative and visitor use facilities for on-site presence and connectivity with regional trail systems. Within 5 years of the Refuge's establishment, develop 50 percent of O&M facilities needed to support public use and conservation objectives. By year 10, complete all O&M facilities. By year 15, complete construction of the visitor center.

Rationale: Given the emphasis on public use in Alternative D, development of administrative and visitor use facilities would be accelerated and all trails and preliminary visitor use facilities (e.g., welcome kiosk, restrooms) would be developed early in the life of the CCP. Extensive public outreach events and word of mouth are likely to attract large numbers of visitors in the early years of the Refuge's establishment; therefore, it would be important to establish on-site staffing and visitor facilities early in the CCP. Initial facility development is crucial orienting visitors and educating them about the Refuge's resources. The facilities would be upgraded over the life of the CCP, culminating in the construction of a visitor center by year 15.

During the first years of the Refuge's establishment, while management resources are focused on habitat conservation and visitor use facility development, the Service staff would rely on O&M facilities at RMA. With the inclusion of equestrian trail uses, additional O&M resources would be allocated to the development of large parking areas (that can accommodate horse trailers) and additional trail maintenance. Noxious weed control along multi-use trails would be more intensive. Once visitor use facilities are established, the maintenance facilities would be constructed and interpretive signage and trials would be upgraded. Maintenance facilities would be sufficient in size so that no satellite facilities at RMA would be required.

Strategies:
6.2.1-6.2.5 – *Same as A.*

6.2.6- 6.2.8 – *Same as B.*

6.2.9 – Construct a larger (approximately 2,500 to 3,000 square feet) maintenance/storage facility.

6.2.10-6.2.11 - *Same as B.*

Objective 6.3—Fencing

Alternative A
Upon the Refuge's establishment and throughout the life of the CCP, maintain the existing barbed-wire stock fence. The fence would line the entire perimeter and would be suitable for excluding neighboring livestock from trespassing on the Refuge.

Rationale: State law requires that a stock fence enclose the Refuge to prevent livestock trespassing. Visitor safety and wildlife habitat goals would be accomplished through signage, staff contact with visitors and internal fencing of off-limits areas. The Service would also work closely with DOE to ensure that the DOE retained land boundary is clearly demarcated.

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Nuttal's larkspur.

Strategies:
6.3.1 – Attach boundary signage to the perimeter fence and any fencing delineating the DOE retained area.

6.3.2 - Advise DOE on the use of signage and fencing to demarcate the boundary of lands subject to institutional controls.

Alternative B
Same as A.

Rationale: Same as A.

Strategies: Same as A.

Alternative C
Same as B.

Rationale: Same as B.

Strategies: Same as A.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as A.

Objective 6.4—Cultural Resources - Lindsay Barn

Alternative A
Within 15 years of Refuge establishment, develop an inventory of cultural resources found on the Refuge and maintain the Lindsay Ranch barn.

Rationale: Although the Lindsay Ranch structures are not eligible for listing in the National Register of Historic Places, they are valued by the public and present an opportunity to interpret the early ranching era at the Refuge. The Lindsay Ranch structures including a barn and house are not structurally sound and are in varying states of decay. In order to preserve the scenic value of the cultural resource, the Service and DOE initiated a project to stabilize the barn in 2003. Since the ranch house is not structurally sound and presents a safety concern, the Service chose to concentrate its stabilization efforts on the barn. The house would be fenced off or taken down to minimize safety hazards. Should partners raise sufficient funds to stabilize and interpret the ranch house, the Service will be amenable to working with them to complete such a project. Over time, additional cultural resources may be uncovered on the Refuge. The Service would maintain a record of identified cultural resources.

Strategies:
6.4.1 – Pursue partnerships to help fund the ongoing stabilization of the Lindsay Ranch barn.

6.4.2 – Maintain an inventory of all cultural resources found on site.

6.4.3 – Following all prescribed fires in the Rock Creek Reserve, conduct limited surveys of burned areas for archaeological or cultural resources or artifacts.

Alternative B
By year five, develop a step-down plan for the preservation of all cultural resources on the Refuge. By the end of the CCP, interpret the Lindsay Ranch barn.

Rationale: Same as A, plus where appropriate, provide interpretive signage to help visitors better understand the history of the Lindsay Ranch.

Strategies:
6.4.1-6.4.2 – *Same as A.*

6.4.3 – Following all prescribed fires, survey burned areas for archaeological or cultural resources or artifacts.

6.4.4 – Work with interested parties and organizations to interpret the Lindsay Ranch and the story of homesteading on the Refuge.

6.4.5 – Use trail signage to identify the historic stage-coach stop and apple orchard in the Woman Creek drainage.

Alternative C
By year five, develop a step-down plan for the preservation of all cultural resources on the Refuge. Remove the Lindsay Ranch structures and restore the area to native vegetation.

Rationale: The Lindsay Ranch structures were identified as “ineligible” for listing in the National Register of Historic Places and stabilization and/or preservation of the barn and house is not mandatory. Given Alternative C’s emphasis on ecological restoration, the Lindsay Ranch structures would be removed and the site would be restored to pre-settlement conditions. Prior to demolition, the Ranch structures be documented with photographs. Over time, additional cultural resources may be uncovered on the Refuge. The Service would maintain a record of all identified cultural resources.

Strategies:
6.4.1-6.4.2 – *Same as A.*

6.4.3 – *Same as B.*

6.4.6 – Restore stream crossings and revegetate roads within the Lindsay Ranch site.

6.4.7 – Use native vegetation to restore the area to pre-settlement conditions.

Alternative D
Same as B.

Rationale: Same as B.

Strategies:
6.4.1-6.4.2 – *Same as A.*

6.4.3 – Following all wildfires, survey burned areas for archaeological or cultural resources or artifacts.

6.4.4-6.4.5 – *Same as A.*

Objective 6.5—Cultural Resources - Site History

Alternative A
Not applicable to Alternative A.

Alternative B
Within 5 years of the Refuge's establishment, develop a cooperative partnership with interested stakeholders, including the Cold War Museum, to interpret the history of the Refuge.

Rationale: The history of the Refuge represents diverse periods of time and topics ranging from Native American history to the settlement of the western frontier and nuclear weapons production during the Cold War. The history and cultural resources of the Refuge are of interest to many groups and individuals. Interested stakeholders, including the Cold War Museum, would be key partners in interpreting the site's history and cultural resources and securing funding for interpretation and stabilization efforts.

Strategies:
6.5.1 – Work with a variety of interested entities to manage and interpret the history of the site as it evolved through time. Interpretation programs would illuminate the historical evolution of the site including Native Americans, early settlement, ranching and Cold War histories.

6.5.2 – Work with appropriate state and federal agencies to manage the site's cultural resources appropriately.

Alternative C
Not applicable to Alternative C.

Alternative D
Same as B.

Rationale: Same as B.

Strategies: Same as B.

2.6. STAFFING AND BUDGETS

Refuge budgets generally include ongoing operations funds for staffing, maintenance and utility needs. Estimated staff for each alternative is the minimum necessary to accomplish the goals of that alternative. A detailed list of this staff along with the costs for each alternative are provided in Appendix F. Maintenance expenses would cover activities necessary to keep facilities and equipment in good working order. Utilities would vary by alternative and would include gas, electrical, phone and cleaning. In addition, restoration and implementation costs would be calculated for each alternative based on estimated needs. These one-time items associated with opening the Refuge would include costs to restore habitat, build facilities and purchase equipment. Fire management funds are administered from a different funding source and are listed separately.

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Staffing and budget would be allocated to protect and restore native grasses such as forktip three-awn.

Because the Refuge would be managed as part of a complex that includes the RMA and Two Ponds, there would be costs that could be shared between the facilities. Therefore, both operations and restoration and implementation costs have been broken out between items that would require new funding for the Refuge and items that would be covered from the complex's existing base funding. Furthermore, large equipment needed for restoration activities is assumed to be shared with the other refuges in the complex and is included with existing base funding.

Estimated costs for alternatives are summarized in Table 5. Costs are presented in 2003 dollars. Because the Refuge would not be established for several years, these numbers would need to be adjusted for inflation when the Refuge's funding request is made.

Table 5. Estimated Costs of Alternatives

Alternative	Cost over 15 Years (millions 2003$)	Annual Operations (thousands)	Restoration and Implementation (millions)	Fire Management (millions)	Major Components of Costs
A	$3.7	$164	$0.3	$1.6	Small staff, limited restoration
B	$8.6	$543	$1.2	$1.6	Balances public-use and restoration efforts
C	$11.5	$824	$0.9	$1.6	Restoration staff, off-site office lease
D	$16.6	$1,037	$4.5	$1.1	Increased public use staff and facilities

Alternative A

In Alternative A, the currently planned management approach described in the Rock Creek Reserve Integrated Natural Resources Management Plan (DOE 2000) would be maintained. This would require two employees with an annual funding target of about $164,000 for operations. Restoration and implementation costs amount to about $275,000, most of which is for maintenance equipment, facilities, restoration of unused roads and stabilization of the Lindsay Ranch barn. Fire management activities on the Refuge will require the equivalent of three employees (2 full-time and 2 seasonals) with annual funding of $133,000, as well as an up-front expenditure of $125,000 for equipment and supplies. Total costs over the 15-year period for this alternative would amount to about $3.7 million.

Alternative B

Compared to Alternative A, Alternative B would require higher funding levels. It would require the equivalent of four employees with an annual funding target of $543,000 for operations. In addition, this alternative would require $1.2 million in restoration and implementation costs, over a third of which is for maintenance equipment and related storage. Remaining funds requested are for habitat restoration supplies and visitor-related facilities. Fire management activities on the Refuge will require the equivalent of three employees (2 full-time and 2 seasonals) with annual funding of $133,000, as well as an up-front expenditure of $125,000 for equipment and supplies. Estimated costs in 2003 dollars over the 15-year period for this alternative are $8.6 million.

Alternative C

Alternative C would require more funding than Alternatives A and B, but less than Alternative D. This is mainly due to the addition of one employee - for a total of five - and the use of leased off-site office space rather than new construction on-site. Staff and their funding would shift emphasis to habitat conservation and restoration activities, with annual operations costs estimated at about $824,000. One-time restoration and implementation activities would require about $882,000, primarily focused on restoration supplies, maintenance equipment and related storage. Fire management activities on the Refuge would require the equivalent of three employees (2 full-time and 2 seasonals) with annual funding of $133,000, as well as an up-front expenditure of $125,000 for equipment and supplies. Estimated costs in 2003 dollars over the 15-year period for this alternative are $11.5 million.

Alternative D

Alternative D would require the largest amount of funding because of its facility development and staffing requirements. Although some funding would be used for habitat conservation and restoration, the staffing and budget would be weighted toward public use. Alternative D would require eight full-time employees. Annual operations costs are estimated slightly over $1 million, due to both an increased public use staff and increased facility maintenance costs. Restoration and implementation costs would be $4.5 million, primarily due to the addition of a $3 million visitor center. Fire management activities on the Refuge would require the equivalent of two employees with annual funding of about $84,000, as well as an up-front expenditure of $125,000 for equipment and supplies. Estimated costs in 2003 dollars over the 15-year period for this alternative are $16.6 million.

2.7. PARTNERSHIP OPPORTUNITIES

The Service would pursue opportunities to work with federal, state and local agencies, conservation groups, adjacent landowners and other interested parties to advance the purpose of the Refuge and to benefit

surrounding communities. Many natural resource management issues such as invasive weed control, wildfire management, wildlife corridors, recovery of declining species and impacts to resources caused by visitors would need to be coordinated across boundaries. Collaboration with surrounding open space and natural resource entities such as Jefferson County, City of Boulder, Boulder County, City and County of Broomfield, City of Westminster, City of Arvada and CDOW would be instrumental in achieving the Service's ecosystem management goals. The Service would also develop and maintain mutual aid agreements related to fire control with adjacent jurisdictions.

The Service would encourage and support research and management studies on Refuge lands that inform natural resource management decisions. Scientific research partnerships would give the Service opportunities to analyze independently collected data and use research results to develop adaptive management strategies. As data-sharing partners, university faculty, staff and students as well as independent scientists would be instrumental in helping the Service develop baseline biological data.

In Alternatives B and D, the Service also would collaborate with interested organizations such as the Cold War Museum to interpret the history of the Rocky Flats site and communicate its story to Refuge visitors. Other potential partnerships related to hunting, environmental education, trail use and interpretation may involve local universities, school districts, conservation and/or historical organizations, open space agencies, recreation user groups and the CDOW.

Volunteer partnerships in Alternatives B and D would be cultivated with individuals interested in learning more about the Refuge and assisting staff with various aspects of Refuge operations. The Service also would support the development of a "Friends" group for the new Refuge. Such a group would play an important role in leveraging private resources and public support for Refuge programming.

2.8. MONITORING AND EVALUATION

In all alternatives, the Service would adopt an adaptive management approach to the implementation of the proposed management objectives. Adaptive management is "the rigorous application of management, research and monitoring to gain information and experience necessary to assess and modify management activities…A process that uses feedback from Refuge research and monitoring and

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Orange paintbrush.

evaluation of management actions to support or modify objectives and strategies at all planning levels" (U.S Fish & Wildlife Service 2000). Because the Refuge is new, ongoing monitoring of the effectiveness of habitat restoration and conservation and public use is essential for adapting and refining objectives and strategies to ensure management goals are achieved. Monitoring and evaluation has been integrated into many resource management and public use objectives.

The Service would establish biological monitoring programs to assess the effect of restoration and conservation measures on habitat condition. The Service would monitor certain habitat conditions to determine if the management strategies are serving the needs of native wildlife species. For example, periodic Preble's surveys would help determine the effects of riparian habitat protection and enhancement efforts. To assist in the control of invasive species such as Dalmatian toadflax and diffuse knapweed and to restore native plant communities, the Service would evaluate the use of different treatments and control mechanisms for the most efficient forms of weed suppression. The Service would evaluate the use of an IPM approach and, depending on the alternative selected, prescribed fire, managed grazing, or use of a combination of these techniques. The monitoring of vegetation transects would help gauge the long-term effects of weed management and restoration efforts in the xeric tallgrass community.

Visitor use surveys in Alternatives B and D would measure the extent to which visitors feel welcome, safe and comfortable at the Refuge and the extent to

which they learned about the Refuge system, safety issues and the Service's stewardship role during their visits. In addition to measuring visitor satisfaction, the surveys would indicate the effectiveness of public use programming in increasing visitors' understanding and appreciation of natural resources and promoting environmentally responsible behavior.

This CCP is designed to be effective for 15 years. It would undergo periodic review to evaluate whether the established goals and objectives are being met and strategies are being implemented. Throughout the life of the CCP, the Service would monitor Refuge resources, assess whether the goals and objectives for the Refuge are being achieved and if necessary, adjust specific management prescriptions to better respond to the long-term needs of the Refuge.

2.9. ALTERNATIVE CONSIDERED BUT ELIMINATED

During the initial alternatives development workshop, Service staff considered a "custodial management" alternative. In this alternative, the Service would have taken a "hands-off" approach to Refuge stewardship, limiting management to areas that the Service is legally obligated to address. These areas would include the containment of weeds, the maintenance of fencing and the preservation of federally listed threatened and endangered species. Unlike the No Action Alternative, under this alternative the Service would not manage the Rock Creek Reserve in accordance with the Rock Creek Reserve Integrated Natural Resources Management Plan.

This alternative was eliminated from detailed analysis in the EIS. The rationale for eliminating this alternative included:

- This alternative is similar to the No Action Alternative
- Custodial management would lead to increased degradation of wildlife and habitat
- This alternative is not consistent with the purposes of the Refuge and the mission of NWRS

2.10. REASONABLY FORESEEABLE ACTIVITIES

Reasonably foreseeable future activities are actions and activities that are independent of the Proposed Action for the Refuge, but could result in cumulative effects when they are combined with the effects of the proposed alternatives. They are anticipated to occur regardless of which Refuge alternative is selected. The effects of these activities are described in the *Cumulative Impacts* sections under each resource in Chapter 4.

Reasonably foreseeable future activities within or near the Refuge are represented in Figure 11 and fall into the following categories:

- Urban Development
- Regional Transportation Improvements
- Resource Development and Assessment
- Open Space and Trails
- DOE Monitoring and Maintenance
- Cold War Museum

Urban Development

According to urban growth projections by the Denver Regional Council of Governments (DRCOG), the following areas are anticipated to be developed by 2020 (Figure 11):

- A strip of private land along highway 93 along the west side of Rocky Flats
- Portions of Broomfield and Westminster between Great Western Reservoir and the Jefferson County Airport
- Southwestern portions of Superior near Highway 128
- Portions of Arvada directly south of the Refuge (Vauxmont development - see below)

For many years, the City of Arvada has envisioned urban development in an area immediately south of the Refuge. Arvada annexed the area in 1988 and zoned it for mixed residential and commercial development. More recently, plans have been underway for a mixed residential and commercial development called Vauxmont. Currently no construction date is anticipated and no formal plans have been reviewed by the City of Arvada; however, a metropolitan district has been established to provide water and other utilities to the future development. The Vauxmont development will be immediately adjacent to the southern boundary of the Refuge.

Regional Transportation Improvements

CDOT and the Federal Highway Administration are

studying long-range regional transportation needs in the northwest quadrant of the Denver Metropolitan area. The study area of the Northwest Corridor EIS is approximately bounded by the foothills on the west, Simms Street/96th Street on the east, the intersection of the Northwest Parkway/Tape Drive/Carbon Road/96th Street on the north and the intersection of C-470/I-70 on the south.

The study is considering a full range of possible multi-modal options, including possible general transit options, possible improvement of existing roadways, possible new highways and enhancements, possible implementation of a tolling enterprise, as well as transportation system management and transportation demand management items. The study was initiated in 2003 and will likely take 3 to 4 years to complete.

As part of the environmental review process for the Northwest Corridor Transportation Study, CDOT is coordinating with federal, state, and local agencies, including the Service. The Service has provided and will continue to provide comments to CDOT regarding the Northwest Corridor Transportation Study. CDOT will consult with the Service on any improvement associated with the study that may affect a threatened or endangered species.

While the completion of the Northwest Corridor Transportation Study, and its eventual recommendations for transportation improvements in the areas surrounding Rocky Flats are reasonably foreseeable, the Service has determined that transportation improvements in any specific location are not reasonably foreseeable. A specific improvement has not been funded, is not in the DRCOG's Regional Transportation Plan, and therefore is speculative. "Reasonably foreseeable" actions are not speculative-they have been approved, are included in short- to medium-term planning and budget documents prepared by government agencies or other entities, or are likely given trends (EPA 1999).

The Refuge Act's §3174 prohibits the construction of a public road through the Refuge. However, the DOE can make available land along the eastern boundary of the Refuge for the sole purpose of transportation improvements along Indiana Street. Land made available under §3174 may not extend more than 300 feet from the west edge of the existing Indiana Street right of way. To be made available, DOE must receive an application submitted by a county, city, or other political subdivision of the State of Colorado that includes documentation demonstrating that the transportation improvements for which the land is to be made available:

- Are carried out so as to minimize adverse effects on the management of the Refuge as a wildlife refuge
- Are included in the regional transportation plan of the metropolitan planning organization designated for the Denver Metropolitan area

Additionally, §3178 of the Refuge Act requires that the CCP address and make recommendations on the land to be made available. In Section 4.16 of this CCP/EIS, three possible alternative widths, 50 feet, 125 feet and 300 feet, are analyzed. A range of widths is analyzed to provide information to the Service and the DOE regarding lands that could be made available. The DOE will be responsible for determining the width of any transferred lands, but it is likely the width would range between 50 and 300 feet. The transfer of a 50-foot right of way would make the right of way along Indiana Street 100 feet wide, wide enough for a four-lane, undivided road. Similarly, the transfer of a 100-foot right of way would make the right of way along Indiana Street 200 feet wide. A 100-foot or 200-foot wide right of way would not be wide enough for a four-lane, divided highway. Typical right of way widths for a four-lane, divided highway, are 300 to 400 feet. The transfer of a 300-foot right of way would make the right of way along Indiana Street 350 feet wide, wide enough for a four-lane, divided highway. The transfer would be designed to help meet regional transportation needs.

Section 4.16 discusses two issues related to potential transportation improvements near the Refuge. The first part of Section 4.16 discusses the lands up to 300 feet from the west edge of the Indiana Street right-of-way that could be made available. The second part of Section 4.16 discusses potential concerns that the Service would have related to any transportation improvements along Indiana Street, Highway 128, and Highway 93. Improvements to these roadways are among the universe of alternatives currently being considered by the Northwest Corridor Transportation Study (CDOT 2004).

Resource Development and Assessment

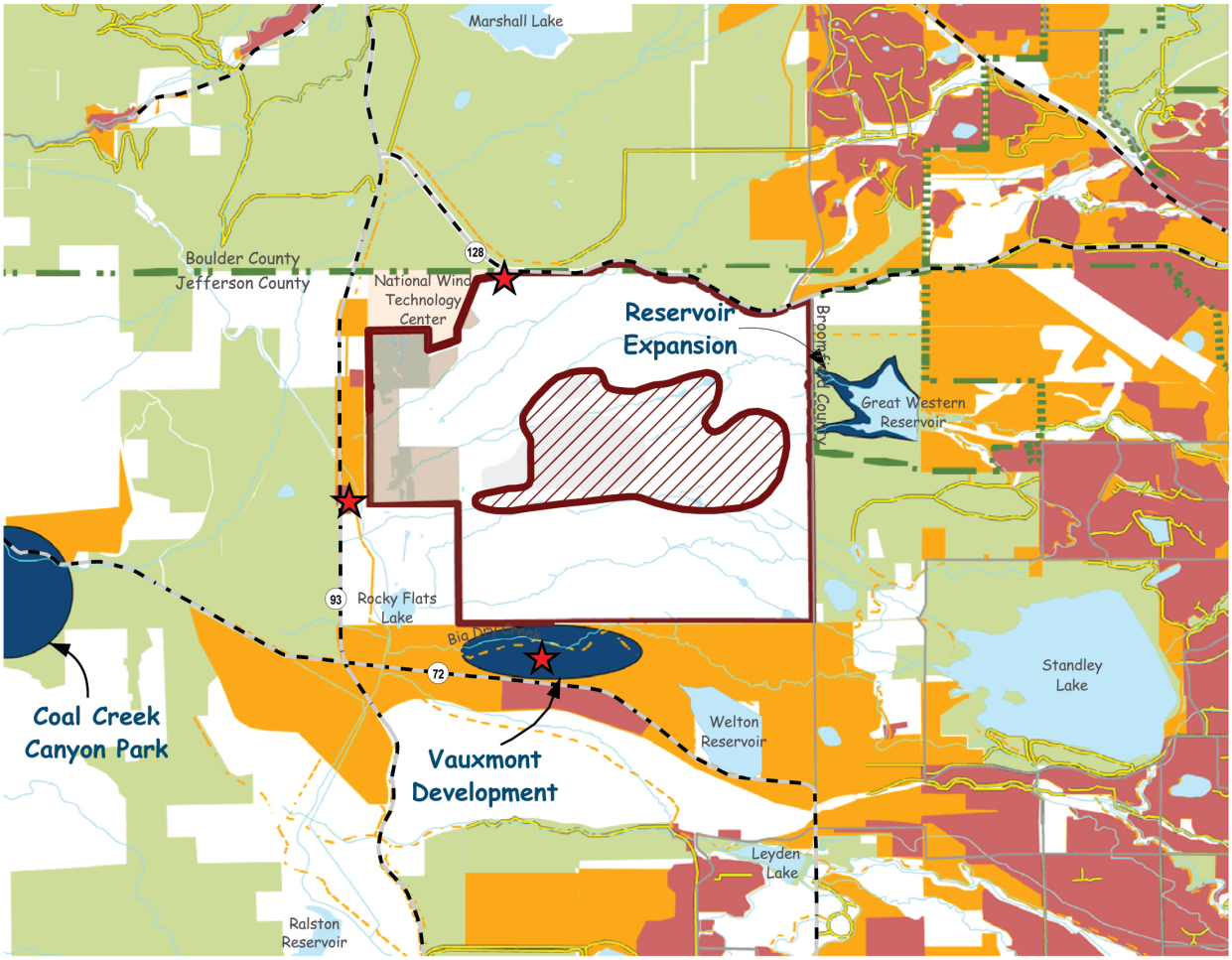
Mining

A geologic formation called the Rocky Flats Alluvium is found in the western half of the Refuge and in surrounding areas. It is valued as an aggregate source and is currently being mined in the Refuge area. The

US Fish & Wildlife Service

Rocky Flats National Wildlife Refuge

Jefferson County, CO



Reasonably Foreseeable Activities

- Open Space
- DOE Retained Area (Subject to Change)
- Permitted Mining Area
- Suggested Cold War Museum Locations

Current and Projected Urban Growth

- 2000
- 2020

Surrounding Trail Facilities

- Existing Trail
- Proposed Trail

0 1 2 Miles

November 2004

N

Current and projected growth data provided by DRCOG.

Figure 11. Reasonably Foreseeable Activities

U.S. Government does not own all of the subsurface mineral rights at the Refuge. Currently, three active mining permits are within the Refuge: the Bluestone sand and gravel quarry, the Lakewood Brick and Tile mine, and the Church Ranch - Rocky Flats Pit (Figure 11).

The Service believes that the exercise of these existing privately owned mineral rights, particularly surface mining of gravel and other aggregate material, at Rocky Flats will have an adverse impact on the management of the Refuge. The Service does not believe it can manage the Refuge for meeting the purposes of §3177(e)(2) of the Refuge Act if certain mineral rights are exercised. Accordingly, the Service will not accept transfer of administrative jurisdiction for lands subject to the mining of gravel and other aggregate material at Rocky Flats from DOE until the United States owns the mineral rights of the land to be transferred to the Service, or until the lands that are subject of mining have been reclaimed to a mixed prairie grassland community.

The permit for the Church Ranch- Rocky Flats Pit includes stipulations that mining will not encounter groundwater, and will stay a minimum of 2 feet above groundwater (CDMG 2004; Church Ranch 2004). The permits for the Bluestone Pit and the Lakewood Brick and Tile operation do not have stipulations about groundwater.

Several off-site mining areas are located northwest of the Refuge along Highway 93. In the permits, mining can continue until the resource within the mine permit area is depleted.

Reservoir Expansion

The City and County of Broomfield owns and operates Great Western Reservoir to store irrigation water. Great Western Reservoir is located along Walnut Creek, about ½ mile east of the Refuge. Broomfield plans to increase the size of the reservoir from 2,370 acre-feet to 12,000 acre-feet. Broomfield currently has sufficient water to fill the reservoir and plans to complete the expansion within the next 10 to 20 years.

National Wind Technology Center

The DOE's National Renewable Energy Laboratory operates the National Wind Technology Center (NWTC) immediately northwest of the Refuge. The NWTC is primarily used for wind energy research, development and testing and currently has between 12 and 15 wind turbines. While the number of wind turbines at NWTC would vary in accordance with the nature of future research, the facility is likely to continue such operations into the foreseeable future (DOE-NREL 2002).

Utility and Ditch Access

Several outside entities own easements for natural gas, electrical, fiber optic and other utility lines across the Refuge. In addition, several other outside entities own water rights that are conveyed across the Refuge through ditches such as the Smart Ditch, Upper Church Ditch and McKay Ditch. The owners and managers of these easements and water rights will continue to access the Refuge to maintain their respective utilities and water rights.

Open Space and Trails

Recreational Trails

The Refuge is bounded on three sides by designated open space land owned and managed by local governments. Several new trails are planned in these areas, including:

- A new trail on City of Boulder Open Space land that parallels Highway 128, connecting the Coalton Trail to the Greenbelt Plateau trailhead near Highway 93
- A new trail across the City and County of Broomfield's Great Western Open Space to access Indiana Street

The City of Arvada has planned several trails along the Big Dry Creek drainage between the Refuge and Highway 72 to the south. These trails are not associated with currently designated open space, but are within the planned Vauxmont development described above.

Front Range Trail

In 2001, Colorado State Parks initiated a planning project to designate a continuous trail route along the Front Range of Colorado. As planned, the Front Range Trail would parallel the east side of Highway 93 between the highway and the Refuge's western boundary. While the concept of this trail in this general location is certain, the exact alignment has yet to be determined.

Coal Creek Canyon Park

Jefferson County Open Space owns 2,807 acres of land near the mouth of Coal Creek Canyon, about 2 miles west of the Refuge. Completed in 2001, the

management plan for this property outlines management unit designations, trails and facilities. However, the management plan also recommends postponing any trail or facility development until at least 2006 so that development plans can be consistent with surrounding land uses (JCOS 2001).

U.S. Department of Energy Monitoring and Maintenance

The Rocky Flats site is currently undergoing cleanup by the DOE. The Refuge would not be established until cleanup and certification by EPA is complete (currently scheduled for 2006). It is not known how long cleanup might take, or what effects cleanup activities might have on Refuge resources and uses (see discussion in Section 1.8). The DOE will retain primary jurisdiction over some of the lands surrounding the Industrial Area and will require ongoing access to the Refuge after cleanup for monitoring and maintenance purposes.

Cold War Museum

The Rocky Flats Cold War Museum was founded in 2001 as a non-profit organization with the intent of establishing a museum that documents the historical, scientific and environmental aspects of the former nuclear weapons plant at Rocky Flats. The organization has been working to establish a location for a museum and funding to construct it. In August 2003, the Rocky Flats Cold War Museum released a Museum Feasibility Study that investigated potential sites, funding sources and program requirements for a museum. The study recommended the consideration of three sites for a museum:

- Existing Rocky Flats Visitor's Center (Buildings 60 and 61) at the west entrance to Rocky Flats
- Location near the entrance of the National Wind Technology Center off of Highway 128
- Location within the future Vauxmont development off of Highway 72 south of the Refuge

The study recommended a museum location at or near the existing Rocky Flats Visitor's Center because of its proximity to the site. If the necessary funding is secured, the organization hopes to open the Rocky Flats Cold War Museum in 2006 (Informal Learning Experiences 2003).

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Table 6. Summary of Objectives and Strategies

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
WILDLIFE AND HABITAT MANAGEMENT		
Preble's Habitat Management	*Objective:* x Protect and maintain Preble's habitat throughout the Refuge. *Strategies:* x Survey Preble's locations and habitat every 2-3 years.	*Objective:* x Protect, maintain, and improve Preble's habitat throughout the Refuge. *Strategies:* x If necessary, exclude grazing/browsing animals to protect habitat. x Seek funding/partnerships to monitor impacts of recreation on Preble's.
Xeric Tallgrass Management	*Objective:* x Maintain the existing extent of xeric tallgrass habitat (in Rock Creek Reserve). *Strategies:* x Within 2 years, develop vegetation management plan. x Monitor every 2-3 years to determine species composition, document the effectiveness of weed control applications, and assess impacts of disturbance on plant communities in the Rock Creek Reserve. x Use prescribed burning, and mowing to stimulate the growth of native plants in the Rock Creek Reserve. x Suppress all natural wildfires. x Participate in regional xeric tallgrass prairie conservation efforts.	*Objective:* x Maintain xeric tallgrass habitat across the Refuge with a native species composition of 80%. *Strategies:* x Monitor every 2-3 years to determine species composition, document effectiveness of weed control applications, assess impacts of disturbance on plant communities across Refuge. x Use prescribed fire, grazing, mowing and other tools to stimulate the growth of native plants.
Mixed Grassland Prairie Management	*Objective:* x Maintain and improve the vigor and native species composition of short and mesic mixed grassland habitat (in Rock Creek Reserve). *Strategies:* x Allow short and mesic prairie to support sustainable prairie dog expansion. x Maintain short and mesic prairie to support the reintroduction of sharp-tailed grouse or other species. x Use prescribed fire, and mowing to stimulate the growth of native plants in the Rock Creek Reserve. x Suppress all natural wildfires.	*Objective:* x *Same as A, except:* Restore hay meadow and other areas to a native mixed grassland community. *Strategies:* x Use prescribed fire, grazing, mowing and other tools to stimulate the growth of native plants. x Restore hay meadow and other areas to native mixed grassland.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective: *Strategies:* x More extensive monitoring to include surveys of vegetation and plant diversity in Preble's habitat every 2-3 years.	*Objective:* *Strategies:* x Monitor impacts of trails and recreation on Preble's (with or without additional funding/partnerships).
Objective: *Strategies:*	*Objective:* *Strategies:* x Use mowing and other tools. Prescribed burning and grazing would not be used.
Objective: *Strategies:*	*Objective:* *Same as A:* Maintain and improve the vigor and native species composition. *Strategies:*

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
WILDLIFE AND HABITAT MANAGEMENT *(continued)*		
Road Restoration and Revegetation	*Objective:* x Revegetate 12 miles of unused roads and 7 stream crossings in Rock Creek Reserve. (To be completed by the end of the plan). *Strategies:* x Allow natural revegetation of lightly used roads and stream crossings. x In some locations, regrade and seed roads. x Survey for noxious weeds and apply IMP techniques to control noxious weeds in seeded road corridors.	*Objective:* x Revegetate 26.3 miles of unused roads and 13 stream crossings across the Refuge. (To be completed by the end of the plan). *Strategies:* x Every 3 years survey to determine ground cover, vegetation density, species composition, and effectiveness of weed control and impact of disturbances.
Weed Management	*Objective:* x *Within Rock Creek Reserve:* - Reduce the density of diffuse knapweed and Dalmation toadflax populations 15% within the first 5 years, 25% within 10 years, and 50% within 15 years. - Reduce the density and halt the spread of other noxious weed species, especially Canada thistle, by 50% within 15 years. - Prevent the establishment of species on County and State weed lists not yet observed on the Refuge. x *Outside the Rock Creek Reserve:* - Limit and control the spread and density of existing weed infestation. *Strategies:* x Employ an integrated pest management (IPM) approach to include herbicides, biological controls, grubbing/hand-pulling, collecting tumbleweeds, and limited use of prescribed fire (within Rock Creek Reserve only). x Annually map perimeters of weed infestations and treatment sites.	*Objective:* *Same as A with the following changes:* x *R*efuge Wide: - Reduce diffuse knapweed and Dalmation toadflax to 15%, 30%, and 60% for 5, 10 and 15 years respectively. - Reduce the density and halt the spread of other noxious weed species, especially Canada thistle, by 50% within15 years. *Strategies:* x *Same as A, except*: Add prescribed fire and managed grazing Refuge-wide to the list of weed management tools. x Develop comprehensive integrated pest management plan. x Informally survey for new infestations along roadways, trail, restoration areas and disturbed sites. x Establish interior fencing to collect wind dispersed weeds; burn along fence lines to dispose of collected weeds.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective: *Same as B except:* x Revegetate 25.7 miles of unused roads and 13 stream crossings. *Strategies:*	*Objective:* *Same as B except:* x Revegetate 24.3 miles of unused roads and 6 stream crossings. *Strategies:*
Objective: *Same as B* *Strategies:*	*Objective:* *Same as B except:* x Refuge Wide: - Reduce diffuse knapweed and Dalmation toadflax to 10%, 15%, and 300% for 5, 10 and 15 years respectively. *Strategies:* x *Same as A:* Prescribed fire and grazing would not be a part of the IPM techniques. x No informal surveys. x No interior fencing for weed management.

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
WILDLIFE AND HABITAT MANAGEMENT *(continued)*		
Deer and Elk Management	*Objective:* x Allow CDOW to establish target populations and manage deer and elk as needed. *Strategies:* x Use culling to control populations. x Cooperate with CDOW in monitoring and controlling populations. x Monitor every 2 years to evaluate ungulate impacts on riparian and upland shrub communities in Preble's habitat.	*Objective:* x Within 3 years, establish deer and elk population targets to be achieved by year 5. *Strategies:* x Use public hunting, culling, temporary exclosures, or hazing to manage populations. x Compared to A, this alternative would have more extensive monitoring: - Annual abundance and density counts. - Photo monitoring to document any habitat degradation. x Work with others to protect movement corridors.
Prairie Dog Management	*Objective:* x Allow unlimited expansion of prairie dog populations outside of recognized Preble's habitat. *Strategies:* x Trap and relocate, or use other methods, to exclude prairie dogs from sensitive habitat areas. x Do not accept prairie dogs from off-site locations.	*Objective:* x Limit prairie dog populations to 750 acres outside of recognized Preble's habitat and xeric tallgrass habitat throughout the Refuge. *Strategies:* x Annually monitor distribution of prairie dog populations. x Monitor for plague.
Species Reintroduction	*Objective:* x Facilitate reintroduction of native extirpated species by or in coordination with CDOW. x Monitor redbelly dace and common shiner populations (introduced 2003) until successfully established. *Strategies:* x Coordinate with CDOW on species release, monitoring, and habitat maintenance.	*Objective:* *Same as A except:* x Within 3 years, evaluate suitability for additional reintroduction of native extirpated species such as sharp-tailed grouse in coordination with CDOW. x Prioritize species to be reintroduced. *Strategies:* x Oversee and assist CDOW on species release, monitoring, and habitat maintenance. x If suitable, complete management plan for sharp-tailed grouse within first 2 years. x Annually monitor native fish in Rock Creek and introduce to other drainages.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective:	*Objective:*
Strategies: x Use culling and other strategies.	*Strategies:* x Use public hunting, culling, or other strategies.
x Include more extensive monitoring compared to B: - Seasonal ungulate counts to determine abundance, density and movement patterns. - Annual survey of population size and composition, fawning rates and fawn survival.	x Monitor every 3 years to evaluate ungulate impacts on riparian and upland shrub communities in Preble's habitat.
Objective: *Same as B except:* x Limit prairie dog populations to 500 acres. *Strategies:*	*Objective:* *Same as B except:* x Limit prairie dog populations to 1,000 acres. *Strategies:*
x Informally monitor for plague and consult with local public health officials.	x Evaluate the suitability of accepting prairie dogs from off-site locations. x *Same as B*: Monitor for plague.
Objective: *Same as B except:* x Within 5 years, remove reintroduced native fish species from Lindsay Pond and remove pond. Relocate fish to other drainages on Refuge.	*Objective:* x Within 3 years, evaluate the suitability of reintroducing the Plains sharp-tailed grouse only.
Strategies: x Coordinate with and assist CDOW with species release, monitoring, and habitat maintenance.	*Strategies:*

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
PUBLIC USE, EDUCATION and INTERPRETATION		
Public Access	*Objectives:* x Guided tours limited to 300 visitors annually. x On guided tours, provide opportunities for wildlife observation and photography. x Educate visitors about the National Wildlife Refuge System's mission and the Refuge. *Strategies:* x Grant access "by arrangement only" and limit to guided tours. x Develop a guideline for managing visitor access. x Distribute a survey to measure quality of visitor experience.	*Objectives:* x Within 5 years, 75% of visitors will feel welcome, safe and comfortable. x By plan's end, visitors experience the Refuge on foot, bike and horse. x In year 1, open a trail to Lindsay Ranch. By years 5-7 open more trails and create baseline visitor data. x By plan's end, 25% of visitors appreciate Refuge stewardship and desire to adopt conservation ethics. *Strategies:* x Allow self-guided public access to trails and facilities. x Develop an outreach program. x Develop surveys to measure visitor experience. x Provide a seasonally staffed visitor contact station, overlooks, trails, and other facilities. Site trails (pedestrian only and multi-use trails for equestrian and bike use) to provide opportunities for wildlife observation. Allow limited off-trail use. Seasonally close some trails to minimize wildlife impacts. x Use signage, staff contact, brochures, website and other means to inform visitors about the steps to becoming a refuge and access opportunities and restrictions. x Implement volunteer programs. x Keep surrounding communities informed about Refuge events and plan implementation. x Develop an interpretive signage system and interpretive programs.
Interpretation	*Objective:* x Within 1 year, develop a fact sheet on the Refuge's history and its natural and cultural resources. *Strategies:* x Develop guides for staff who are leading tours.	*Objectives:* x Within 4 years, develop a plan outlining interpretive facilities/programs. x Within 15 years, implement the interpretive component of the Visitor Services Plan. *Strategies:* x Work with partners to develop the interpretive component of the Visitor Services Plan. x Develop programs that explore the site's resources. x Distribute a variety of interpretive media.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objectives: x Guided tours limited to 1000 visitors annually. x On guided tours, provide opportunities for wildlife observation and photography. x 90% of visitors appreciate Refuge stewardship and desire to adopt conservation ethics. *Strategies:* x *Same as A:* guided tours "by arrangement only" x Develop strategy to manage public use, including a survey that measures visitor satisfaction and use patterns. x Provide small scale facilities placed in previously disturbed areas that allow visitors to view key resources while minimizing impacts to wildlife. Construct a short hiking trail on existing roads to access the Lindsay Ranch overlook.	*Objectives:* x Within 5 years, 75% of visitors will feel welcome, safe and comfortable. x Beginning in year 1, visitors can experience the Refuge in a variety of ways. x By year 2, determine baseline visitor use data. x By plan's end, 50% of visitors value Refuge stewardship; 10% want to adopt conservation ethics. *Strategies:* *Same as B, except:* x Provide a year-round staffed visitor center.
Objective: x Within 1 year, develop a fact sheet Refuge's habitat types, wildlife populations, and the Service's restoration practices. Build on the fact sheet to create learning other materials for distribution. *Strategies:* x Develop guides for staff who are leading tours. x Work with local educators to determine topics for simple learning materials.	*Objectives:* x Within 2 years, develop a plan outlining interpretive facilities and programs. x Within 15 years, implement the interpretive component of the Visitor Services Plan. *Strategies:* *Same as B, plus:* x Design and build (or retrofit) a Visitor Center.

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
PUBLIC USE, EDUCATION and INTERPRETATION *(continued)*		
Environmental Education	*Objective:* x No environmental education programming.	*Objectives:* x Within 5 years, develop an education plan for high school and college students. x Within eight years, implement the education component of the Visitor Services Plan. *Strategies:* x Partner with educational institutions and the Cold War Museum. x Use electronic and other media to distribute data.
Hunting	*Objective:* x No hunting.	*Objectives:* x Within 2 years, institute a controlled youth and/or disabled person's deer and/or elk hunting program. Following year 3, consider expanding the hunting program to the general public. x Following each hunting season, assess the hunting program and adjust as appropriate. x 95% percent of hunters will report no conflicts with other users, and be satisfied with their experience. *Strategies:* x Work with the Colorado Division of Wildlife and other entities to develop a hunting component of the Visitor Services Plan and to monitor deer populations and habitat condition. x Close the refuge to others during hunting weekends and encourage staff to interact one-on-one with the hunters. x Develop a survey for hunters, adjacent landowners and surrounding communities.
Recreation Facilities	*Objective:* x No recreation facility development. *Strategies:* x Provide portable restrooms for staff and visitor (guided tour) use.	*Objectives:* x Within 1 year, develop Lindsay Ranch trail. By years 5-7 build 75% of trails. By year 15, build all facilities including about 4 miles of hiking trails and about 13 miles of multi-use trails. x Within 10 years, construct a seasonally staffed contact station/restrooms and maintenance facilities. *Strategies:* x Develop a universal access trail to the Lindsay Ranch overlook and pedestrian only trails in the Rock Creek drainage. x Mark trails with way finding and interpretive signs and seasonally close trails to protect wildlife habitats. x Construct seasonally staffed contact station, un-staffed welcome kiosk, wildlife viewing blind, and portable restrooms at trailheads and partner to develop trail links and pedestrian crossings. Routinely evaluate facility impacts on wildlife.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective: *Same as A.*	*Objectives:* x Within 3 years, develop an education plan for junior/high school and college students. x By year 15, implement the education component of the Visitor Services Plan. *Strategies:* Same as B except: x Construct outdoor classroom.
Objective: *Same as A.*	*Objectives:* *Same as B.* *Strategies:* *Same as A.*
Objective: x Within 7 years, develop all recreational facilities. *Strategies:* x Design and construct the unpaved access, circulation, parking and trail facilities. x Develop an interpretative panel at the Rock Creek overlook, and post additional trail. x Provide portable restrooms at trailheads for staff and visitor use.	*Objective:* x Within the first 5 years, develop all trail facilities. By year 15, develop about 6 miles of hiking trails and about 15 miles of multi-use trails. x By the plan's end, enhance built trails and construct all facilities listed in plan. *Strategies:* *Same as B, except:* x Develop universal access to Rock Creek overlook. x Construct year-round staffed visitor center, un-staffed welcome kiosk and wildlife viewing blind. x Build outdoor classroom and added viewing facilities.

	ALTERNATIVE A – *No Action*	**ALTERNATIVE B –** *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
SAFETY		
Staff Safety	*Objective:* x All Refuge staff will receive orientation/training. *Strategies:* x Develop orientation and first aid training that addresses key Refuge safety issues. x Develop site-specific appendices to the Refuge Complex Safety Plan. x Within 1 year, develop a health and safety plan to cover all Refuge operations x Implement a goal of zero incident performance	*Objective:* *Strategies:*
Visitor Safety	*Objective:* x Brief 100% percent of visitors on the site's history. *Strategies:* x Include safety related questions in the visitor survey, and adjust safety program using results.	*Objective:* x Within 5 years, 75% of visitors will be aware that the Refuge is safe and open for public access before they arrive. Upon arrival, these visitors will be informed of public use opportunities and restrictions. x Brief all participants in guided programs about site history. *Strategies:* x Provide maps and interpretive signage with restriction information at all access points/trailheads. x Help potential users understand site restrictions and public use opportunities through a diversity of media. x Provide information to map/ tour book publishers. x Survey visitors to check success of safety program. x Maintain law enforcement and ensure employees can educate visitors on safety issues. x Measure program success by a reduction in visitors who violate safety rules.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective:	*Objective:*
Strategies:	*Strategies:*
Objective: *Same as A.*	*Objective:* *Same as B.*
Strategies: *Same as A.*	*Strategies:* *Same as B.*

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
OPEN AND EFFECTIVE COMMUNICATION		
Outreach	*Objective:* x Disseminate information collected on the Refuge through a fact sheet mailed upon request. *Strategies:* x Distribute fact sheet upon request.	*Objective:* x Within 5 years, implement 4 methods of informing the public. *Strategies:* x Reach out to local communities and recruit participants. x Measure diversity of groups attending outreach events. x Utilize a variety of outreach communication methods. x Take part in stewardship programs and local meetings.
WORKING WITH OTHERS		
Emergency	*Objective:* x Within 1 year, create emergency response agreements with relevant parties. *Strategies:* x Meet annually, or as often as needed, to coordinate fire and emergency response plans. x Coordinate all prescribed burning and other restoration practices with all nearby agencies.	*Objective:* *Strategies:*
Conservation	*Objective:* x Within 1 year, develop a management agreement with the Colorado Division of Wildlife x Maintain open dialogue with adjacent entities. *Strategies:* x Seek input of Colorado Department of Wildlife on wildlife management strategies. x Work closely with surrounding landowners, open space and natural resource entities.	*Objective:* x Meet annually (at minimum) with local entities to address conservation issues. *Strategies:* x Work closely with surrounding open space and natural resource entities. x Use volunteers to help with conservation activities. x Partner to maintain wildlife corridors for wildlife that migrate seasonally to and from the Refuge

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective:	*Objective:*
Strategies:	*Strategies:*
Objective:	*Objective:*
Strategies:	*Strategies:* *Same as A except:* x No prescribed fire would be used.
Objective:	*Objective:*
Strategies:	*Strategies:* Use volunteers to help with conservation and public use activities.

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
WORKING WITH OTHERS *(continued)*		
Research	*Objective:* x Maintain agreements with university and federal agencies for radionuclide research. *Strategies:* x Establish criteria to evaluate research proposals. x Emphasize research with implications for the Refuge	*Objective:* x Make a list of habitat, wildlife and public use research needs; evaluate proposals for such research. *Strategies:* x Partner with other for research funding and resources
Volunteers	*Objective:* No volunteer programs	*Objective:* x Within 3 years, create a volunteer program. *Strategies:* x Define volunteer opportunities, and recruit volunteers from horse and bike groups to help maintain trails. x Work to establish a Refuge "Friends" group.
Staffing	*Objective:* x Within 2 years, fund two employees and assign collateral duties for Rocky Mountain Arsenal staff. x Fund two full-time and two seasonal employees from fire management funding. *Strategies:* x Follow Service protocols hiring of FTEs.	*Objective:* x Within 2 years, fund four employees and assign collateral duties for Rocky Mountain Arsenal staff. Within 5 years add 1 additional employee. *Strategies:*

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective: *Strategies:*	*Objective:* *Strategies:*
Objective: *Same as A.*	*Objective:* *Same as B.* *Strategies:* *Same as B.*
Objective: x Within 2 years, fund five employees and assign collateral duties for Rocky Mountain Arsenal staff. Within 5 years, add two additional employees	*Objective:* x Within 2 years, fund 6 employees and assign collateral duties for Rocky Mountain Arsenal staff. Within 5 years add 2 additional employees.
Strategies:	*Strategies:*

	ALTERNATIVE A – *No Action*	ALTERNATIVE B – *Wildlife, Habitat, and Public Use* **(Preferred Alternative)**
WORKING WITH OTHERS *(continued)*		
Operation and Management Facilities	*Objective:* x Develop facilities to support maintenance, conservation and administrative activities. x Maintain the existing stock fence. *Strategies:* x Submit proposals to the Refuge Operations Needs System and Maintenance Management System. x Renovate existing vehicle search buildings to serve as a small office space and to house refuge operations. x Prepare a fire cache and install necessary water storage systems and coordinate equipment sharing with RMA staff. x Attach boundary signage to the perimeter fence and install roadside signs along the site boundary in order to announce the Refuge's presence.	*Objective:* x Within 5 years, develop 50% of O&M facilities needed to support public use and conservation objectives. By year 10, complete all O&M facilities. *Strategies:* x Renovate existing vehicle search buildings and provide additional administrative offices for Refuge employees within the contact station. x Construct a small maintenance/storage facility (approximately 1750 – 2250 square feet).
Cultural Resource Management	*Objective:* x Develop a cultural resource preservation plan. x Stabilize the Lindsay Ranch barn *Strategies:* x Maintain an inventory of all cultural resources and. x Pursue partnerships to fund barn stabilization and fence and/or take down the Lindsay Ranch house to prevent a safety hazard. x Survey burned areas for cultural artifacts	*Objective:* x Stabilize and interpret the Lindsay Ranch barn. *Strategies:* x Work with interested parties to interpret the story of homesteading at Rocky Flats.

ALTERNATIVE C – *Ecological Restoration*	**ALTERNATIVE D –** *Public Use*
Objective: x Within 3 years, develop a satellite maintenance facility to support refuge operations.	*Objective:* x Within 5 years, develop 75% of O&M facilities needed to support public use and conservation objectives. By year 10, complete all O&M facilities.
Strategies:	*Strategies:*
x Renovate existing vehicle search buildings evaluate the costs and availability of leasing nearby office space for Refuge employees.	x Renovate existing vehicle search buildings and provide additional administrative offices for Refuge employees within the visitor center.
	x Construct a maintenance/storage facility (approximately 2500 – 3000 square feet).
Objective: x Remove Ranch structures and restore the area to native vegetation. *Strategies:* x Restore stream crossings and re-vegetate roads within the Lindsay Ranch site x Restore vegetation to pre-settlement conditions.	*Objective:* x Stabilize and interpret Lindsay Ranch barn *Strategies:* *Same as B.*

chapter 3

AFFECTED ENVIRONMENT

Chapter 3. Affected Environment

3.1. INTRODUCTION

This chapter describes the environmental resources at Rocky Flats that may be affected by the proposed CCP alternatives described in Chapter 2. As discussed in Chapters 1 and 2, DOE will retain primary jurisdiction over an area in the center of the Refuge that encompasses the former Industrial Area and any cleanup, closure and monitoring facilities. The resource descriptions and acreage measurements in this chapter encompass the entire Rocky Flats site and do not distinguish between Refuge lands and land that will be retained by DOE for long-term monitoring.

3.2. GEOLOGY AND SOILS

The 6,240-acre Rocky Flats site is at the interface of the Great Plains and Rocky Mountains, about 2 miles east of the foothill escarpment in Jefferson County, Colorado. Site elevation ranges from 5,500 feet in the southeastern corner to 6,200 feet near the current west entrance gate. The western half of the site is characterized by the relatively flat Rocky Flats pediment, which gives way to several finger-like drainages that slope down to the rolling plains in the eastern portion of the site.

Surficial and Bedrock Geology

Geologic units at the Rocky Flats site range from unconsolidated surficial deposits to various bedrock layers. Surficial deposits in the western portions of the site are characterized by the Rocky Flats Alluvium, clayey and sandy gravels up to 100 feet thick (Figure 12). The steeper slopes below the Rocky Flats Alluvium in the central portion of the site generally consist of landslide deposits. Surficial deposits in the eastern portion of the site consist of colluvium 3 to 15 feet thick and terrace alluvium 10 to 20 feet thick (Shroba and Carrara 1996).

The Rocky Flats Alluvium is underlain by the Arapahoe Formation, composed of sandstones, siltstones and claystones that range from 0 to 50 feet thick. In several locations, springs emerge at the contact of the Rocky Flats Alluvium and the Arapahoe Formation. These springs support the tall upland shrubland community described in the *Vegetation Communities* section.

Beneath the Arapahoe Formation lies the Laramie Formation, composed of 600 to 800 feet of silty to clayey sandstones, clayey siltstones and claystones. The Laramie Formation is underlain by the Fox Hills Sandstone and Pierre Shale.

© USFWS

The gravelly soils of Rocky Flats have been mined for decades.

Geologic Hazards

Landslides and landslide deposits are common along the steep hillsides and incised drainages at the base of the Rocky Flats Alluvium escarpment. These deposits occur in areas where bedrock layers such as the Arapahoe Formation are capped by unconsolidated gravel formations such as the Rocky Flats Alluvium. While most of the landslide deposits are of Pleistocene origin, some, especially those in the Rock Creek drainage, are likely more recent. Many landslide areas have high swell potential and are subject to sheet wash and soil creep (Shroba and Carrara 1996).

Seven geologic fault lines have been identified at Rocky Flats, including a northeast-trending reverse fault that extends across the western part of the Industrial Area. These faults are not believed to be a concern associated with current or future human activities or facilities at the site (DOE 1997).

Mineral Resources

The Rocky Flats Alluvium is believed to be the only mineral resource feasible for development at the Refuge. Historically, uranium, coal, oil and natural gas have been extracted near the Rocky Flats site. None of

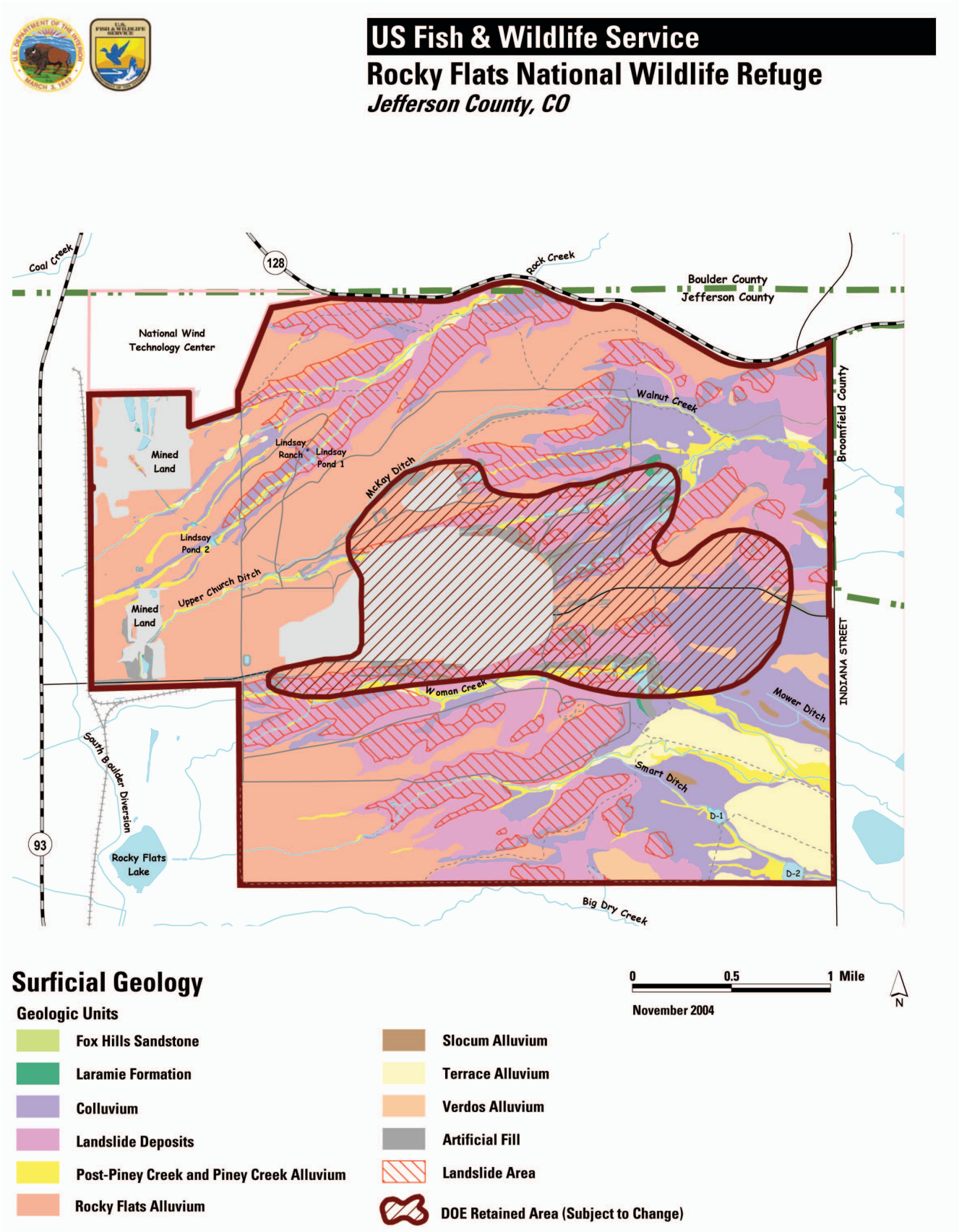

Figure 12. Surficial Geology

these mineral resources, however, appear to be feasible for development (DOE 1997). Mining rights and permits at the site are described in the *Infrastructure, Easements and Utilities* section.

Soils

The soils at the site formed from alluvium (stream deposited), colluvium (gravity deposited), or residuum (exposed bedrock material). Soils in the western half of the site formed from alluvium, while those in the eastern half of the site formed from colluvium and residuum.

Soils in the western half of the site are primarily the Flatirons and Nederland soils that formed in the Rocky Flats Alluvium (Figure 13). Flatirons soils consist of very cobbly to very stony loamy surface soils and clayey subsoils. These soils are deep and well drained. Flatirons soils are located on western pediments and ridgetops, as well as the upper portions of hillsides. Nederland soils have very cobbly loamy surface and subsoils. They are deep and well drained. Nederland soils are located on steeper hillsides and valley slopes in the western portion of Rocky Flats.

Soils in the eastern portion of the site consist primarily of Denver, Kutch, Midway, Valmont, Haverson and Nunn soils. The Denver-Kutch-Midway complex consists of soils with loamy surfaces and clayey subsoils. The Denver soils are deep and well drained, the Kutch soils are moderately deep and well drained, while Midway soils are shallow and well drained. The Denver-Kutch-Midway complex is the dominant soil map unit in the eastern portion of Rocky Flats, although it also occurs in the western half along hillsides. Denver and Kutch soils are found on side slopes and the Midway soils occur on steeper slopes. Valmont soils consist of deep, well-drained soils with loamy surface soils and loamy to clayey subsoils. This soil type is found in the northeast corner of Rocky Flats on the eastward extension of the Rock Creek/Walnut Creek drainage divide. Haverson soils are loamy soils located in floodplains or low terraces. Nunn soils consist of deep, well-drained soils on lower slopes adjacent to drainage bottoms. They have loamy surface soils and loamy to clayey subsoils.

Soil Contamination

DOE Retained Area

Elevated concentrations of plutonium and americium are currently found in the eastern portion of the site. Concentrations are highest within the DOE retained area, adjacent to an area known as the 903 Pad (DOE 1997). The 903 Pad is an area where industrial oil mixed with plutonium was stored in steel drums from 1958 to 1968. This mixture leaked onto the soils in the storage area, and these contaminated soils were subsequently blown by the wind and deposited to the east and southeast. In 1968, the storage area was capped with asphalt to prevent further release of contaminated soils. Because the area near the 903 Pad has plutonium concentrations greater than 50 pCi/g, DOE plans to remove all surface soils with a plutonium concentration greater than 50 pCi/g (as well as some other areas) and replace them with uncontaminated soils. It is anticipated that DOE will retain jurisdiction over the area, which will not be open for public use.

Refuge Lands

Existing concentrations of plutonium, the primary contaminant found in soils outside the DOE retained area, are very low (less than 7 pCi/g) in the surface soils in the lands to be transferred to the Service. Most of the Refuge surface soils have a plutonium concentration less than 1 pCi/g (Figure 4). As discussed in Chapter 1, DOE is anticipating retaining management responsibility for all lands with surface soils having a plutonium concentration more than approximately 7 pCi/g, in order to minimize the potential for erosion and surface water impacts (Figure 4). Some surface soils south of the east entrance road have a plutonium concentration between 1 and 7 pCi/g (Figure 4). Because plutonium was distributed east of the 903 Pad by wind, and because of the environmental characteristics of plutonium, elevated plutonium concentrations are limited to surface soils on the Refuge, and are not present in subsurface soils.

The DOE does not anticipate transferring any lands for use as a refuge that would require additional safety requirements for either the refuge worker or the visitor. Lands that would require use restrictions will not be transferred to the Service for the Refuge. The risk assessment efforts that resulted in the 50 pCi/g cleanup action level were inclusive of Refuge management activities such as trail building, fence construction and maintenance, visitor use, and prescribed fire and were designed to be safe for the Refuge worker, Refuge visitors, including children, and the greater community.

3.3. WATER RESOURCES

Surface Water

Three drainages originate on or near Rocky Flats: Rock Creek, Walnut Creek, and Woman Creek (Figure 14). Stream levels fluctuate depending on the season

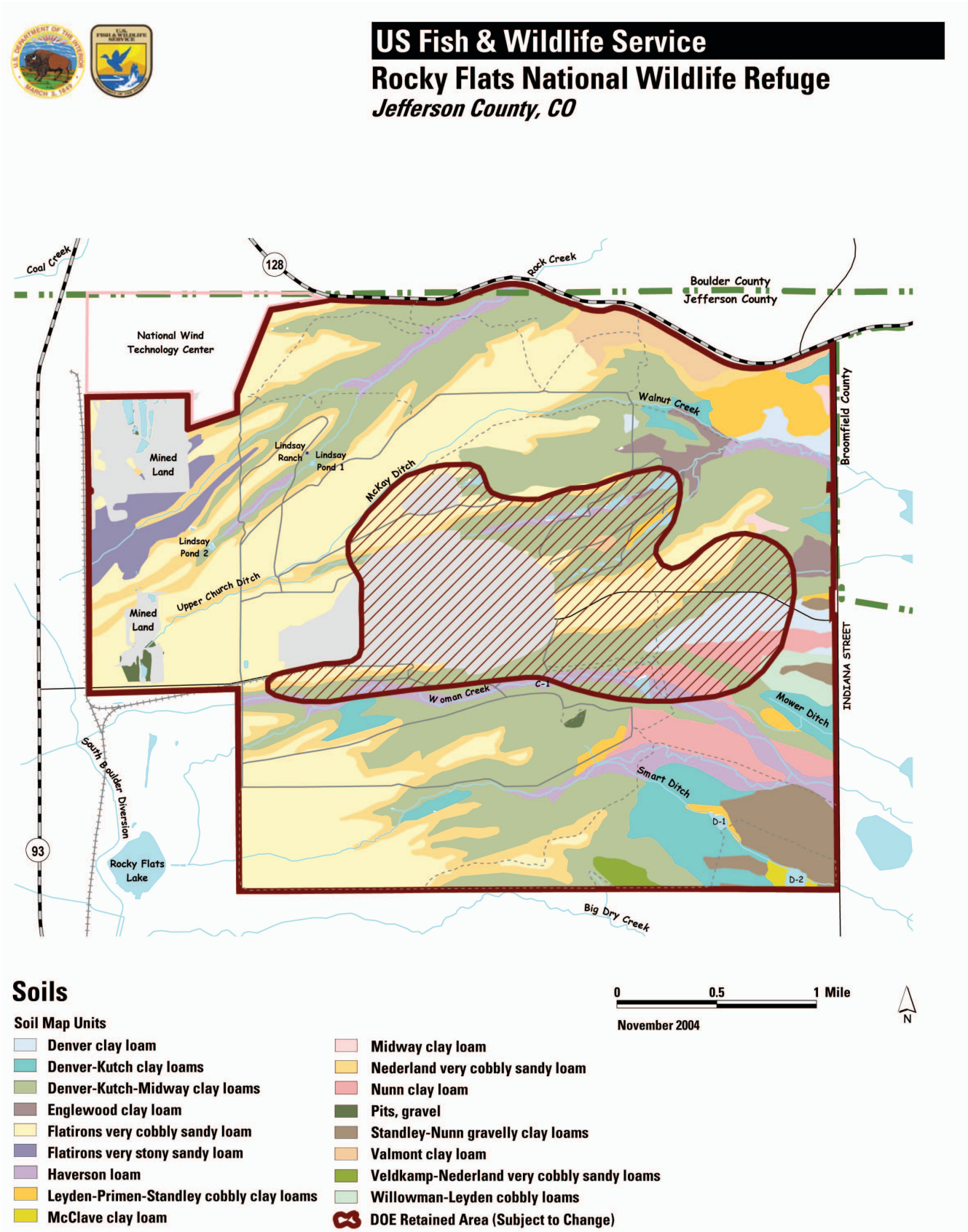

Figure 13. Soils

and amount of precipitation. Most streamflow is controlled by ground water discharge; streamflow is higher when ground water levels are higher, such as in the spring. Surface sheet flow is only a significant contributor to stream flows during high precipitation events (Kaiser-Hill 2002b).

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Drainages such as Rock Creek are a prominent feature of the Refuge.

There are currently 16 ponds on the Rocky Flats site, 12 of which are within the area that will be retained by DOE. The others are the two Lindsay Ponds on Rock Creek and ponds D-1 and D-2 on the Smart Ditch.

Rock Creek

The Rock Creek basin drains the northwest portion of the site. This drainage has a relatively flat headwater area to the west and steep gullies and channels to the east where it cuts below the Rocky Flats Alluvium into bedrock formations. Rock Creek is hydrologically isolated from the rest of the site and receives no water from the Industrial Area. Surface water generally originates from precipitation and shallow ground water discharge. Rock Creek continues off-site to the northeast, where it joins Coal Creek in the Boulder Creek basin (DOE 1997).

Walnut Creek

Walnut Creek consists of three tributaries that drain the central portion of the site, including most of the Industrial Area. The northernmost branch, No Name Gulch, begins at the outfall of the East Landfill Pond. The central branch, North Walnut Creek, begins at the northern edge of the Industrial Area and flows through the "A" series ponds. South Walnut Creek begins in the Industrial Area and collects discharge from the Rocky Flats Wastewater Treatment Plant before flowing through the "B" series ponds. The three branches converge near the eastern Rocky Flats boundary before flowing off-site to the east. Walnut Creek is typically dry during most of the year.

Woman Creek

The Woman Creek basin drains the southern portion of the Rocky Flats site. The Woman Creek drainage consists of two major branches that begin off of the Rocky Flats site to the southwest. The main stem of Woman Creek flows across the site, passing south of the Industrial Area and flowing through the C-1 pond. The Mower Ditch diverts most of the Woman Creek flow into Mower Reservoir, east of Rocky Flats.

Typically, Woman Creek has no streamflow in late spring and summer. All surface flows are lost to ground water in the warmer months. In the winter, most of the baseflow is from Antelope Springs. Woman Creek is largely unaffected by pond releases (pond C-2 is discharged about once a year, with a release of 38 acre-feet).

Big Dry Creek

A small portion of Rocky Flats near its southern boundary lies within the Big Dry Creek drainage, although the creek itself does not flow onto the site. Big Dry Creek flows into Standley Lake about 1 mile east of Indiana Street.

Ditches

Besides the three principal drainages, several ditches cross the site. The South Interceptor Ditch currently collects runoff from south of the Industrial Area, which channels surface runoff into the C-2 pond. The Smart Ditch originates at Rocky Flats Lake to the southwest of the site, enters Rocky Flats and flows through the South Woman Creek drainage for almost 2 miles before splitting off toward Standley Lake to the southeast. The Mower Ditch diverts most of Woman Creek toward Mower Reservoir to the east. The Upper Church Ditch enters Rocky Flats from the west and traverses the Rock Creek/Walnut Creek drainage divide until it exits the site in the northeast corner. The McKay Ditch runs from the west side of the Industrial Area into the Walnut Creek drainage. The Kinnear Ditch diverts water from Coal Creek west of Rocky Flats and conveys it to the Woman Creek channel (Advanced Sciences 1991).

© RFETS

Surface water is stored in small ponds in many places on the Refuge.

Off-Site Surface Water

Standley Lake is a large water supply reservoir that serves nearby communities. It is located about 1 mile southeast of Rocky Flats on the mainstem of Big Dry Creek (Figure 14). Upstream of Standley Lake just east of the Rocky Flats site, the Woman Creek Reservoir was constructed to intercept any Woman Creek flows that are not diverted through the Mower Ditch. This reservoir is intended to protect water quality in Standley Lake. Mower Reservoir is located north of Woman Creek Reservoir on the east side of Indiana Street and receives Woman Creek water through the Mower Ditch.

Immediately east of the site lies Great Western Reservoir, owned by the City and County of Broomfield and used for irrigation. Rocky Flats Lake lies to the south and west of the site on land owned by the State of Colorado. Rocky Flats Lake provides water to the Smart Ditch, which runs across the southern end of the site toward the D-2 pond and eventually, into Standley Lake.

Ground Water

Hydrogeology at the Rocky Flats site is characterized by three distinct units: the upper alluvial aquifer, lower aquitard, and the Laramie-Fox Hills aquifer. An aquifer is a geologic formation that has sufficient permeability to store and/or convey water. An aquitard is a confining layer with low permeability that can store of water but does not allow water to readily pass through it.

The upper alluvial aquifer is comprised of the unconsolidated materials that can be as much as 100 feet thick in the western portions of Rocky Flats. This aquifer is generally recharged from precipitation or surface water. Ground water in the unconsolidated alluvial aquifer is generally close to the land surface, with an average depth of 11 feet below ground surface.

Several springs have emerged in areas where the contact of the upper aquifer and the lower aquitard is exposed at the surface. While most of these springs occur within the Rock Creek drainage, Antelope Springs in the Woman Creek drainage has the largest discharge at the site. Antelope Springs discharges continuously over several acres.

The lower aquitard is composed of the deeper claystones and siltstones of the Laramie and Arapahoe Formations. Combined, these formations combined are up to 800 feet thick below Rocky Flats. Recharge of the lower aquitard occurs from downward flow through the upper aquifer, or directly through precipitation in areas where the bedrock is exposed. Beneath the aquitard lies the regional Laramie-Fox Hills aquifer. It is

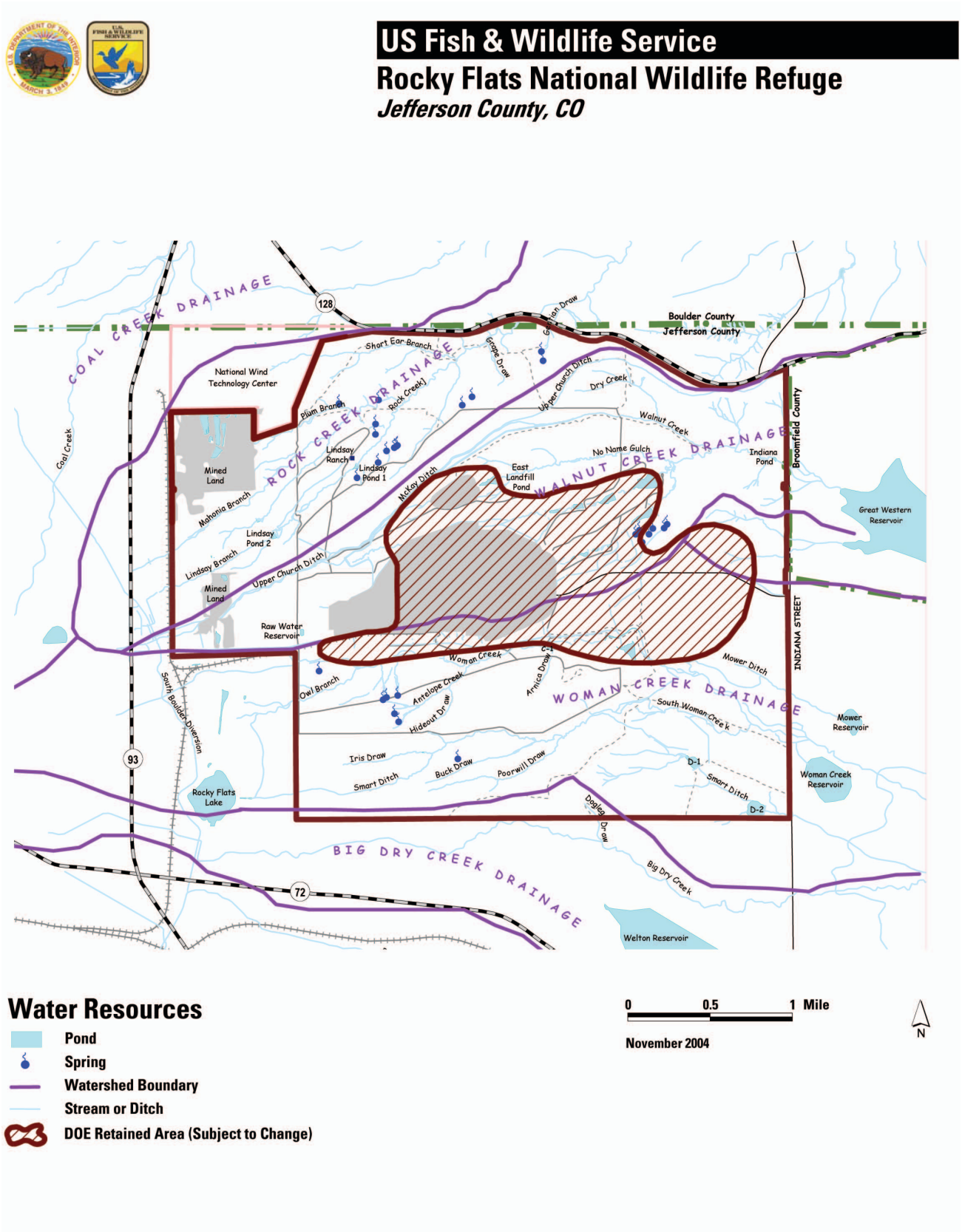

Figure 14. Water Resources

composed of the lower sandstone unit of the Laramie Formation and the Fox Hills Sandstone and is confined by the overlying aquitard. Ground water levels in the bedrock aquifers are generally greater than 100 feet (DOE 1997).

Several portions of the upper alluvial aquifer east and northeast of the Industrial Area are known or suspected of being contaminated with radionuclides, volatile organic compounds, and metals. The aquitard is less contaminated than the upper alluvial aquifer. No contaminant plumes have been identified in the aquitard. The Laramie-Fox Hills aquifer beneath the site is unlikely to be contaminated (IATTF 1998).

Future Hydrological Conditions

During site closure, DOE will remove the buildings, pavement and some of the subsurface utilities (to a depth of 3 feet) from the Industrial Area and grade and revegetate the area. Subsurface utilities below 3 feet deep will be assessed individually and may be left in place. Landfill areas will be covered and also will be regraded. These changes will affect the surface and ground water hydrology of the site. The following changes that will alter the hydrology of the Rocky Flats site are expected to occur (Kaiser-Hill 2002b):

- No more water will be imported to the site
- Two channels in the Industrial Area will route water to the A- and B-series ponds
- Treatment plant discharge to pond B-3 will be discontinued
- The upper reach of the South Interceptor Ditch will be removed
- Subsurface drains in the Industrial Area will be removed down to 3 feet
- Subsurface utilities within 3 feet of surface will be removed and the area will be backfilled with Rocky Flats Alluvium, changing the hydraulic conductivity of the subsurface in the Industrial Area
- Pavement and buildings will be removed in the Industrial Area (some basement slabs and walls will be left in place)
- The Industrial Area and landfill areas will be regraded to match adjacent topography and the sites will be vegetated

Expected changes in streamflow in Walnut and Woman creeks are discussed in the following sections. Flow in Rock Creek will not be affected. These changes will occur during site cleanup and closure before Refuge establishment. Any potential impacts from these changes will occur while the site is under the DOE's jurisdiction and are outside of the scope of this CCP/EIS.

Walnut Creek

Walnut Creek flows will change due to the elimination of waste water treatment plant discharge to the creek, the removal of impervious areas in the Industrial Area, and the elimination of storm water drain discharges in the Industrial Area. Terminal pond (A-4 and B-5) discharges will decrease and Walnut Creek flows will be dominated by pond discharge operations and any pond routing or structural modifications. South Walnut Creek east of the Industrial Area is estimated to lose 90% of its annual flow (Kaiser-Hill 2002b).

Woman Creek

Changes in the flow of Woman Creek will be insignificant, except for the area south of the Original Landfill where flows may decrease due to the possible use of covers and slurry walls at the landfill site. Drainage to the South Interceptor Ditch and baseflow within the ditch would decrease because storm water flows from the Industrial Area will be significantly reduced. Changes in ditch flows, however, are not likely to affect Woman Creek flows because water from the ditch is detained in pond C-2 and the ditch supplies less than 10% of the flow of Woman Creek at the east boundary.

3.4. VEGETATION COMMUNITIES

A diverse mosaic of vegetation communities is found at Rocky Flats (Table 7). Two of these vegetation communities, the xeric tallgrass grassland and the tall upland shrubland, are considered to be rare in the region. Other significant vegetation communities include the riparian woodland, riparian shrubland, wetlands, mesic mixed grassland, xeric needle and thread grassland, reclaimed mixed grassland and ponderosa pine woodland (Figure 15).

Vegetation communities at Rocky Flats have been grouped into Resource Management Zones. These zones generalize the Refuge into three categories with similar wildlife habitat attributes and management requirements. The three management zones are Xeric Tallgrass Grassland, Wetlands and Riparian Corridors, and Mixed Prairie Grasslands.

Table 7. Vegetation Communities at Rocky Flats

Vegetation Community	Acres	Vegetation Community	Acres
Grasslands		*Woodlands*	
Xeric Tallgrass Grassland	1,568	Riparian Woodland	28
Mesic Mixed Grassland	2,199	Ponderosa Pine Woodland	9
Xeric Needle and Thread Grassland	187		
Reclaimed Mixed Grassland	640	*Wetlands*	
Short Grassland	10	Tall Marsh Wetland	31
		Short Marsh Wetland	121
Shrublands		Wet Meadow	254
Tall Upland Shrubland	34	Open Water/Mudflats	51
Riparian Shrubland	41		
Other Shrubland	70	*Other*	
		Disturbed and Developed Areas	997
Total			6,240

Xeric Tallgrass Grassland Management Zone

Xeric Tallgrass Grassland

This rare plant community is found on the rocky plains in the western portions of the site, extending eastward along several finger-like ridgelines.

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Big bluestem within the xeric tallgrass grassland.

Covering 1,568 acres, it contains several different plant associations that include combinations of big bluestem, little bluestem, mountain muhly, sun sedge, Fendler's sandwort and Porter's aster. Other tallgrass prairie species include Indian-grass, prairie dropseed, switchgrass, and needle-and-thread grass. Species richness is high; 285 species have been recorded within the xeric tallgrass community at Rocky Flats, of which about 80% are native. Differences in species composition are attributable to annual variations in climate and precipitation (Kaiser-Hill 2002c).

The xeric tallgrass grassland is found primarily on Flatirons and Nederland soils and is believed to be a relict once connected to the tallgrass prairie hundreds of miles to the east (Nelson 2003; Essington et al. 1996).

The Colorado Natural Heritage Program (CNHP) has found that much of the xeric tallgrass grasslands along the Colorado Front Range has been disturbed by urban development and agricultural conversion over the last century. In addition, aggressive weed species such as cheatgrass, Japanese brome and diffuse knapweed have degraded many areas of this community throughout the region (Essington et al. 1996). The CNHP believes that the xeric tallgrass grassland community exists in fewer than 20 places globally and that Rocky Flats has the largest example of this community remaining in Colorado and perhaps North America. The CNHP ranks this community as imperiled within the state (Essington et al. 1996).

The xeric tallgrass grassland community is comprised of several sub-communities (Nelson 2003). One of these sub-communities was identified by ESCO during a five-year evaluation of bluestem-dominated grasslands in the Rocky Flats area. This study found that the major distinguishing feature of what ESCO calls the rare

"Rocky Flats Bluestem Grassland" community is the abundance of big bluestem with little bluestem, mountain muhly and Porter's aster. While big and little bluestem are characteristic of Midwestern tallgrass prairies, mountain muhly and Porter's aster are characteristic of mountain environments. This unusual combination of mountain and plains grassland species in a consistent and recurring pattern across the Rocky Flats alluvial surface, along with evidence of exceptional stability, makes this vegetation community a rare, if not unique, resource (ESCO 2002).

In 2001, high winds deposited several inches of sand on xeric tallgrass grassland areas adjacent to existing gravel mines in the northwest corner of the Refuge. This sand buried most of the native vegetation and was soon colonized by sunflower, a native annual weedy species, as well as noxious weeds such as diffuse knapweed, Russian thistle and kochia. This area may require ongoing weed management and possible reseeding to re-establish the native vegetative cover (Kaiser-Hill 2002c).

Wetland and Riparian Corridors Management Zone

Riparian Woodland

The riparian woodland community is characterized by a diverse mixture of plains cottonwood, peachleaf willow, Siberian elm and coyote willow, with an understory of various shrubs such as leadplant and snowberry. Covering 28 acres, it is found primarily along the drainage bottoms of Rocky Flats, with the most significant stand occurring in the Rock Creek drainage (Kaiser-Hill 1997; PTI 1997; Essington et al. 1996).

The most significant threat to the riparian woodland community is from exotic species such as Siberian elm, Canada thistle, musk thistle, smooth brome and Kentucky bluegrass. Preservation of this woodland community depends on the preservation of associated streamflow (PTI 1997; Essington et al. 1996).

Riparian Shrubland

Riparian shrubland forms extensive, dense thickets of shrubs along the stream bottoms. This community covers 41 acres throughout the Rocky Flats site. It is dominated by narrowleaf willow, coyote willow, or indigo bush and generally has an understory consisting of leadplant, Baltic rush and

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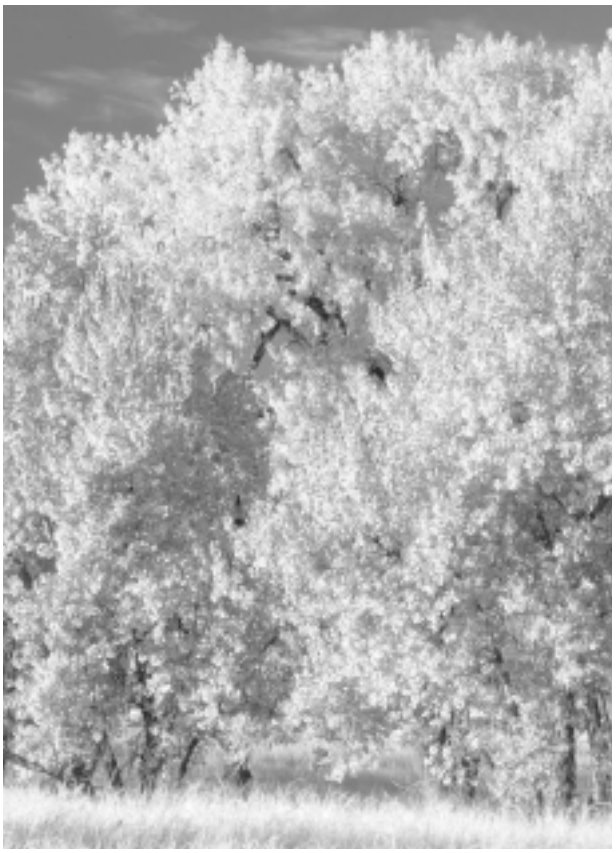

Cottonwood fall foliage within the riparian woodland.

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Choke cherry within the upland shrub habitat.

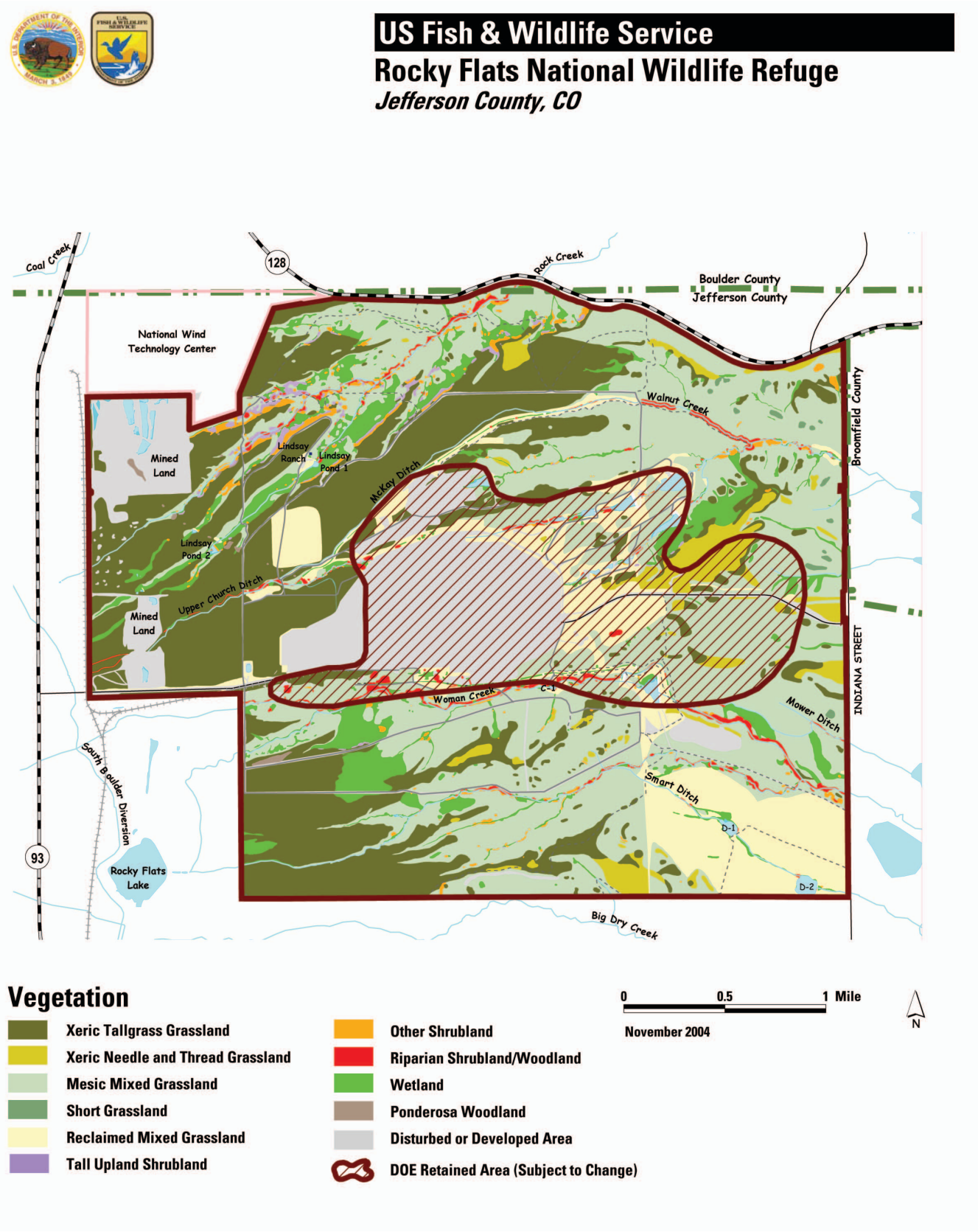

Figure 15. Vegetation

various sedges (Kettler et al. 1994; USACE 1994; Kaiser-Hill 1997).

Tall Upland Shrubland

Tall upland shrubland occurs on 34 acres of north-facing slopes above seeps and along streams, primarily within the Rock Creek drainage. The tall upland shrubland consists of a rare association of hawthorn, chokecherry and occasionally wild plum. This shrubland is associated with ground water seeps that form at the contact of the Rocky Flats Alluvium and the underlying, relatively impermeable Arapahoe Formation. The herbaceous understory contains a number of species that are restricted to the cool, shaded microhabitat provided by the canopy. Understory species include Fendler waterleaf, spreading sweetroot, anise root, carrionflower greenbriar, fragile fern, Colorado violet, Rydberg's violet and northern bedstraw. Although the tall upland shrubland represents less than 1% of the total area of Rocky Flats, it contains 55% of the plant species on the site (DOE/Service 2001). This shrubland community is believed to be rare and may not occur anywhere else (DOE/Service 2001; Essington et al. 1996).

Other Shrubland

Other shrubland communities include short upland shrubland and savannah shrubland, covering 70 acres primarily in the Rock Creek drainage. Short upland shrubland is characterized by stands of snowberry and occasional Wood's rose and is often found in association with wet meadows and other wetland or riparian communities. Savanna shrubland occurs in dryer areas where scattered shrubs are interspersed with grasslands. Three-leaf sumac is the predominant shrub in this community (Kaiser-Hill 1997).

Wetland Communities

Wetland communities cover 406 acres of the Rocky Flats site and play an important role in sustaining the diverse vegetation and habitat types found on the site. The most significant wetland complexes at Rocky Flats are the seep-fed wetlands along the hillsides of the Rock Creek drainage and the Antelope Springs complex in the Woman Creek drainage. These wetlands are significant because they have the largest contiguous areas and the most complex plant associations (PTI 1997).

Three wetland types, tall marsh, short marsh and wet meadow, are found at the site. These wetland types occur in streamside areas along the valley floors and near the seeps and springs that occur along many of the hillsides. Each wetland type is described below.

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Wetlands and open water provide waterfowl habitat.

Tall Marsh Wetland

Tall marsh wetlands generally occur along ponds, ditches and in persistently saturated seeps. Covering 31 acres of the site, these wetlands are dominated by cattails, bulrushes and associated forbs such as watercress, showy milkweed, swamp milkweed and Canada thistle (a noxious weed). Antelope Springs in the Woman Creek drainage is the best example of a saturated slope wetland and tall marsh community at Rocky Flats (Figure 15).

Short Marsh Wetland

Covering 121 acres, this wetland type is commonly associated with seasonally inundated or saturated areas, such as hillside seeps. Prevalent species include Nebraska sedge, Baltic rush and spike rush as well as forbs such as watercress and speedwell.

Wet Meadow Wetland

These seasonally saturated wetlands occupy 254 acres on the perimeter of saturated wetlands and contain elements of both the short marsh wetland and upland mixed grassland communities. Prevalent species include redtop, prairie cordgrass and solid stands of Canada bluegrass and western wheatgrass. Other species commonly found in this community include common milkweed, wild iris, Canada thistle, dock and occasionally arnica (Nelson 2003).

Mixed Prairie Grasslands Management Zone

Mesic Mixed Grassland

The mesic mixed grassland community is the largest vegetation community at Rocky Flats, covering 2,199 acres across the broad ridges, hillsides and valley floors throughout the site and the rolling plains in the eastern portions of Rocky Flats (Figure 15). This community is characterized by western wheatgrass, blue grama, side-oats grama, prairie junegrass, Canada bluegrass, Kentucky bluegrass, green needlegrass and little bluestem. This grassland occurs on clay loam soils having relatively higher soil moisture content than other upland areas. The higher moisture results from subirrigation from the coarse alluvial soils, snow accumulation, and protection from wind (DOE 1997). The mesic mixed grassland is very important to wildlife species including grassland birds, small mammals and larger mammals such as mule deer.

The quality of mesic mixed grassland varies considerably across the site. In the western parts of the site, this community has been degraded by diffuse knapweed, while some areas in the eastern portion of the site have been degraded by weed species such as Japanese brome, alyssum and musk thistle (PTI 1997).

Xeric Needle and Thread Grassland

Several patches of xeric grassland dominated by needle-and-thread grass occur in the eastern half of Rocky Flats. These patches cover 187 acres. Other dominant grass species include New Mexico feathergrass, Canada bluegrass, Kentucky bluegrass and Japanese brome (Nelson 2003). This grassland occurs primarily on the eastern extensions of the Rocky Flats pediment that is characterized by very cobbly sandy loam soils. Although not quite as cobbly, these soils are very similar to the soils that support the xeric tallgrass grassland community (Kaiser-Hill 1997). The largest expanse of needle-and-thread grassland at Rocky Flats occurs along the ridgetop north of the east access road.

Reclaimed Mixed Grassland

Reclaimed mixed grassland covers 640 acres, primarily in the southeastern portion of the site which was formerly cultivated for agriculture. Most of these areas have been re-seeded with a mixture of smooth brome and intermediate wheatgrass, both introduced species. Other common species include crested wheatgrass, sweetclover and field bindweed (Kaiser-Hill 1997).

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Dalmatian toadflax, a noxious weed, has moved into large areas of the Refuge.

Short Grassland

This grassland is typified by buffalograss and blue grama, both short grass prairie species. Ten acres of this community are found on the site (Kaiser-Hill 1997).

Ponderosa Pine Woodland

Isolated patches of ponderosa pine woodland cover 9 acres in the uppermost reaches of the Rock Creek and Woman Creek drainages near the western edge of the Refuge. These scattered pines represent an eastward extension of the nearby foothills forests. While much of the understory is similar to the adjacent grassland communities, other associated plants are more likely to occur in foothills environments (DOE 1997).

Disturbed and Developed Areas

Disturbed and developed areas consist of existing or former facilities associated with the previous use of the Rocky Flats site. They include roads, landfills, dams and other facilities. They also include former facilities that have been revegetated with native and introduced grass species.

Noxious Weeds

Noxious weeds are exotic, aggressive plants that invade native habitat and cause adverse economic or environmental impacts. Since 1990, Rocky Flats has experienced a large increase in noxious weeds (DOE 1997). At Rocky Flats, the noxious weed species with the greatest potential to degrade the native plant communities and that are the most difficult to control include diffuse knapweed, musk thistle, Dalmatian toadflax, and Canada thistle. Other increasingly

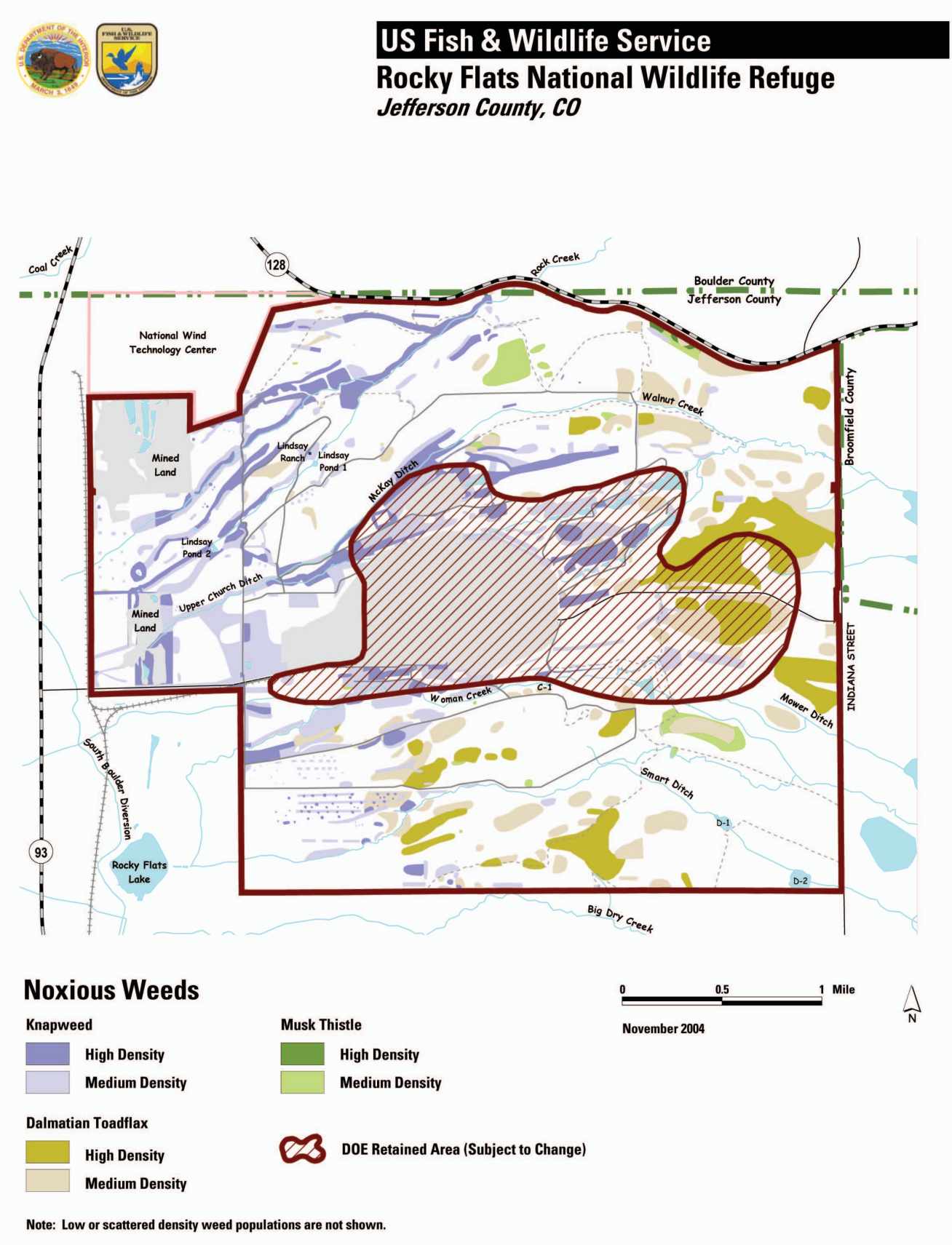

Figure 16. Noxious Weeds

Table 8. Major Noxious Weeds at Rocky Flats

Weed Name	High Density (ac.)	Medium Density (ac.)	Low Density (ac.)	Scattered Density (ac.)	Total Infested Area (ac.)
Dalmatian toadflax	341	389	1,240	537	1,207
Diffuse knapweed	380	525	377	377	1,956
Musk thistle	9	84	430	346	869

problematic weeds are downy brome (cheatgrass), field bindweed, and jointed goatgrass (Lane 2004). Diffuse knapweed, an aggressive tumbleweed, is currently given highest control priority. Canada thistle is common in and around most of the wetlands, musk thistle is found across mesic grasslands, and Dalmatian toadflax is common in xeric grasslands and other areas (Figure 16). Sulfur cinquefoil is a new invader to the area that may have already established populations on the Refuge (Lane 2004).

Prioritized noxious weed lists and selected weed control measures are found in the 2002 Annual Vegetation Management Plan. The three most abundant noxious weeds identified in 2001 mapping were: Dalmatian toadflax infesting 2,504 acres; diffuse knapweed infesting 1,919 acres; and musk thistle infesting 869 acres (Table 8) (Kaiser-Hill 2002a; DOE/Service 2001).

Rare Plants

No federally listed plant species, such as the Ute ladies'-tresses orchid or Colorado butterfly plant, are known to occur at Rocky Flats. Aside from the rare xeric tallgrass prairie and tall upland shrubland communities, Rocky Flats also supports populations of four rare plant species that are listed as rare or imperiled by the CNHP. These species are the mountain-loving sedge, forktip three-awn, carrionflower greenbriar, and dwarf wild indigo. Forktip three-awn primarily occurs in previously disturbed sites near the western edge of the current Industrial Area. The other three species occur primarily along the pediment slopes in the Rock Creek drainage (Kaiser-Hill 2002c).

Fire History

Historical documentation indicates that the grasslands in the Rocky Flats area have been subjected to lightning and human-caused fires for thousands of years (DOE 1999). These fires likely played a major role in promoting native vegetation growth and diversity (DOE 1999). Since 1972, wildfires have not been allowed to burn and only one controlled burn has been conducted in the grasslands at Rocky Flats. As a result, a fuel load of dead vegetation has been building up in the grasslands of Rocky Flats for at least 30 years. This buildup of dead vegetation has contributed to an invasion of noxious weeds on the site, particularly in the last 10 years (DOE 1999).

Seven wildfires have been documented on the site since 1993 (Figure 17). In 1994, the Spring Grassland fire burned 70 acres between Highway 128 on the north boundary and the north access road. In 1996, the 104-acre Labor Day Grassland Fire burned much of an area penned in by access roads in the southern portion of the site. In February 2002, a 27-acre fire burned through portions of the Rock Creek drainage on the south side of Highway 128. A 48-acre prescribed burn was conducted on April 6, 2000. The prescribed burn took place in the same area as the 1996 wildfire (Kaiser-Hill 2002).

3.5. WILDLIFE RESOURCES

Many areas of the Rocky Flats site have remained relatively undisturbed for the last 30 to 50 years, allowing them to retain diverse habitat and associated wildlife. These wildlife communities are supported by

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Mixed mesic grassland provides food and shelter for elk and other wildlife.

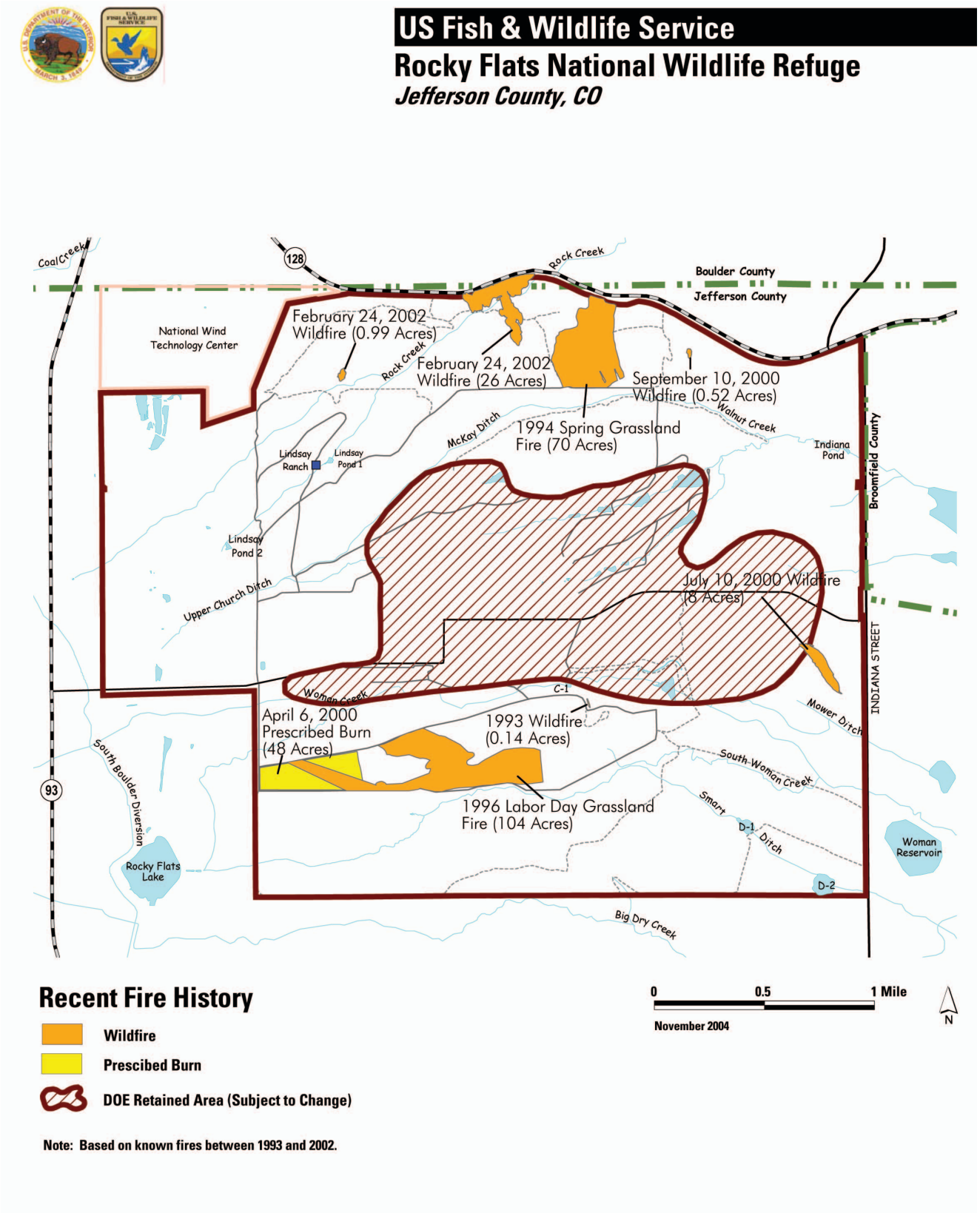

Figure 17. Recent Fire History

the regional network of protected open space that surrounds the site on three sides, buffering wildlife habitat from the surrounding urban development.

Mammals

One of the most abundant and conspicuous mammal species at Rocky Flats is the mule deer. A resident herd of about 160 individuals inhabits the site. While mule deer distribution varies by the season, they appear to have a general preference for the following areas (shown in Figure 18):

- The open grasslands of the upper Rock Creek drainage
- The shrublands of the lower Rock Creek drainage
- The grasslands of the upper Walnut Creek drainage
- The hillsides above lower Walnut Creek
- Riparian bottomlands around Woman Creek and Antelope Springs
- The grasslands below the pediment in the Smart Ditch drainage

In the spring, mule deer exhibit an affinity for woody habitat and secondarily for grasslands. In the summer, deer use is more generally divided among different habitats. In the fall, mule deer primarily use woody habitats, with grasslands also being important. In the winter, mule deer are commonly observed in grasslands and tall upland shrublands (Kaiser-Hill 2001).

Whitetail deer have become more common at the site and are often observed in company with mule deer. The Refuge is in CDOW's Game Management Unit (GMU) #38 and is adjacent to GMU#29, which collectively make up the Boulder deer herd. American elk visit Rocky Flats, but are not resident (DOE 1997). In 2003, 11 cow elk were observed with nine calves in the Rock Creek drainage (Wedermyer 2003).

Other mammals observed at Rocky Flats include desert cottontail, white-tailed jackrabbits, black-tailed jackrabbits, muskrat and porcupine. Muskrats generally occur in and around the ponds, while porcupine populations are limited to the shrubland and ponderosa pine habitats in the upper Rock Creek drainage (DOE 1997). Black-tailed prairie dogs inhabit the Rocky Flats site in limited numbers (Figure 18) and are discussed in greater detail below. Numerous small mammal species, such as mice and voles, inhabit all vegetation community types at Rocky Flats. Preble's meadow jumping mouse, a threatened species, is described below under *Federal Threatened and Endangered Species*.

Two commonly observed carnivore species at Rocky Flats are the coyote, which occurs throughout the site, and raccoon, which is often seen in the Industrial Area and near watercourses. Typically at Rocky Flats, three to six coyote dens support an estimated 14 to 16 individuals at any given time (Kaiser-Hill 2001). Twenty-two coyote dens used between 1991 and 2002 have been identified at Rocky Flats. The coyote dens generally occur on hillsides near watercourses. Six dens were active in 2002. One active den was located in the upper Rock Creek drainage, two were located on the slopes above either side of Walnut Creek near Indiana Street, one was near the D-1 pond, one near Antelope Springs and one in the upper South Woman Creek drainage (Nelson 2003). Other carnivores

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The coyote is a commonly observed carnivore species on the Refuge.

include striped skunk, gray fox, red fox, long-tailed weasel, American badger and mink. Black bears and mountain lion tracks are occasionally seen at the site (Kaiser-Hill 2000, 2001).

Black-Tailed Prairie Dog

The black-tailed prairie dog is a controversial species on the forefront of conservation in the U.S. (CDOW 2003). The prairie dog is often described and disputed as a "keystone species" because it has a large effect on community structure or ecosystem function (Power et al. 1996; CDOW 2003).

In August 2004, the Service removed the prairie dog from consideration as a candidate species under the Endangered Species Act (Service 2004b). Candidate species are plants and animals for which the Service has sufficient information on their biological status to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities. Candidate species receive no statutory protection under the ESA (Service 2002).

Regardless of its status as a keystone species, prairie dogs play an important role in grassland ecosystems. Several studies found that prairie dogs alter plant species composition and structure. Typically, areas occupied by prairie dogs have greater cover and abundance of perennial grasses and annual forbs compared to non-occupied sites (Whicker and Detling 1988; Witmer et al. 2002). Prairie dogs can contribute to overall landscape heterogeneity, affect nutrient cycling, and provide nest sites and shelter for wildlife such as rattlesnakes and burrowing owls (Whicker and Detling 1988). Prairie dogs can also denude the surface by clipping above-ground vegetation and contributing to exposed bare ground by digging up roots (Kuford 1958; Smith 1967). Prairie dogs are susceptible to and can spread Sylvatic plague.

Three black-tailed prairie dog colonies, comprising 112.8 acres of grasslands, were mapped at Rocky Flats in 2000. Since 2000, plague outbreaks have reduced the active colonies to an area of 10 acres (Stone 2003). These colonies are shown on Figure 19.

The Rocky Flats site contains about 2,460 acres of potential prairie dog habitat (Figure 19). Delineations of potential prairie dog habitat are based on soil, vegetation, and slope attributes that prairie dogs are known to prefer (Clippinger 1989):

- 30 to 90% herbaceous cover
- 2- to 10-inch vegetation height

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American goldfinch.

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Western meadowlark.

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Swainson's hawk.

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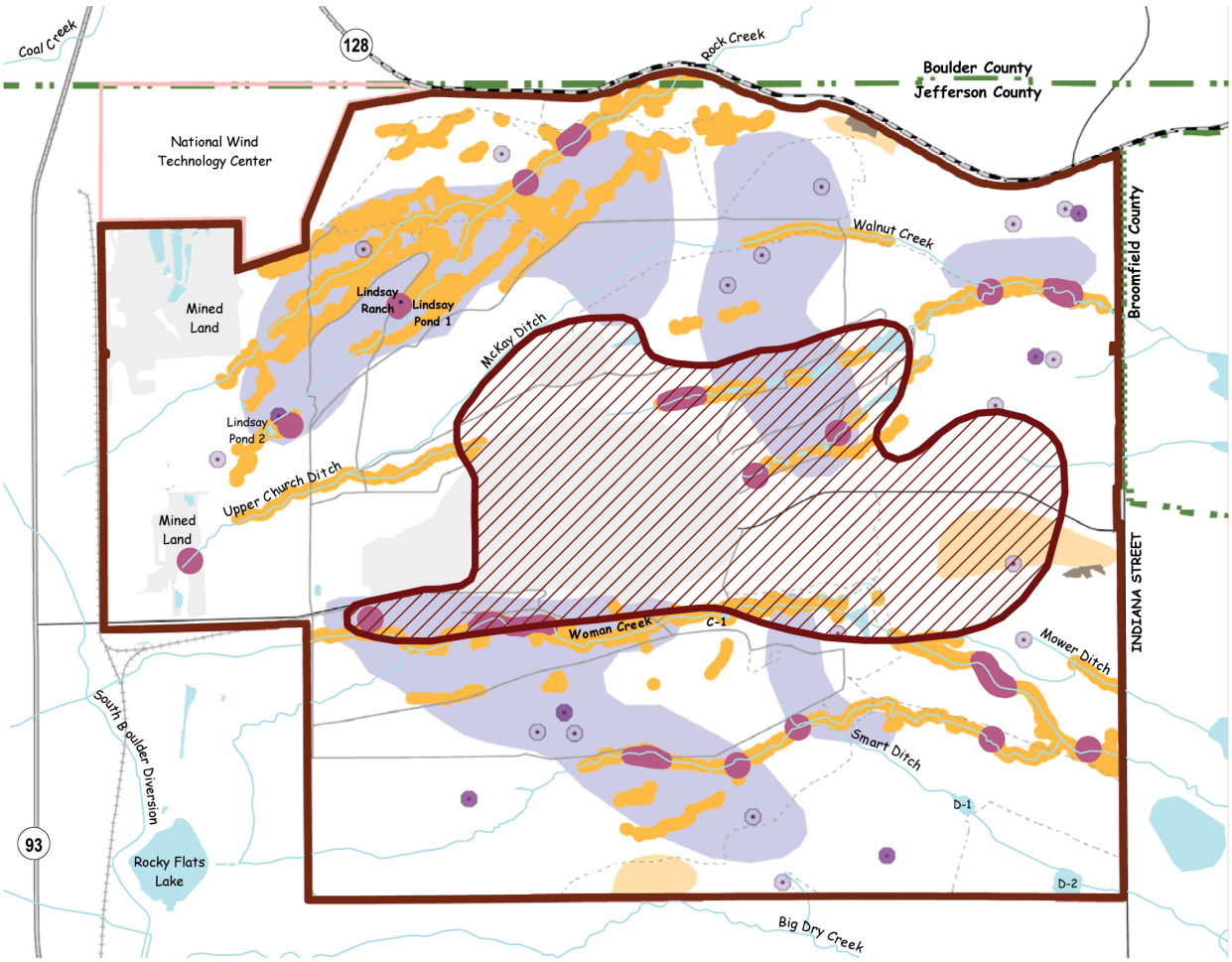


Wildlife Resources

0 0.5 1 Mile

November 2004

N

- Preble's Meadow Jumping Mouse Protection Area (DOE designation)
- Observed Raptor Nest Site (1991-1998)
- Mule Deer Concentration Area (1997-2001)
- Black-Tailed Prairie Dog Colony (CDOW 2000)
- Black-Tailed Prairie Dog Colony (Active in 2003)
- Coyote Den (Active in 2002)
- Coyote Den (1991-2001)
- DOE Retained Area (Subject to Change)

Figure 18. Wildlife Resources

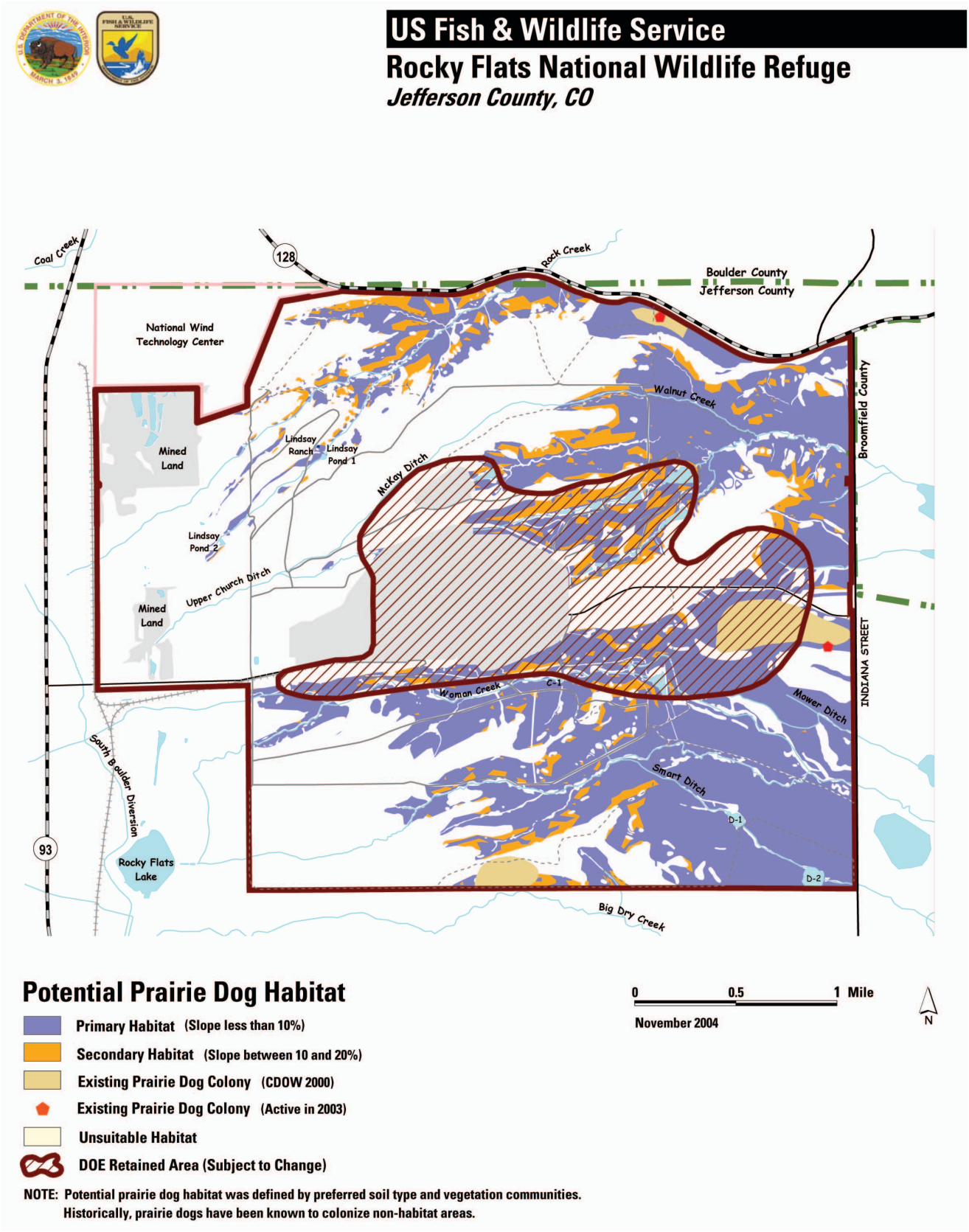


Figure 19. Potential Prairie Dog Habitat

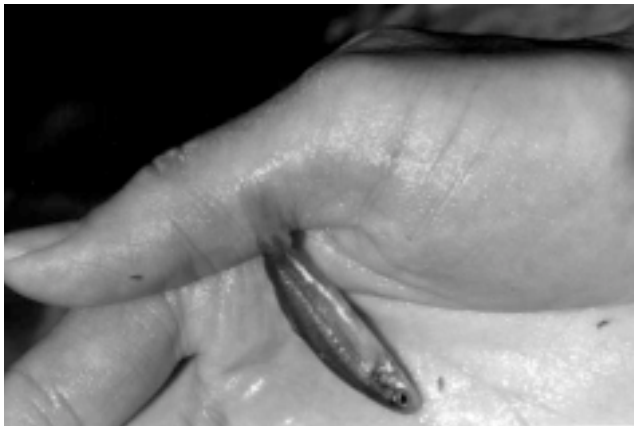
- Slopes less than 20% (prefer less than 10%)
- Rock-free soils with less than 70% sand content

Birds

The most commonly observed raptors at Rocky Flats are red-tailed hawk, great horned owl and American kestrel. Other less abundant raptors include Swainson's hawk, ferruginous hawk, prairie falcon and long-eared owls. Most raptor species use riparian woodlands or tall upland shrublands for nesting and roosting habitat and forage in all habitats at the site. Raptor nest sites observed between 1991 and 1998 are shown on Figure 18.

Over 185 species of migratory birds have been recorded at Rocky Flats, of which about 75 are believed to breed at the site. Of the estimated 100 neotropical migrants (migratory birds that breed north of the U.S./Mexico border and winter south of the border (PTI 1997)) at Rocky Flats, about 45 are confirmed or suspected breeders at the site.

Commonly observed bird species in wetland habitats include the red-winged blackbird, song sparrow, common yellowthroat and common snipe. Common birds in riparian woodland areas include the northern oriole, American goldfinch, house finch and yellow warbler. The tall upland shrubland habitat is inhabited by the song sparrow, rufus-sided towhee, black-billed magpie, yellow-breasted chat and black-capped chickadee. Common grassland birds include the vesper sparrow, western meadowlark, grasshopper sparrow and mourning dove (DOE 1997). The reclaimed mixed grassland provides habitat for birds such as the western meadowlark and vesper sparrow (PTI 1997).



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Northern red-belly dace were introduced into the Lindsay Pond in 2003.

Several waterfowl species use the ponds at Rocky Flats. The most common waterfowl are mallards and Canada geese (DOE 1997). Great blue herons feed in mudflats and short marshlands, while double-crested cormorants are common summer residents.

Plains Sharp-tailed Grouse

The Rocky Flats site and surrounding areas contain potential habitat for the plains sharp-tailed grouse. The grouse is extirpated from the area and is not known to occur at Rocky Flats prior to 2003 (DOE 1997). The City of Boulder Open Space and Mountain Parks Department, along with Boulder County Parks and Open Space and the CDOW, have initiated a sharp-tailed grouse reintroduction program on joint City-County owned open space land north of Rocky Flats. About 25 individuals were transplanted to the open space area in 2003, while several more are planned to be reintroduced in the future (Brennan 2003). Several of the transplanted individuals are believed to have used Rocky Flats' grasslands (Wedermyer 2003).

According to the CDOW Plains Sharp-tailed Grouse Recovery Plan (CDOW 1992), grouse use different habitats seasonally with extensive use of grassland and grassland-low shrub transition zones. Riparian areas and wooded draws are important winter habitat. Reasons for the decline of sharp-tailed grouse include land cultivation, livestock grazing and fire control. Other threats to grouse include urban development and alteration of habitat by weed infestation (Gershman 1992).

Reptiles and Amphibians

In general, reptiles and amphibians are found in small numbers at Rocky Flats due to an absence of suitable habitat. The most common reptiles are the bullsnake, yellow-bellied racer, plains garter snake and prairie rattlesnake. All of these species occur in the open grassland habitats, although the plains garter snake typically lives close to water bodies. Other reptiles include the short-horned lizard in open grasslands, the eastern fence lizard in rocky shrublands, and the western painted turtle in ponds (DOE 1997).

The most abundant amphibian at Rocky Flats is the boreal chorus frog, which breeds in water bodies throughout the site. The northern leopard frog is less common and is found only in permanent water bodies such as ponds (DOE 1997). The boreal chorus frog is relatively abundant in the streams and wetlands at Rocky Flats (Kaiser-Hill 2000). Other amphibians

include the bullfrog, Woodhouse's toad, the plains spadefoot and the tiger salamander (DOE 1997).

Aquatic Species

Aquatic species at Rocky Flats are limited in drainages and ditches by low and irregular flows. The most common aquatic macroinvertebrates (aquatic insects) are the larvae of the blackfly, midge and mayfly (DOE 1997). Other species include caddisflies, craneflies, damselfly larvae, as well as snails and amphipods. Large macroinvertebrates such as crayfish and snails are potentially important prey for other fish, waterfowl and mammal species.

Each of the three primary drainages at Rocky Flats contains a variety of pond and stream habitats, varying amounts of habitat modification, and seasonal water flows. The Walnut Creek drainage has been highly modified as part of the development of Rocky Flats. The upper section of the drainage was filled and the lower section modified into a series of small reservoirs that can retain water released from the Industrial Area. A variety of non-native fish species (rainbow trout, carp, bass) were introduced into the Walnut Creek reservoirs. Although all introductions did not establish reproducing fish populations, carp, goldfish and fathead minnows are present in these reservoirs. Woman Creek retains a significant amount of stream habitat and holds the majority of Rocky Flats fish species. Native fish species that reproduce within Woman Creek include white suckers, fathead minnows, green sunfish, stonerollers and creek chubs. Two non-native fish species, golden shiners and largemouth bass, also are found in the drainage.

According to the Colorado Vertebrate Ranking System (CDOW 2001), the Iowa darter and common shiner rank high enough to merit re-evaluation and the redbelly dace is potentially imperiled. Threats to these species include extirpation through habitat degradation (e.g., siltation, pollution and/or bank destabilization, the effects of urbanization and predation by introduced non-native fish.

Native Fish Restoration

The 2001 Rock Creek Reserve Integrated Natural Resources Management Plan (DOE/Service 2001) called for the establishment of native fish populations within the Rock Creek drainage. Rock Creek supports favorable habitat for native fish such as the common

© Mauro

Mule deer are one of several wildlife species that regularly move between the Refuge and adjoining lands.

shiner and northern redbelly dace. Monitoring during the drought of 2002 demonstrated that Rock Creek flows remain consistent in dry years.

Native fish restoration efforts began in 2002, when largemouth bass and other non-native fish were removed from the Lindsay Ponds with rotenone (a piscicide). In June and August 2003, common shiner and northern redbelly dace were introduced to the Rock Creek drainage, with the intention of establishing a new population of these rare and declining native fish species (Rosenlund 2003).

Wildlife Species of Special Concern

In addition to federally listed wildlife species described below in the *Federal Threatened and Endangered Species* section, the Rocky Flats site has been known to support numerous species with special status designated by CDOW because of their rare or imperiled status (Table 9). Western burrowing owl has been observed in grasslands and the ferruginous hawk has been observed in riparian woodlands and open grasslands (PTI 1997; DOE 1997).

© USFWS

The Refuge contains about 2,460 acres of potential prairie dog habitat.

© RFETS

Preble's meadow jumping mouse.

Wildlife Corridors

While Rocky Flats is surrounded on three sides by major roads, many wildlife species move between the site and habitat in surrounding areas. However, movement corridors between the Refuge and adjacent lands are not well defined. Movement of most terrestrial species occurs along broad areas where disturbance and barriers to movement are minimized (Howard 2003; Wedermyer 2003).

On the west side of the Refuge, east-west movement across Highway 93 can be impeded by the South Boulder Diversion Canal and mining areas on the western edge of Rocky Flats. Given these barriers, the most likely areas for wildlife movement are the open lands in the upper Rock Creek area and the upper Woman Creek area between the mining areas (on land owned by the State of Colorado) and the west access road.

Prairie dogs cross Highway 128 in the northwest corner of the Refuge, to access other colonies on adjacent open space lands. Otherwise, north-south prairie dog movement across Highway 128 does not likely occur at any specific location. The Rock Creek drainage along the highway is impeded by the highway embankment and the culverts for the creek are too small for use by larger species of mammals. Likewise, the east side of the Refuge is open in most places and wildlife moves across a broad front, although the Walnut Creek and Woman Creek drainages provide natural corridors for east-west movement for small and mid-size mammals across Indiana Street.

Table 9. Wildlife Species of State Special Concern at Rocky Flats

Common Name	Scientific Name	Status	Occurrence at Rocky Flats
Plains sharp-tailed grouse	*Tympanuchus phasianellus jamesii*	State endangered	Observed infrequently
Western burrowing owl	*Athene cunicularia hypugea*	State threatened	Known resident or regular visitor
Northern leopard frog	*Rana pipiens*	State special concern	Known resident
American peregrine falcon	*Falco peregrinus*	State special concern	Regular visitor
Common garter snake	*Thamnophis sirtalis*	State special concern	Observed infrequently
Ferruginous hawk	*Buteo regalis*	State special concern	Known resident or regular visitor
Greater sandhill crane	*Grus canadensis tibida*	State special concern	Observed infrequently
Long-billed curlew	*Numenius americanus*	State special concern	Observed infrequently
Mountain plover	*Charadrius montanus*	State special concern	Observed infrequently

Most deer on Rocky Flats do not migrate offsite and elk periodically descend from the foothills and enter Rocky Flats from the west. In the spring of 2003, several cow elk used the Rock Creek drainage as a calving ground (Wedermyer 2003). The behavior of other species is less known.

Potential Contamination Issues

Extensive studies have been conducted on the potential effects of contamination on wildlife and vegetation at Rocky Flats since the mid 1970s, mostly by Colorado State University. These studies include two deer studies as well as studies of small mammals, arthropods (insects), snakes, and cattle. Samples were taken of various species for the Draft Ecological Risk Assessments for Walnut Creek and Woman Creek Watersheds at Rocky Flats Environmental Technology Site (September 1995) and included samples consisting of small mammals, insects, benthic invertebrates, and fish. Additional studies were done by CSU on vegetation uptake of plutonium, in both terrestrial and aquatic species. Studies conducted at other DOE facilities can be used to compare to Rocky Flats. See Section 1.8 - *Issues Outside the Scope of This EIS*, and Section 3.2 - *Geology and Soils* for more information about residual soil contamination at Rocky Flats.

Tissue samples, including edible tissues of deer harvested at Rocky Flats in 2002, have been analyzed for contaminants. The results of these analyses indicate radionuclide tissue levels of non-detectable quantities or at method detection limits. In all cases the edible tissue levels are below the 1x10-6 risk-based level for consumption of Rocky Flats deer tissue.

3.6. FEDERAL THREATENED AND ENDANGERED SPECIES

Rocky Flats supports two wildlife species listed as threatened or endangered under the Endangered Species Act (ESA). The Preble's meadow jumping mouse and the bald eagle are listed as threatened.

As discussed in the preceeding *Wildlife* section, the black-tailed prairie dog is no longer listed as a candidate species (Service 2004b).

Preble's Meadow Jumping Mouse

Preble's meadow jumping mouse (Preble's) occurs in every major drainage on the site. Listed as a threatened species in 1998, the mouse occurs in habitat adjacent to streams and waterways along the Front Range of Colorado and southeastern Wyoming. At Rocky Flats, Preble's also has been found in wetlands and shrubland communities adjacent to the Rock Creek and Woman Creek drainages. Knowledge of the natural history and ecology of the Preble's is limited. An increase in knowledge about the species may change our understanding of their habitat needs and associations. In 2003, the Service designated critical habitat for the Preble's. The critical habitat did not include any of the drainages at Rocky Flats because the site is to become a Refuge (Service 2003).

In March 2004, the Service initiated a status review of the Preble's based on two petitions to remove the mouse from federal protection under the Endangered Species Act. When the status review is finished, the Service will issue a finding regarding whether the subspecies should remain listed or should be proposed for delisting (Service 2004). Until the status review and finding are finalized, the Service will continue to manage Preble's as a threatened species in accordance with existing laws and policies.

Bald Eagle

The bald eagle occasionally forages at Rocky Flats although no nests have been identified. An active nest is located to the east of Rocky Flats near Standley Lake. Eagles feed primarily on fish and waterbirds but also on small mammals and mammal carcasses (DOE/Service 2001). The bald eagle was federally listed as endangered in 1967 and was downlisted to threatened in 1994.

Plant Species

No federally listed plant species are known to occur at Rocky Flats. While many of the riparian and wetland communities support potential habitat for the Ute ladies'-tresses orchid and Colorado butterfly plant, these species are not known to occur at the site (ESCO 1994). The mosaic of vegetation communities at Rocky Flats contains several rare and sensitive plant communities. These include the xeric tallgrass grassland, tall upland shrubland, riparian shrubland, mountain-loving sedge, forktip three-awn, carrionflower greenbriar, dwarf wild indigo and plains cottonwood riparian woodland communities. Each of these communities is described in detail in the *Vegetation Communities* section.

3.7. CULTURAL RESOURCES

Cultural resource surveys have identified and recorded 45 cultural sites or artifacts at Rocky Flats (Figure 20). Most of these sites or artifacts are related to Euro-American occupation of the area within the last 120 years. None of the identified cultural resources are recommended as eligible for listing in the National Register of Historic Places.

Prehistoric Resources

While various Native American groups occupied the Rocky Flats region prior to 1800, few remains from this period have been found on the site. Cultural resource inventories have identified several isolated finds of prehistoric origin, including stone enclosures and stone cairns (Dames and Moore 1991).

Historic Resources

Numerous sites and artifacts related to agricultural and mining activity at Rocky Flats in the early 20th century have been identified. These include ditches, stock ponds, rock piles, building remains, fencing materials and other farming and ranching-related equipment (Figure 20). Remnants of an apple orchard are near the site of a former stage coach stop in the Woman Creek drainage. An abandoned railroad grade, whose construction began in 1881 and was never completed, traverses the Refuge.

Many historic sites relate to land uses at Rocky Flats during the early 20th century. During this time, the cattle industry along the Front Range boomed and several families acquired land for pasture in the Rocky

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Remnants of an apple orchard are among the cultural resources found in the Woman Creek drainage.

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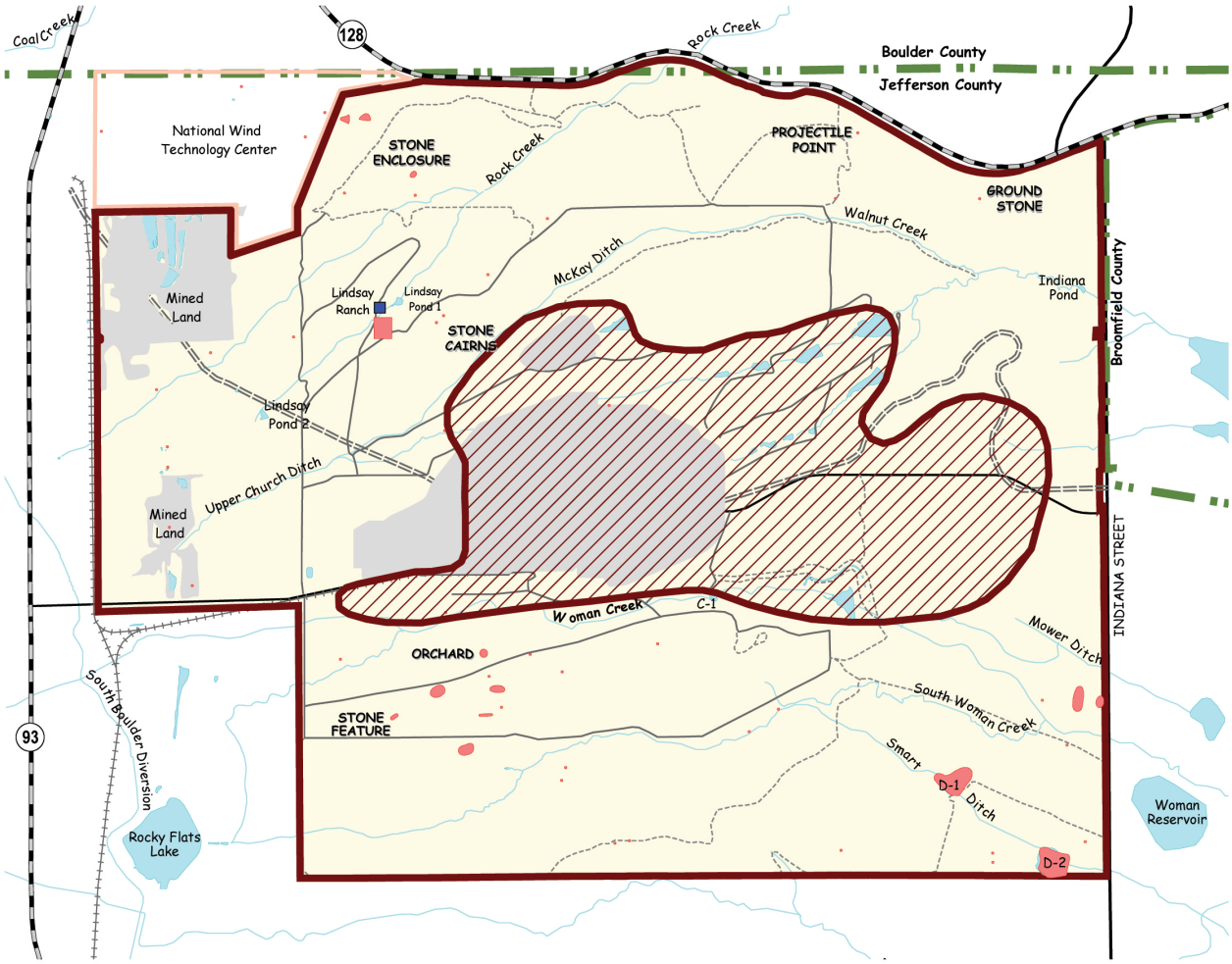

Cultural Resources

- Cultural Resource Site
- 1882 Railroad Grade
- DOE Retained Area (Subject to Change)

0 0.5 1 Mile

November 2004

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Cultural resource sites include chipped stone, ground stone, projectile points, stone cairns, stone enclosures, stone features, and others.

Figure 20. Cultural Resources

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The Lindsay Ranch barn is the most prominent historic resource at Rocky Flats.

Flats area. In most cases, the primary ranch sites were outside of what became the Rocky Flats site, with the exception of the Lindsay Ranch (Dames and Moore 1991).

Lindsay Ranch

The area known as the Lindsay Ranch was originally homesteaded by the Scott family in 1868. The northern part of this area was given to the railroad in 1897 as part of the railroad land grants. Other lands surrounding what became the Lindsay Ranch were homesteaded by various settlers in the 1880s and 1890s. Between the late 1880s and 1916, the Jones family, one of the original homesteaders in the area, had acquired the area that would become the Lindsay Ranch. During this time, many of the original homesteads were being consolidated into larger parcels to provide pasture for cattle (Dames and Moore 1991).

In 1916, almost 700 acres of land in the area was sold to the Ebertharter family, who controlled 1,280 acres along the northern portion of the current Rocky Flats site. In 1941, a 640-acre ranch property was sold to George and Susan Lindsay. The Lindsays resided in Denver and raised cattle on the ranch at Rocky Flats. The Lindsays owned the ranch property at Rocky Flats and a 320-acre ranch parcel at the west end of Leyden Gulch, south of Rocky Flats. The barn was constructed in the mid-1940s, followed by the construction of the house in 1949. The house was occupied by a caretaker until the property was condemned by the U.S. Atomic Energy Commission for the development of the Rocky Flats plant in 1951.

Maintenance of the ranch structures ceased in 1952. During the operation of the Rocky Flats plant, security personnel informally used both the house and barn for target practice. The Lindsay Ranch area now consists of a large barn, a collapsed shed, corral, livestock chute, and a frame house. A blizzard in March 2003 dumped over 3 feet of snow in the area, collapsing the east and west wings of the barn. During the fall of 2003, the Service, in partnership with DOE stabilized the barn to prevent further damage to the structure (Norman 2003). The two wings were essentially rebuilt. Part of the barn roof was repaired. Portions of the concrete foundations were replaced. The windows and doors were boarded to protect the structure from wind and moisture.

The house is in a dilapidated condition, with holes in the roof and walls and an unstable floor, and has not been maintained or stabilized since it was last used in 1951.

Cold War Era

The Rocky Flats site was one of the 13 nuclear weapons production facilities in the United States during the Cold War. Weapons production ended in 1989. The DOE completed an inventory of all buildings on the site and determined 64 facilities within the Industrial Area are very important to regional, national and international history for their role during the Cold War era. The State Historic Preservation Office has determined that these 64 facilities are eligible for listing in the National Register of Historic Places as a historic district (DOE 1997). All of these facilities will be removed prior to site closure and establishment of the Refuge.

3.8. INFRASTRUCTURE, EASEMENTS, AND UTILITIES

TRANSPORTATION

The Rocky Flats site is surrounded on all sides by state highways or a major thoroughfare. Colorado Highway

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East entrance road to Rocky Flats.

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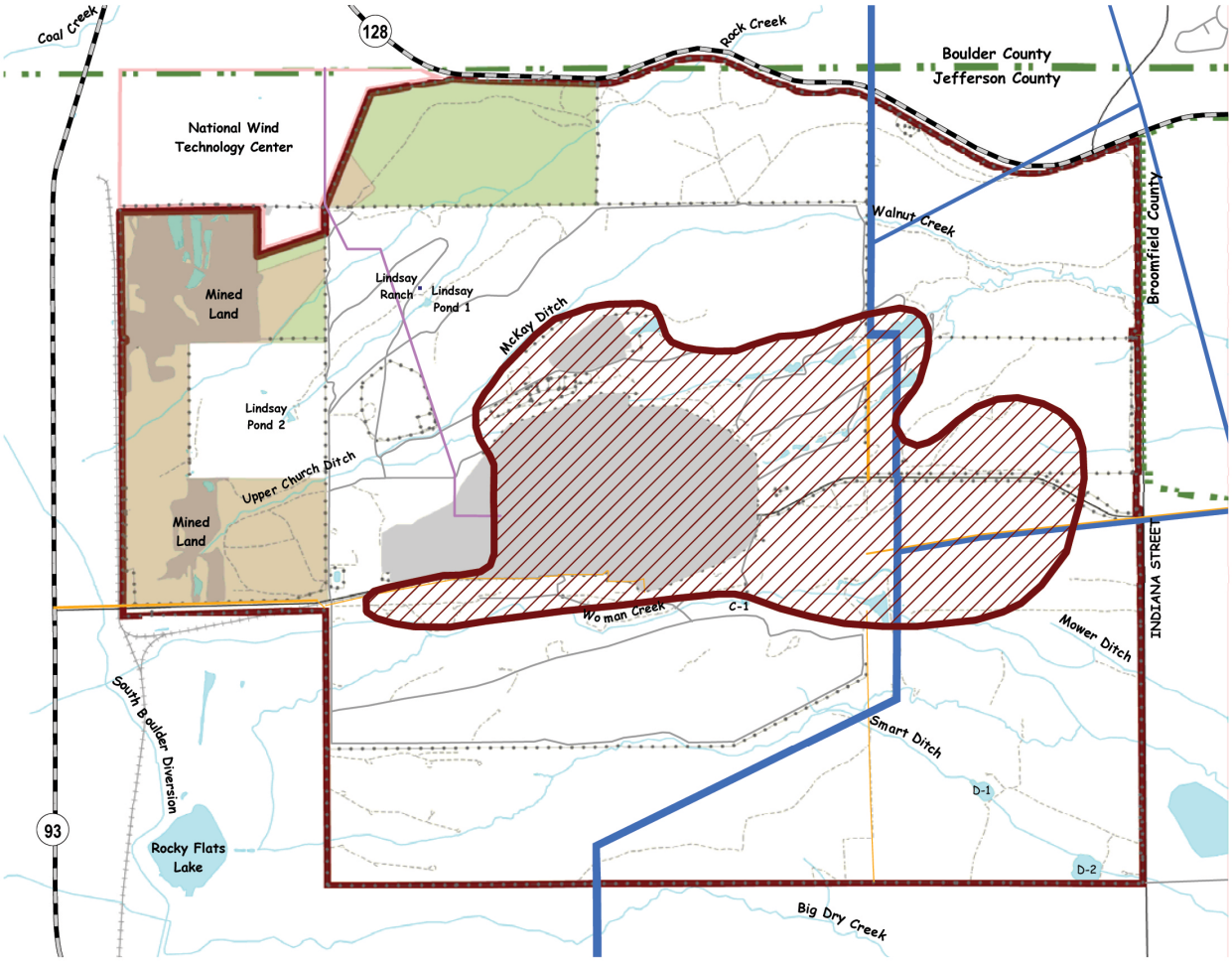
Rocky Flats National Wildlife Refuge

Jefferson County, CO



Infrastructure, Easements, and Utilities

- Gas Line Easement
- Electrical Line Easement
- Fiber Optic Line Easement
- Existing Fence

Mine Permit Area

- Permitted Mining Use
- Habitat Preservation

- DOE Retained Area (Subject to Change)
- Colorado State Highway
- Paved Road
- Two-Track Road

0 0.5 1 Mile

November 2004

N

Figure 21. Infrastructure, Easements, and Utilities

128 defines most of the site's northern boundary, while Highway 93 runs parallel to the western boundary about ¼ mile to the west. Less than 1 mile to the south, Highway 72 runs parallel to the site's southern boundary. Indiana Street defines the site's eastern boundary. Current access to the site is from Highway 93 or Indiana Street. The existing access road leading into Rocky Flats Environmental Technology Site east from Highway 93 carries approximately 2,700 vehicles per day (David Evans 2003). However, traffic on the existing access road will be greatly reduced following cleanup and closure of the site by DOE.

Highway 93

Colorado State Highway 93 west of Rocky Flats is relatively straight and flat with adequate sight distance in the vicinity of the existing access road. The Rocky Flats access road intersects Highway 93 at a signalized intersection about 1.5 miles north of Highway 72. The section of Highway 93 at the access road has two through travel lanes with a southbound left turn lane and northbound right turn lane, as well as northbound and southbound acceleration lanes at the intersection. This segment of Highway 93 is categorized as an Expressway (Category E-X) in the CDOT State Highway Access Category Assignment Schedule (CDOT 2001), which defines the requirements for access locations, operation and design criteria along roadways on the state highway system. The speed limit along Highway 93 approaching the signal is 45 mph. Highway 93 carries about 22,100 vehicles per day (measured north of the west access road) (David Evans 2003). This volume is projected to increase during the life of the CCP (Table 10).

The Highway 93 and Highway 72 intersection southwest of the site is signalized. The Highway 93 and Highway 128 intersection northwest of the site is also signalized.

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Clay mining along the Refuge's western boundary.

Highway 128

Colorado State Highway 128 north of the site is two lanes with substantial horizontal and vertical curves between Highway 93 and McCaslin Boulevard. This segment of Highway 128 is categorized as a Regional Highway (Category R-A) in the CDOT State Highway Access Category Assignment Schedule (CDOT 2001). City of Boulder and Boulder County Open Space is adjacent to the roadway on the north side and a signalized intersection is at McCaslin Boulevard. The speed limit in this segment is 55 mph. Highway 128 west of McCaslin Boulevard carries about 5,200 vehicles per day (David Evans 2003). This volume is projected to increase during the life of the CCP (Table 10).

Indiana Street

Indiana Street east of the site is a straight two-lane alignment over rolling terrain with little to no shoulder between Highway 128 and 96th Avenue. The speed limit in this segment is 50 mph. Indiana Street east of the project site carries about 5,600 vehicles daily (David Evans 2003). Traffic volume is projected to increase during the life of the CCP (Table 10).

Table 10. Daily and Peak Hour Traffic Volume Summary

Roadway Segment	2002 AADT†	2003 Weekday Count	2021 Estimated AADT
SH 93 – West of Rocky Flats	19,040	22,110	28,500
SH 128 – East of SH 93	4,510	5,170	6,700
Indiana Street – East of Rocky Flats	–	5,580	8,100

† Traffic volumes from CDOT website (CDOT 2003).
AADT = Annual Average Daily Traffic.
Source: David Evans and Associates, Inc. (2003).

© Shapins Associates

Many internal roads would be revegetated.

This roadway is an arterial maintained by Jefferson County. The land on the east side of the roadway is City and County of Broomfield and City of Westminster Open Space and land owned by the Woman Creek Reservoir Authority. The Highway 128 and Indiana Street intersection northeast of the site is signalized. The existing Rocky Flats Environmental Technology Site has a gated access at a signalized intersection on Indiana Street about 1.5 miles north of 96th Avenue. The Indiana Street and 96th Avenue intersection southeast of the site is also signalized.

Internal Roads

The Rocky Flats site currently has many roads, fences and utilities that serve its pre-closure functions. Outside of the Industrial Area, which currently contains a network of paved streets, most of the site is accessed by a network of graded gravel roads and minor two-track roads. In addition, existing mineral rights and water rights on site are owned by outside entities. Existing infrastructure, utility easements and mining permits are shown on Figure 21.

Utilities

The utility infrastructure currently serving the site, including electric and sewer lines, will be removed or remediated in place prior to closure. According to the Refuge Act (Appendix A), existing, privately owned utility easements across the site will remain in place and the owners of those easements will have the right to continue to access them.

Natural Gas Easements

Two natural gas easements are currently on the site, a north-south easement and an east-west easement. The north-south easement runs through the eastern portion of the site. The east-west easement runs along the southern edge of the Industrial Area, extending between the east and west access gates (Figure 21). In an area east and south of the Industrial Area, the title to portions of both natural gas easements is unclear (Schiesswohl 2003).

Electrical Line Easements

A 230-kV electrical line follows an easement through the southern and eastern portions of the site. The line runs in a north-south orientation between the north boundary and the proximity of South Woman Creek, where it then runs southwesterly toward the southern boundary of Rocky Flats. A second electrical line easement runs from the proximity of the C-2 pond to the east gate along Indiana Street.

Two parallel 115-kV electrical lines follow easements from the northeast corner of Rocky Flats toward the Industrial Area. These lines were constructed primarily to serve the Industrial Area and will be removed and easements abandoned prior to site closure. Another electrical line easement follows the west access road from Highway 93 to the Industrial Area. This electrical line has been removed and the easement will be abandoned (the title to this easement is unclear). These easements are shown on Figure 21. An electrical line with no easement follows the west side of Indiana Street, within the Rocky Flats boundary.

Other Utilities

A fiber optic line with an easement runs from the NWTC in the northwest corner of the site, across the Rock Creek drainage, to the Industrial Area. The future of this line and easement is uncertain. In addition to the electrical line along the west side of Indiana Street, a telephone and fiber optic line also follows the Indiana right of way. These utility lines do not have easements and may be within the Rocky Flats site (instead of the Indiana right of way) (Schiesswohl 2003).

Mineral Rights

A substantial portion of the mineral estate (subsurface mineral rights) associated with lands at Rocky Flats is privately owned. The Service believes that the exercise of these existing privately owned mineral rights, particularly surface mining of gravel and other aggregate material, at Rocky Flats will have an adverse impact on the management of the Refuge. The Service does not believe it can manage the Refuge for meeting the purposes of section 3177(e)(2) of the Refuge Act if certain mineral rights are exercised. Accordingly, the Service will not accept transfer of

administrative jurisdiction from DOE for lands subject to the mining of gravel and other aggregate material at Rocky Flats until the United States owns the mineral rights of the land to be transferred to the Service, or until the mined lands have been reclaimed to a mixed prairie grassland community.

Three permitted mining areas currently exist on Rocky Flats (Figure 21):

- Bluestone Sand and Gravel mine and Bluestone expansion – 425 acres
- Lakewood Brick and Tile – 80 acres
- Church Ranch Rocky Flats Pit – 94 acres

LaFarge, Inc. (formerly Western Aggregates) operates the Bluestone sand and gravel quarry in the northwestern corner of the site. While the permit area includes 425 acres of land, about 300 acres are designated for habitat preservation, or non-mining setback, easements and buffer areas (Jefferson County 2002). The Bluestone permit allows expansion of the mine into the northern portion of the Rock Creek drainage, near the NWTC (Figure 21). Most of the Rock Creek drainage is included in a habitat preservation area.

Lakewood Brick and Tile operates an 80-acre clay mining area immediately north of the west access road.

In 2004, Church Ranch received a permit for gravel extraction from the Rocky Flats Pit, located east of the Lakewood Brick and Tile operation on the north side of the west access road. As directed by the Colorado Division of Minerals and Geology in the mining permit, the Church Ranch mining plan stipulates that it will not expose groundwater. Mining activities will stay a minimum of 2 feet above groundwater (CDMG 2004; Church Ranch 2004).

Water Rights

As discussed in the *Water Resources* section, the current water supply to the Rocky Flats site will be terminated following the cleanup and closure of the existing facilities. The U.S. Government does not own water rights on the Rocky Flats site. However, two outside entities do own water rights. The Smart Ditch and Irrigation Company owns water rights through the Smart Ditch from Rocky Flats Lake (west of the site) to the D-2 Pond in the southeast corner. The City and County of Broomfield owns water rights in the Upper Church Ditch and the McKay Ditch, which convey water across Rocky Flats to the east and northeast. Other water rights on the site include the Mower Ditch and the Kinnear Ditch (Advanced Sciences 1991). A new water supply to serve the Rocky Flats NWR is not planned.

3.9. SURROUNDING LAND USE

The Rocky Flats site is at the intersection of Jefferson, Boulder and Broomfield counties. The site is surrounded by open space to the north, east and west and urban development to the northeast and southeast (Figure 22). Other nearby land uses include mining operations, wind energy research, and water collection and storage facilities.

Municipalities

Four principal cities and towns, Arvada, Westminster, Broomfield and Superior, are located within close proximity of Rocky Flats. The general land uses of those portions of these municipalities located near the site are described below.

The City of Arvada is located southeast of Rocky Flats. While most of Arvada's residential and commercial development is over 1 mile from Rocky Flats, the

© Nelson, RFETS

Downy paintbrush.

City's incorporated boundary directly abuts the site. A large area immediately south of Rocky Flats and east of Highway 93 has been annexed by the City and is planned for residential and mixed development (see Section 2.10 - *Reasonably Foreseeable Activities*). This area, known as the Vauxmont property, is currently vacant and used for livestock grazing.

North of Arvada, the City of Westminster is located directly east of Rocky Flats. However, most of the western portions of Westminster's incorporated area consist of open space. Residential land uses begin about 1.5 miles east of Rocky Flats.

The City and County of Broomfield is located immediately east and northeast of Rocky Flats. The area to the east is dominated by open space associated with Great Western Reservoir and undeveloped land. Other portions of this area are planned for development supporting office complexes. An existing office complex is located about 1 mile northeast of Rocky Flats on the north side of Highway 128.

The Town of Superior is north and northeast of Rocky Flats' northeastern corner. Existing residential land uses are about ¼ mile north of Rocky Flats and future residential developments are proposed for the area. Superior's town center is located about 2 miles north of the Rocky Flats boundary.

Woman Creek Reservoir Authority

The Woman Creek Reservoir Authority is a separate unit of government composed of the cities of Westminster, Thornton and Northglenn. The Authority constructed the Woman Creek Reservoir in 1996 to prevent the flow of surface water from Rocky Flats into Standley Lake, a drinking water source for several communities (CDPHE 2003a). The Woman Creek Reservoir Authority owns the reservoir and some of the land surrounding the reservoir.

Open Space

The Rocky Flats site is surrounded on three sides by designated open space. These open space lands are owned and managed by seven different jurisdictions and are described in detail in Section 3.10.

Other Nearby Land Uses

The Colorado State Land Board manages state land in Section 16 immediately southwest of Rocky Flats. Portions of Section 16 have been mined for clay and aggregates and most of the land is leased for grazing livestock.

The DOE's National Renewable Energy Laboratory operates the NWTC immediately northwest of Rocky Flats. This facility is used for research on power-generating wind turbines.

Denver Water owns a large tract of land about 1 mile to the southwest of Rocky Flats along the west side of Highway 93 from Highway 72 south to Ralston Reservoir. While portions of this land are used for water collection and distribution facilities, most of it is undeveloped. This property includes a potential reservoir site in Leyden Gulch (Bassett 2002).

Two companies, TXI and LaFarge, operate gravel mining and processing facilities on two separate but contiguous sites in the northwest corner of Rocky Flats site and on adjacent privately owned land. The mining facilities consist of surface excavations, material conveyors, rail lines and processing facilities (DOE-NREL 2002).

Jefferson County Airport is located about 2 miles east of Rocky Flats. Airport runways are aligned in a northeast/southwest configuration. Aircraft takeoff and landing patterns currently do not pass directly over the Rocky Flats site (DOE-NREL 2002).

3.10. OPEN SPACE, RECREATION AND TRAILS

Rocky Flats is surrounded on three sides by designated open space. While some of these open space parcels restrict public use, others provide a network of recreational trails that are connected to the surrounding communities (Figures 22 and 23).

City of Boulder Open Space and Mountain Parks

The City of Boulder Open Space and Mountain Parks (BOSMP) owns and manages several large open space parcels near the northern and western edges of Rocky Flats. BOSMP lands along the northern edge of Rocky Flats extend from near the middle of Rocky Flats to the west along the Boulder/Jefferson county line for over 4 miles to the top of Eldorado Mountain. These lands are collectively referred to as South Boulder Open Space. Within Jefferson County, BOSMP also owns the Jewell Mountain and Van Fleet properties to the west of Rocky Flats between Highway 93 and Coal Creek.

BOSMP lands offer a network of soft-surface trails available for hiking, mountain biking and equestrian use. The Flatirons Vista and Greenbelt Plateau trailheads are located about 1 mile from Rocky Flats to the northwest near the Highway 93/128 intersection.

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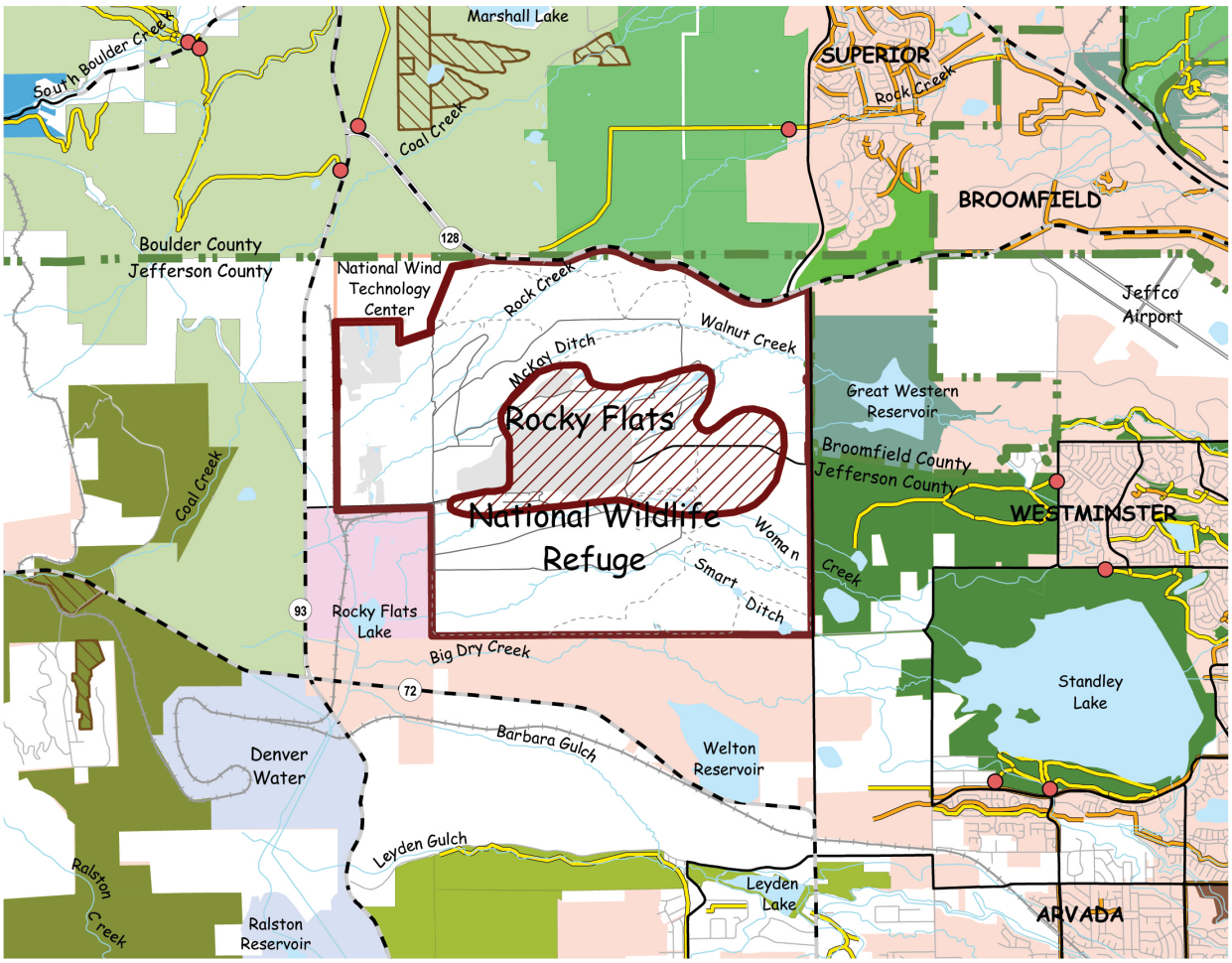

Regional Open Space

- City of Boulder Open Space
- Boulder County Open Space
- Jefferson County Open Space
- Eldorado Canyon State Park
- Arvada Open Space
- Westminster Open Space
- Broomfield Open Space
- Superior Open Space
- Conservation Easement
- Two Ponds NWR
- State Land
- Denver Water
- Incorporated Area
- DOE Retained Area (Subject to Change)

Surrounding Trail Facilities

- Existing Trail -- Soft Surface
- Existing Trail -- Paved
- Existing Trailhead

0 1 2 Miles

November 2004

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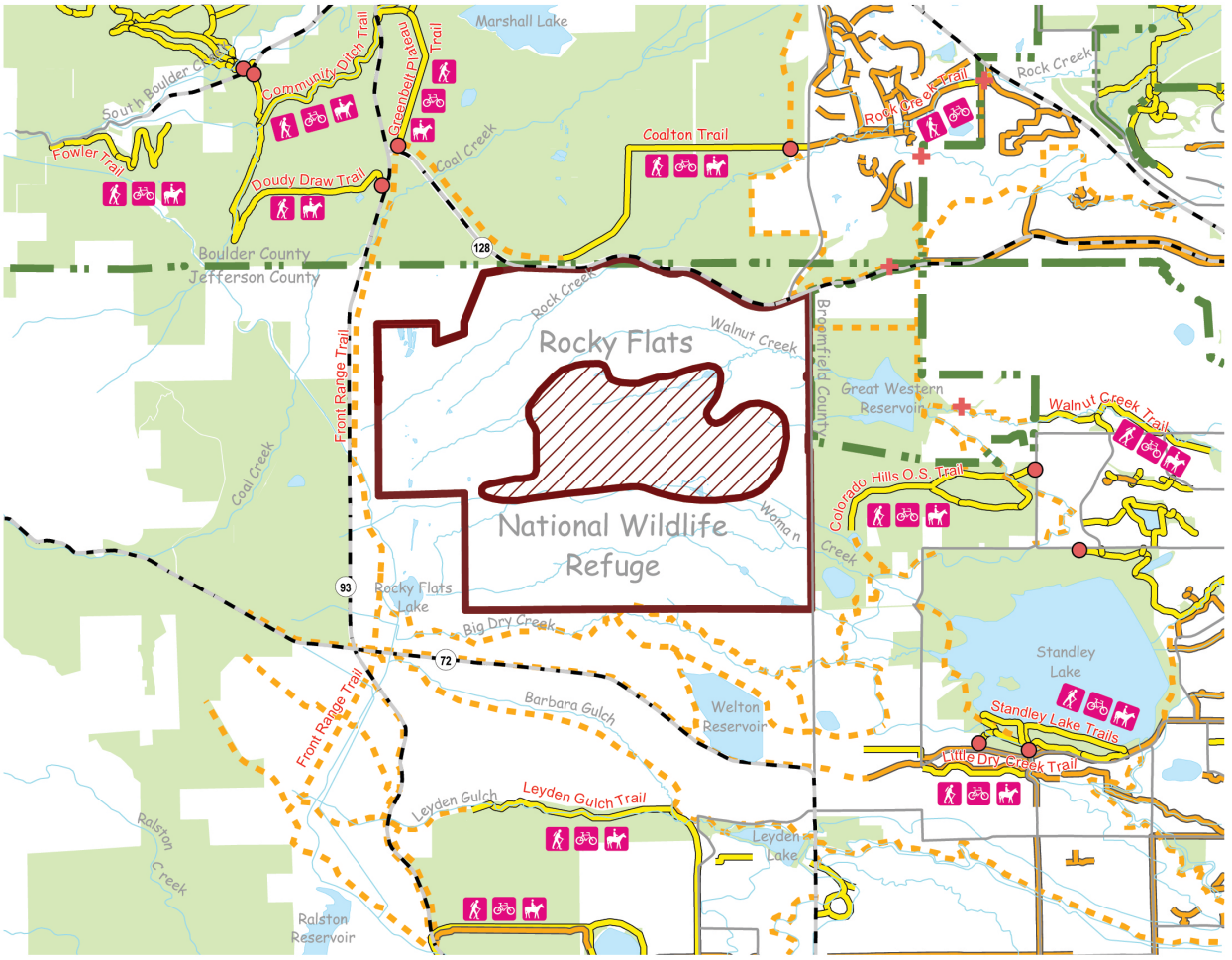
Figure 22. Regional Open Space

US Fish & Wildlife Service
Rocky Flats National Wildlife Refuge
Jefferson County, CO



Regional Trails

Open Space

Surrounding Trail Facilities

- Existing Trail -- Soft Surface
- Existing Trail -- Paved
- Proposed Trail
- Existing Trailhead
- Proposed Trailhead
- DOE Retained Area (Subject to Change)

Permitted Trail Uses

- Hiking
- Biking
- Equestrian

Note: Permitted uses for proposed trails have not been determined

0 1 2 Miles

November 2004

N

Figure 23. Regional Trails

BOSMP is working with several other organizations to protect and restore the Coal Creek riparian area that runs through their properties near Rocky Flats. Restoration activities include fencing to control livestock, stream channel restoration, wetland restoration and monitoring. Small mammal trapping along Coal Creek has revealed several occurrences of Preble's meadow jumping mouse (BOSMP 2002).

Boulder County Open Space

Boulder County owns several open space parcels on the north side of Rocky Flats between the Town of Superior to the east and BOSMP lands to the west. These holdings include the Lindsay, Zacharias/Thomas and Carlson/Lastoka properties. Recreational access to Boulder County Open Space lands to the north and northeast of Rocky Flats is from the Coalton Trail, which begins on Highway 128 north of Rocky Flats. The Coalton Trail provides recreational access (hiking, biking and equestrian uses) to the County open space lands northeast of Rocky Flats. The trail connects to the Rock Creek Trail in the Town of Superior.

© USFWS

The white-tailed jack rabbit is found on the Refuge.

Jefferson County Open Space

Jefferson County owns and manages several parcels to the west and southwest of Rocky Flats. The Ranson-Edwards property immediately west of Rocky Flats extends from Coal Creek to the west. Coal Creek Canyon Open Space is located along the south side of Highway 72 about 2 miles west of Rocky Flats. Jefferson County also owns several conservation easements in this area. White Ranch Open Space is located about 3 miles to the southwest of Rocky Flats.

The 2,807-acre Coal Creek Canyon Park currently has no developed trails or facilities. Due to uncertainty surrounding the future management of surrounding publicly owned properties, including Rocky Flats and Denver Water properties, Coal Creek's Management Plan recommends postponing trail and facility development for 5 to 7 years (JCOS 2001).

City of Arvada Open Space

The City of Arvada owns several open space parcels about 2 miles south of Rocky Flats. These parcels are around Arvada Reservoir, along Leyden Gulch, and in the area between the two. A network of paved and unpaved trails runs throughout the City of Arvada, including the unpaved Leyden Gulch trail located about 1.5 miles south of Rocky Flats.

The City has identified additional trail corridors south of the Rocky Flats site that would provide potential linkages between Arvada and the Refuge (City of Arvada 2001). Proposed trails include the following:

- **Leyden Gulch Trail** – This extension of an existing trail will cross Highway 93, providing access to Jefferson County open space. It will be open to hiking, biking and equestrian users.
- **Big Dry Creek** – The trail will follow the Big Dry Creek from Standley Lake to Highway 93 and would border the Refuge's southern boundary. A proposed trailhead for the Big Dry Creek trail will be ⅛ mile south of the Refuge's boundary. The hiking and biking trail could also link the Refuge to the proposed Vauxmont Park.
- **Barbara Gulch Trail** – This trail will extend from the Highway 72/93 intersection to the City of Arvada. The trailhead at the intersection would be an important hub in an alternative transportation route (e.g., bike commuters) along Highway 93.

- **Jeffco Trail** – The City's master plan also identifies a proposed Jeffco trail along Church Ditch which runs north-south between the Refuge and Standley Lake.

City of Westminster Open Space

The City of Westminster has several open space properties to the east and southeast of Rocky Flats. These properties include the Colorado Hills Open Space and Standley Lake Regional Park. Colorado Hills includes a soft-surface trail between Mower Reservoir and adjacent residential areas. Standley Lake is a regional destination for boating, swimming and picnicking. This park is also a focal point for Arvada and Westminster's paved greenway trail systems. The city's soft surface Walnut Creek Trail terminates less than 2 miles from Rocky Flats' eastern boundary and is open to hiking and biking. The trail could provide a potential link between the Refuge, surrounding communities and the Westminster trail system.

City and County of Broomfield Open Space

Directly east of Rocky Flats, Broomfield owns the Great Western Open Space lands surrounding its Great Western Reservoir. This area consists mainly of former grazed or cultivated fields. The City and County of Broomfield considers Great Western Open Space to be a highly suitable receiving site for prairie dog relocation (City and County of Broomfield 2001). The establishment of a large prairie dog town at Great Western Reservoir Open Space would likely attract a greater number of raptors and other predators to the area and may encourage the expansion of prairie dogs in the eastern portions of the Refuge.

Town of Superior Open Space

Superior's open space is located across Highway 128 at the northeast corner of Rocky Flats, on the east side of McCaslin Boulevard. A network of paved trails throughout Superior's residential neighborhoods connects to the Rock Creek Trail, which continues to the northeast into Broomfield (Superior 2001).

3.11. VISUAL RESOURCES

Visual resources at Rocky Flats can be placed under three general categories: views of the Rocky Flats area from surrounding communities, views from Rocky Flats to surrounding landmarks, and internal views. Disturbed areas at Rocky Flats are also a component of its current visual character.

Views From Surrounding Areas

Situated on a high, sloping pediment, the Rocky Flats site lies at the base of the Front Range of the Rocky Mountains. This area is commonly referred to as the Front Range mountain backdrop and consists of various ridges and peaks including South Boulder Peak, Eldorado Mountain, Crescent Peak and the Ralston Buttes. Beyond the mountain backdrop are the Indian Peaks, which are intermittently visible from Rocky Flats and surrounding communities.

The Rocky Flats area, including the Refuge and surrounding open space lands, defines the northwestern boundary of the Denver metropolitan area, where urban and suburban development gives way to open grasslands that slope up into the craggy forests of the mountain backdrop. Views to Rocky Flats capture a range of landscape types as the grasslands give way to the ponderosa draped foothills and on to the towering Rocky Mountains. This view can be appreciated from many areas throughout the Denver metropolitan region.

Views From Rocky Flats

Several notable views from the Refuge characterize the site's visual quality. These views, both internal and distant, are enjoyed from some of the high points along the pediment in the western and central portions of the Refuge. The view of the Rock Creek drainage and Lindsay Ranch from the east is one of the most striking views from the Refuge.

While Rock Creek offers topographical relief and vegetative variety, the Lindsay Ranch structures reveal

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Larkspur with a Rocky Mountain backdrop.

the site's history. Beyond these immediate features, the high peaks along the Continental Divide are visible through Eldorado Canyon. From the upper Walnut Creek area looking east, the mixed grassland prairie and riparian areas in the eastern portions of the Refuge are backed by Great Western Reservoir and the communities and open plains beyond. Several high points in the southern portion of the Refuge provide distant views to the southeast of Standley Lake and the downtown Denver skyline.

Internal Views

Internal views at Rocky Flats are generally characterized by the open grassland landscape. While the majority of the site is composed of large expanses of uninterrupted grassland, distinct vegetation along drainages (i.e., cottonwoods and upland shrubs) and varied topography present additional visual resources. Numerous drainages and gullies slope steeply to the east where the flat pediment top gives way to more rolling grasslands. This terrain provides numerous opportunities for scenic overlooks with commanding views as well as secluded pockets with intimate views of the Refuge landscape.

Disturbed Areas

Visual resources at Rocky Flats are affected by facilities associated with mining and former weapons production on the site. Currently over 70 miles of maintenance and access roads occur on the Rocky Flats site (including Refuge land and area to be retained by DOE). While these roads are generally not visible from surrounding areas, they interrupt many of the internal views at Rocky Flats.

The buildings and facilities within the Industrial Area are visible throughout the site and are a visual landmark from surrounding areas. Prior to the establishment of the Refuge, these facilities will be removed and much of the current Industrial Area will consist of restored grasslands. While the industrial nature of this area will change, it will continue to compromise internal views and will be a visual reminder of the former facilities for several years. Over the long term, as grassland restoration begins to take form, DOE envisions a visually "seamless" division between the Refuge and the former industrial site that will be retained by DOE.

3.12. NOISE

Existing noise levels vary widely across the Refuge. Noise levels on the north, west and east perimeter are affected by traffic on the highways adjacent to these locations. Because traffic volumes are higher on Highway 93, noise levels are higher on the western perimeter than at other locations. Noise levels are lower on the southern perimeter because Highway 72 is farther from the site boundary. Wind generators at the NWTC also generate noise. While the site is undergoing cleanup and building demolition, construction noise near the Industrial Area is considerably louder than ambient conditions. Noise levels vary with the type of cleanup activity. Rocky Flats is typically a very windy location and wind noise contributes to the overall ambient noise levels.

Noise levels decrease away from area highways, site cleanup, and NWTC wind generators. After cleanup, noise levels in the center of the Refuge will be very low and the Refuge will provide opportunities for solitude.

3.13. AIR QUALITY

Rocky Flats is located within the boundary of the Denver Metropolitan Area for air quality planning purposes. For many years, the Denver metropolitan area has experienced carbon monoxide, ozone, and particulate matter air pollution as well as visibility problems. These conditions have recently improved, however, and the Denver area is now in attainment of most of EPA's health-based standards for air quality with the exception of ozone (EPA 2002). Ozone levels in the summer of 2003 violated standards (CDPHE 2003). Regulatory requirements may control the timing of certain natural resources management activities, such as prescribed burning, which requires a permit from the state.

Air quality is monitored at five air monitoring stations operated by the CDPHE. Two of these stations are located just off-site at the northeast and southeast site boundary along Indiana Street, downwind of Rocky Flats. All criteria air pollutants are below state standards. It has not been determined whether the air monitoring stations will be removed following cleanup of the site.

3.14. SOCIOECONOMICS

Population and Demographics

The population in Jefferson County grew from 438,430 in 1990 to 527,056 in 2000 (U.S. Census Bureau 2002), an average annual increase of about 1.8%. Jefferson County population is expected to increase about 0.75% annually from 2000 to 2015, while the state population is expected to increase by 1.7% annually (Colorado Department of Local Affairs 2002).

Rocky Flats is located in Jefferson County's North Plains Community Planning Area, which also includes portions of Westminster, Arvada, Golden and unincorporated areas. Within this planning area, the population grew from 8,453 in 1990 to 10,194 in 2000, an average annual increase of about 2% (Jefferson County 2002). About 95% of the North Plains population consider themselves to be white (compared to 83% state wide), while about 5% consider themselves to be Hispanic or Latino in origin (Jefferson County 2002).

EMPLOYMENT

The average unemployment rate for Jefferson County in 2001 was 3%, while the state average was 3.72% (Colorado Department of Local Affairs 2002). In 2000, the services sector employed 79,317 workers while the retail trade sector employed 62,838 and the government sector employed 51,762 (Colorado Department of Local Affairs 2002).

INCOME

In 2000, per capita personal income was $36,442, a 5.6% annual increase since 1990. Total personal income in Jefferson County was $19.3 billion in 2000, up from about $9.4 billion in 1990, reflecting an average annual growth rate of about 7.5% (Bureau of Economic Analysis 2002). The largest sources of work-related personal earnings by industry were services (16.1%), government (8.3%), and manufacturing (7.9%). Retail trade accounted for about 3% of the total personal income in 2000. Transfer payments, dividends, interest and rent accounted for 22% of personal income in 2000 (Bureau of Economic Analysis 2002).

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chapter 4

ENVIRONMENTAL CONSEQUENCES

Chapter 4. Environmental Consequences

4.1. INTRODUCTION

This chapter provides an analysis of the potential effects on environmental resources associated with the implementation of each of the four management alternatives for the Refuge. Potential impacts were identified for each alternative based on a review of relevant scientific literature, previously prepared environmental documents for Rocky Flats, and the best professional judgment of Service staff and other resource specialists.

This chapter is organized by resource, and provides an analytical comparison of the alternatives. Many of the potential management actions and resource impacts are similar between the alternatives, but the discussion differentiates impacts where applicable. Resource impacts are discussed according to the management goals and the appropriate types of actions or activities associated with those goals. For example, the discussion of impacts to vegetation associated with Goal 1 – Wildlife and Habitat Management includes the potential effects associated with Preble's Habitat Management, Xeric Tallgrass Management, Mixed Grassland Prairie Management, and other management actions. Not all goals, objectives, and accompanying management actions are applicable to each resource; therefore, only those that are relevant for a particular resource are described.

Discussions are organized consistent with the goals, objectives, and strategies described in Chapter 2. General topic areas include:

- Wildlife and Habitat Management (Goal 1)
- Public Use, Education, and Interpretation (Goal 2)
- Refuge Operations, Safety, and Partnerships (Goals 3 to 6)

A summary of the impacts discussed is provided at the end of Chapter 4 in Table 21 - *Summary of Environmental Consequences*.

The Refuge Act (Appendix A) directs the Service to consider "the characteristics and configuration of any perimeter fencing that may be appropriate or compatible for cleanup and closure purposes, refuge purposes, or other purposes." Fencing options and their impacts are discussed in Section 4.15 - *Fencing Considerations*. An assessment of the potential effects that nearby transportation improvements could have on Refuge resources, as well as recommendations to mitigate those effects, is found in Section 4.16 - *Possible Transportation Improvements Near the Refuge*. An assessment of how the proposed alternatives conform with the Refuge goals is included in Section 4.17 - *Adherence to Planning Goals*.

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The potential effects of management activities on wildlife and habitat are analyzed for each alternative.

METHODS

Effects are evaluated at several levels, including whether the effects are adverse or beneficial, and whether the effects are direct, indirect, or cumulative with other independent actions. The duration of effects also is used in the evaluation of environmental consequences.

Direct effects are those where the impact on the resource is immediate and is a direct result of a specific action or activity. Examples of a direct effect include the effect of trail construction on vegetation along the trail or the effect of hunting on wildlife.

Indirect, or secondary, effects are those that are induced by implementation actions, but occur later in time or farther removed from the place of action through a series of interconnected effects. Examples of indirect effects include the downstream water quality effects from an upstream surface disturbance,

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Biological controls would be used as a weed management tool in all alternatives.

or the impact that recreational use along a trail may have on nearby plant communities (through the periodic introduction of noxious weeds).

A cumulative effect is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Reasonably foreseeable future actions independent of the CCP for the Refuge are described in Section 2.9.

Impacts are often described in terms of their context, intensity, and duration. Table 20 - *Impact Threshold Definitions*, at the end of the chapter, defines the intensity levels (negligible, minor, moderate, and major) for each resource. The duration of effects are described as either short term or long term. Short-term effects would persist for a period of 3 to 5 years, and would consist primarily of temporary disturbance due to habitat restoration or facility construction and subsequent revegetation efforts. Long-term effects would last more than 5 years after project initiation, and may outlast the 15-year life of the CCP. Many long-term effects consist of long-term benefits to wildlife habitat resulting from habitat management actions.

4.2. GEOLOGY AND SOILS

Previous studies and available information on geologic and soil resources at Rocky Flats were used to identify potential effects from alternative actions. Potential effects were qualitatively and quantitatively evaluated based on the types and amount of land-disturbing activities for each alternative. Impacts to geologic resources are not discussed because none of the alternatives would affect geologic features or resources. Actions of concern for soils include those likely to generate erosion and reduce soil productivity or actions that promote soil stability and reduce soil loss.

Wildlife and Habitat Management Actions

Xeric Tallgrass Management

Alternatives A, B, and C would include prescribed fire as a management tool for maintaining native prairie habitat and controlling weeds. In addition,

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Grazing and prescribed fire would be used in Alternatives A, B, and C to restore and maintain xeric tallgrass grasslands.

Alternative B would allow livestock grazing. When used as habitat restoration tools, both prescribed fire and grazing would temporarily reduce vegetation cover in a treatment area. These restoration tools usually stimulate new plant growth and increase the vigor of existing plant communities. However, the use of these restoration tools has the potential to result in localized, short-term erosion, soil loss, and the release of soil particles (dust) into the air. A potential minor effect on soil erosion from prescribed fire in Alternative A would be limited to the Rock Creek Reserve. Alternative D would not include the use of burning or grazing and would not have the potential soils impacts resulting from use of these tools.

Concentrations of all soil contaminants are low throughout the Refuge, and prescribed fire could be used safely anywhere on the Refuge (Appendix D). Although contaminant concentrations are low throughout the Refuge, they are slightly higher south of the east entrance road (Figure 4). Prescribed fire would not be used in this area (Figure 10).

Mixed Prairie Grasslands Management

Restoration of 300 acres of non-native grassland in Alternatives B and C may result in a short-term minor disturbance of soil resources during site preparation and planting. Following establishment of native grasses, soil protection and productivity would be maintained long term. There would be no effect to soil resources if non-native vegetation is not restored under Alternatives A and D.

Concentrations of all soil contaminants are low throughout the Refuge, and safety precautions during habitat restoration activities probably would not be needed (Appendix D). Final safety requirements to address any remaining soil contamination for any surface or subsurface disturbance on Refuge lands will be identified in the Corrective Action Decision/Record of Decision discussed in Chapter 1. It is anticipated that DOE will retain any lands that have institutional controls on agricultural practices such as tilling.

Road Restoration and Revegetation

Excluding the area retained by DOE, the Refuge currently has 56.5 miles of paved, graded, or two-track roads and numerous road stream crossings. The length of roads and number of stream crossings that would be removed and revegetated in each alternative are:

- Alternative A – 11.9 miles; 7 stream crossings
- Alternative B – 26.3 miles; 13 stream crossings
- Alternative C – 25.7 miles; 13 stream crossings
- Alternative D – 24.3 miles; 6 stream crossings

(While Alternative C would have fewer roads and trails overall, the length of road to be revegetated in Alternative B is greater than Alternative C because in Alternative B, a new trail segment would replace the existing road in the Woman Creek drainage. See Figures 25 and 26.)

Road restoration efforts would include ripping, grading, or other methods to remove the existing roadbed and prepare the area for planting. Although restoration would be confined primarily to the existing disturbed road prism, soils adjacent to the road may be disturbed resulting in minor, short-term soil disturbance and erosion. However, successful revegetation and planned use of erosion control measures, such as mulching and water bars to control water flows, would minimize impacts. The greatest potential for soil erosion from roads would occur in Alternative A, which limits road restoration to the Rock Creek portion of the Refuge. Thus, a number of the existing roads would remain in place but would not be maintained, resulting in moderate long-term soil erosion. A long-term moderate benefit to soil resources would occur for Alternative A in the Rock Creek Reserve and Alternatives B, C and D Refuge-wide by stabilizing and revegetating roads that would no longer be needed.

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Wildflowers such as blue flax are found in Refuge grasslands.

Prairie Dog Management

Prairie dog communities are dynamic and vegetation and surface conditions often vary from year to year.

Additionally, the enhanced nutrient cycling from prairie dog activities can stimulate plant growth and can contribute to soil stability. However, limited soil surface erosion may occur in each of the alternatives from the potential expansion of prairie dog populations. Through grazing, prairie dogs often clip vegetation to allow better visibility of their surroundings; therefore, the amount of bare soil is typically greater than surrounding lands. Exposed soils are more prone to wind and water erosion.

Alternative A would have the greatest potential for direct soil impacts with unlimited expansion of prairie dog populations, followed by Alternative D with 1,000 acres, Alternative B with 750 acres, and Alternative C with 500 acres. The loss of soil resources for Alternatives B, C, and D would be minor and would not adversely affect soil productivity. Soil loss from unlimited expansion of prairie dog populations in Alternative A would range from minor to moderate, depending on the size and distribution of the colonies.

Concentrations of all soil contaminants are low throughout the Refuge (Figure 4), and are not present in subsurface soils in the areas that will become the Refuge. Burrowing by prairie dogs on Refuge lands is not expected to expose contaminated soils.

DOE will be responsible for management of the DOE retained area, and such management is not discussed in this CCP. Any requirements to limit burrowing animals in the DOE retained area will be identified in the Corrective Action Decision/Record of Decision. If burrowing animals are required to be prohibited in the DOE retained area, the Service will cooperate with DOE to minimize potential for burrowing animals to invade DOE the retained lands from adjoining refuge lands.

Public Use, Education, and Interpretation Actions

Public Use Facilities

New Trails. For Alternatives B and D, the construction of new trails would result in localized soil disturbance, including erosion and reduced soil productivity. Alternative B has 4.6 miles of new trail, while Alternative D has 6.4 miles of new trail. Reduced soil productivity would be a long-term minor effect, but erosion would be minimized by revegetation efforts and the use of appropriate erosion and drainage control measures. Alternatives A and C do not include new trails and would have no effect on soil resources.

Trails Converted from Existing Roads. In Alternatives B, C, and D, the conversion of existing roads to trails (11.9 miles in B, 0.6 mile in C, and 14.9 miles in D) would result in minor localized soil disturbance and erosion during construction. However, these trails would be constructed within the existing disturbed roadway and the total amount of exposed soil would be less than current conditions following conversion from a roadway to a trail and revegetation bordering the trail. The short-term construction-related impacts to soils would be reduced by implementing trail design features such as water bars and tread resurfacing, resulting in negligible long-term effects.

The multi-use switchback trail proposed for the upper Woman Creek drainage in Alternatives B and D would replace the existing steep road grade. Construction of this trail and planned restoration of the existing road would have a long-term beneficial effect to soil resources by reducing erosion.

Trail Use. Alternatives B and D would allow hiking, as well as bicycle and limited equestrian use along multi-use trails. Trail use by hikers, bikers and equestrians typically have the potential to cause soil compaction and erosion (Seney 1991; Dehring 1998). Several studies indicate that while all trail users cause soil impacts, they can be more pronounced by equestrian use (Dehring 1998; DeLuca et al. 1998; Cole and Spildie 1998). Some studies indicate that the erosional impacts of bicycles can be less than either equestrians or hikers (Weir 2000; Seney 1991).

Most of the multi-use trails in Alternatives B and D would be located on flat, dry areas that are less susceptible to the erosional impacts of public use. In addition, most of the trails would be located along existing stabilized roadways. Activities such as trail use have the potential to release dust into the air. Concentrations of all soil contaminants in the areas planned for trail use are low and trail use on Refuge lands would be safe for all Refuge visitors, regardless of user type. Informational signs would convey the history of the site. Final safety requirements to address any remaining soil contamination for any visitor use on Refuge lands will be identified in the Corrective Action Decision/Record of Decision discussed in Chapter 1. Any safety requirements for visitor use on Refuge lands required in the Corrective Action Decision/Record of Decision will be discussed in the step-down Visitor Use Plan. The Service would not require visitors to sign an informed consent statement.

The DOE does not anticipate transferring any lands to the Service that would require additional safety requirements for either the Refuge worker or the visitor. The risk assessment efforts that resulted in the cleanup action level were inclusive of Refuge management activities such as trail and fence construction and maintenance, visitor use, and prescribed fire and were designed to be safe for the Refuge worker, Refuge visitor, and the greater community.

Impacts to soil resources would be negligible to minor over the long term with planned trail design, erosion control measures and revegetation of areas adjacent to trails. Off-trail pedestrian use would be limited to select locations; the development of social trails would be managed through signage, fencing and other visitor management techniques.

No formal trails would be developed in Alternative A and the impacts to soils from occasional guided tours would be negligible. Alternative C would likewise have negligible impacts to soils from a single short trail along an existing road.

Visitor Use Facilities. In Alternatives B and D, the construction of a visitor contact station, parking facilities, and overlooks would require soil excavation, grading, and other surface disturbances. Temporary increases in soil erosion would occur in these areas, resulting in direct, short-term impacts to soils. The anticipated extent of soil disturbance due to facility development in Alternatives B and D is:

- Alternative B – 1.1 acres
- Alternative D – 1.4 acres

A long-term loss in soil productivity may occur from construction of visitor-related structures. The impacts of these activities on soils for all alternatives would be negligible considering the small area of the Refuge that would be affected. Soil disturbance in Alternatives A and C would be minimal because the only facility would be a portable restroom.

Refuge Operations

Each alternative would include the construction of maintenance facilities to support Refuge operations. There would be a long-term negligible loss in soil productivity for construction of these facilities and possible short-term erosion during construction. New surface disturbances would be minimized by locating these facilities in areas of existing disturbance.

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Before and after photos of road restoration initiated by DOE in 1999.

Estimated areas potentially affected by facility construction for each alternative are:

- Alternative A – 0.13 acre
- Alternative B – 0.24 acre
- Alternative C – 0.17 acre
- Alternative D – 0.25 acre

Fence Construction

Permanent or temporary fencing may be used throughout the Refuge. Concentrations of all soil contaminants are low throughout the Refuge, and safety precautions during fence construction on Refuge lands probably would not be needed. Final

safety requirements to address any remaining soil contamination for surface or subsurface disturbance on Refuge lands will be identified in the Corrective Action Decision/Record of Decision discussed in Chapter 1. Safety requirements for surface or subsurface disturbance on Refuge lands required in the Corrective Action Decision/Record of Decision will be discussed in the step-down Vegetation and Wildlife Management Plan.

Cumulative Impacts

Mining

Potential future gravel mining along the western edge of the Refuge may lead to erosion and windblown soil deposition from the construction and operation of surface mines and access roads. Impacts to soils resulting from any of the Refuge management alternatives would not contribute substantially to the impacts from mining.

The Service would work with the mining operators and the appropriate regulatory agencies to minimize and mitigate the effects of windblown soil deposition on the Refuge.

4.3. WATER RESOURCES

Effects to water resources were evaluated based on existing information on the distribution and quality of water at the Refuge and the potential for Refuge activities to impact water resources. Water resource impacts from Refuge activities would be related primarily to potential impacts to water quality rather than changes in surface or ground water flow, which are expected to be minor. As described in the Future Hydrological Conditions section of Chapter 3, the cleanup of Rocky Flats by DOE will result in several changes to existing water resources including the removal of discharge ponds, subsurface drains, and eliminating the import of water. Because these changes would occur prior to Refuge establishment, the analysis of impact to water resources for each of the alternatives is based on post-cleanup hydrologic conditions.

Wildlife and Habitat Management Actions

Preble's Habitat Management

Planned protection and maintenance of riparian habitat along Rock Creek, Walnut Creek, Woman Creek, and the Smart Ditch in all alternatives would provide a long-term benefit to water resources by keeping intact the vegetation buffer surrounding principal drainages on the Refuge.

Road Restoration and Revegetation

Road Removal. In all alternatives, the Service would remove and revegetate many of the existing roads and road crossings of streams. The extent and location of this restoration would be greatest for Alternatives B, C, and D and would be least for Alternative A, which limits restoration to the Rock Creek Reserve. Alternative A would restore seven stream crossings, Alternative D would restore six stream crossings, and Alternatives B and C would restore 13 stream crossings.

Most streams at the Refuge are ephemeral or intermittent and restoration activities would be conducted when the streams are dry to minimize the direct introduction of sediment. Planned revegetation and stabilization of the stream channels would reduce the potential for stream sedimentation during precipitation events. Removal of road stream crossings would have a long-term beneficial impact on water quality by removing a source of erosion and sediment delivery. Benefits would include improved natural stream flows, restored channel morphology, and improved continuity of streamside wetland and riparian habitats that benefit riparian and Preble's habitat management goals. Additional benefits from improved streamside habitat conditions would include bank stabilization and the retention and removal of sediments and pollutants from the water. Alternatives B and C would provide the most benefit because a greater number of stream crossings would be restored than in Alternatives A and D.

Road removal and revegetation at locations outside of the stream corridor may result in minor, short-term impacts to water resources due to erosion and sedimentation during and immediately following restoration. However, these restoration activities would result in long-term benefits to water resources. Indirect benefits from road restoration include an overall improvement in downstream water quality.

In Alternative A, many of the existing roads outside of the Rock Creek Reserve would not be revegetated or maintained. Erosion of these roads over time may contribute sediment to streams at Rocky Flats, resulting in minor to moderate adverse effects to water quality.

Lindsay Ponds. In Alternative C, the Lindsay Ponds would be removed and the stream channel restored to

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Overbrowsing by deer or elk may impact riparian and shrubland vegetation in Alternative A.

pre-settlement conditions. Removal of the Lindsay Ponds would result in the long-term loss of aquatic habitat, water storage, and sediment removal functions currently provided by the ponds. However, restoration of the native stream conditions would return the site back to its original condition. The Lindsay Ponds would continue to function as they currently do under Alternatives A, B, and D with no effect on water resources.

Public Use, Education and Interpretation Actions

Public Use Facilities

Trail Use. In all alternatives, most of the trails would be located away from drainages and water features and only negligible effects to water quality are likely. Alternative D would include an east-west multi-use trail along Walnut Creek. The close proximity of this trail to the creek may lead to social trails and localized erosion. Impacts to water quality from trail use in Walnut Creek is expected to be negligible.

Off-trail Use. Off-trail use would be permitted in the southern portion of the Refuge in Alternatives B and D. While concentrated off-trail use is not expected, the potential for sedimentation of water bodies from off-trail use is negligible over the long term.

Visitor Use Facilities. Construction activities involved in developing parking areas, overlooks, viewing blinds, and other facilities may result in indirect, short-term impacts to water resources due to erosion and sedimentation. The extent of facility development and corresponding impacts would vary among the alternatives, with Alternative C having the least potential for impact and Alternative D having the greatest potential for impact. Considering the relatively small amount of facility development and distance from water features, the resulting impacts to water resources at Refuge would be negligible.

Cumulative Impacts

Mining

Future mining along the western edge of the Refuge has the potential to alter surface and ground water flows in the upper Rock Creek drainage. These changes may adversely affect surface runoff in Rock Creek and ground water discharge along the pediment slopes, which in turn may affect riparian and Preble's habitat, establishment of a native fishery, and the type and quality of vegetation communities. Proposed management actions associated with implementation of the CCP at the Refuge would not contribute measurably to the cumulative effects on water resources from mining.

The permit for the Church Ranch Rocky Flats Pit includes stipulations that mining will stay a minimum of 2 feet above groundwater (CDMG 2004; Church Ranch 2004). However, the permits for the Bluestone Pit and the Lakewood Brick and Tile operation do not have stipulations about groundwater. Therefore, these operations may potentially impact base flows in the Rock Creek and Walnut Creek drainages, which are downgradient of these operations.

DOE Monitoring and Maintenance

As described in Section 1.8, the DOE retained area would include areas in the eastern portions of Rocky Flats where residual contamination levels are low enough to be safe, but still warrant protection of water quality in Walnut Creek and Woman Creek. These protection measures would ensure that long-term monitoring and maintenance activities within the DOE

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Goldfinch on a chokecherry branch.

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Blanket flower.

retained area will not adversely affect water quality on the Refuge.

4.4. VEGETATION COMMUNITIES

Vegetation management would be a key component to managing wildlife at the Refuge. Wildlife and vegetation communities are interrelated; the quality of wildlife habitat is affected by vegetation management, and the quality of vegetation is affected by wildlife management. Potential impacts to vegetation were evaluated based on the management goals for each alternative and the potential to disturb vegetation, change species composition, or change the quality of the vegetation community. For some actions, such as road restoration, effects to vegetation are quantified based on the number of acres restored. For other actions, a qualitative assessment of effects to vegetation was made.

Wildlife and Habitat Management Actions

Preble's Habitat Management

Habitat Protection. Alternative A would protect and maintain Preble's habitat throughout the Refuge, while Alternatives B, C, and D would also seek to improve Preble's habitat, by focusing on the preservation of woody riparian vegetation. These actions would result in long-term benefits to the composition and integrity of riparian and wetland habitats on the Refuge and continued protection of suitable Preble's habitat. For all alternatives, the maintenance and protection of Preble's mouse habitat would have a beneficial effect on riparian, wetland, and shrubland vegetation communities.

Ungulate Exclusion. Riparian and wetland habitat management in Alternatives B, C, and D would include the option to use fencing to selectively exclude grazing and browsing animals from sensitive riparian areas. Limiting grazing and browsing would be a long-term benefit to the structure and integrity of the riparian communities at the Refuge, but would only be implemented if monitoring indicates resource damage. In Alternative A, the Service would not implement these measures, and use by ungulate and other grazing animals may result in moderate, long-term adverse impacts to riparian and shrubland vegetation in some locations.

Monitoring. Vegetation surveys conducted in Alternative C would provide long-term benefits to riparian communities through periodic assessments of riparian habitat condition. Alternatives A, B, and D only include species composition data with Preble's monitoring, which have negligible value in managing riparian habitat.

Xeric Tallgrass Management

In all alternatives, the Service would complete a vegetation management plan and participate in

regional efforts to implement tallgrass prairie conservation measures. These actions would provide indirect, long-term benefits to the xeric tallgrass community by improving the Service's understanding of the community's species composition, allowing implementation of successful restoration techniques, and appropriate responses to management concerns.

Other components of xeric tallgrass management would focus on weed management and road revegetation (discussed below under *Road Restoration and Revegetation*). Managing weeds and revegetating abandoned roads also would result in long-term benefits to the xeric tallgrass community.

All alternatives would use mowing to help maintain xeric tallgrass habitat, but only Alternatives A, B, and C would use prescribed fire. The effects of grazing, prescribed fire, and other restoration tools are discussed in greater detail below under *Weed Management*. Alternatives A and D would exclude grazing as an ecological restoration tool. The absence of grazing for Alternatives A and D and the absence of prescribed fire for Alternative D would make it more difficult to maintain the species composition and health of tallgrass prairie and would have a minor to moderate adverse effect on the xeric tallgrass community, depending on the effectiveness of other management tools.

In Alternative A, the Service would focus grassland management efforts on about 1,000 acres of xeric tallgrass habitat in the Rock Creek Reserve. However, management of those portions of the xeric tallgrass outside of the Rock Creek Reserve (about 950 acres) would be limited to weed containment, which includes controlling the spread of existing weeds rather than reducing overall infestations. This reactive approach to grassland management may have long-term, moderately adverse effects on the xeric tallgrass communities outside of the Rock Creek Reserve.

Mixed Grassland Prairie Management

Management of shortgrass and mixed grasslands would include weed control efforts, restoration of non-native hay meadows (Alternatives B and C), prairie dog management, and species reintroductions. While other management measures specific to mixed grassland prairie communities are not anticipated, the application of these measures would provide for long-term beneficial protection and maintenance of these native grasslands.

Management actions for weed control and habitat restoration outside of the Rock Creek Reserve would be limited in Alternative A, which may result in minor to moderate adverse impacts to mixed grassland prairie. This approach may result in long-term habitat degradation to the mixed grassland prairie communities outside of the Rock Creek Reserve because of a reduced capacity to manage these areas and respond to management issues.

All alternatives would use mowing to help maintain mixed grassland prairie habitat, but only Alternatives A, B, and C would use prescribed fire. In Alternative A, prescribed fire would be limited to the Rock Creek Reserve. Alternatives A and D would exclude grazing as an ecological restoration tool. The absence of grazing for Alternatives A and D and the absence of prescribed fire for Alternative D would make it more difficult to maintain the species composition and health of mixed grassland communities and would have a minor to moderate adverse effect, depending on the effectiveness of other management tools.

In Alternatives B and C, the Service would restore the 300-acre hay meadow and other non-native grasslands to native mixed grass prairie. This would have a long-term, beneficial effect to the environmental integrity of the Refuge by restoring a native grass ecosystem. A short-term increase in erosion and weed infestation is possible, but appropriate management actions would be used to reduce these impacts. The hay meadow would remain in Alternative A and D and non-native grasses may expand their distribution and degrade adjacent native grasslands.

Road Restoration and Revegetation

In all alternatives, road and stream crossing removal and revegetation would result in long-term benefits to vegetation communities on the Refuge by restoring native plant communities, reducing erosion, and reducing habitat fragmentation (Table 11). The removal and revegetation of roads and stream crossings would include diligent weed control and erosion control measures to restore large, contiguous patches of grassland habitat and uninterrupted corridors of riparian and wetland habitat. Large patch sizes of undisturbed vegetation reduce the potential for weed introduction and the spread and propagation of non-native plant communities in addition to the benefits of wildlife movement and distribution as described below in Section 4.5 *Wildlife Resources*. Alternative C would provide the greatest

Table 11. Road Restoration and Average Vegetation Patch Size Following Revegetation

Vegetation Type/Action	Alternative			
	A	B	C	D
Xeric Tallgrass Grassland				
Roads Removed (miles)	2.5	8.6	9.2	8.5
Average Patch Size (acres)	74	114	148	105
Riparian and Wetland Areas				
Roads Removed (miles)	0.7	5.7	5.8	4.6
Stream Crossings Removed	7	13	13	6
Average Patch Size (acres)	53	71	63	77
Other Grasslands				
Roads Removed (miles)	4.3	12	10.7	11.2
Average Patch Size (acres)	73	127	111	104
TOTAL				
Roads Removed (miles)	7.5	26.3	25.7	24.3
Area of road restored (acres)	18.2	47.8	46.2	44.2
Average Vegetation Patch Size Refuge-wide (acres)	58	93	103	88

benefit because of the amount of road restoration, followed by Alternatives B and C. Alternative A would provide the least benefit.

The removal of roads and stream crossings for all alternatives would result in a minor, short-term impacts to vegetation during excavation, grading, construction, and revegetation activities. In addition, road restoration may result in minor impacts to wetlands where road crossings are removed and the stream channel restored. The result of these actions are expected to have a long-term beneficial effect on wetlands by restoring the natural stream channel and establishing wetlands where hydrologic conditions are suitable.

The Service will comply with Section 404 of the Clean Water Act should impacts to wetlands require permitting. Wetland impacts would be mitigated as required by the U.S. Army Corps of Engineers. In Alternative A, seven road and stream crossings would be removed in the Rock Creek Reserve. Alternative D would have the least beneficial effect to riparian and wetland vegetation by removal of six road stream crossings.

Weed Management

The Service would prepare an Integrated Pest Management (IPM) plan in Alternatives B, C, and D. IPM planning would enable the Service to develop a targeted weed management strategy that would result in long-term benefits to vegetation communities by controlling or reducing weed infestations on the Refuge. While the Service would implement IPM techniques in Alternative A, an IPM plan would not be completed and a moderate long-term adverse effect to vegetation communities outside of the Rock Creek Reserve may occur in the absence of a detailed plan.

The intensity of weed management efforts and the different tools including chemical control, prescribed fire, biological control, and mechanical control would vary between the alternatives. In general, successful weed management efforts would benefit vegetation and wildlife habitat at Rocky Flats by increasing the diversity and vigor of native plant species. The magnitude of the impacts and benefits of the following weed management tools would correspond with the intensity of the efforts. In Alternative A, weed reduction targets would apply only to the Rock Creek Reserve, although weed control outside of the Rock Creek Reserve would occur. The use of weed control only outside of the Rock Creek Reserve for Alternative A would likely increase weed density in currently affected areas and may make it difficult to implement weed containment actions.

Chemical Control. Using herbicides to control weeds would provide a long-term benefit to native vegetation communities by reducing weed competition, maintaining desired species composition, and

improving production of grasses and sedges for all alternatives. Herbicide application may result in short-term, minor impacts on native grasses and sedges from physiological damage and reduced growth for the first growing season after application. However, native vegetation in application areas would be expected to recover from the effects of herbicides and increase production of grasses and sedges in subsequent growing seasons (DOE 1999).

Prescribed Fire. The grassland communities at Rocky Flats have evolved with fire over millennia. Natural grassland fires rejuvenate grassland by controlling exotic weed species, removing plant litter, and stimulating new plant growth. While fire has generally been limited from the site over the last 50 to 75 years, periodic wildfires due to lightning strikes or human-caused ignition have occurred at Rocky Flats. Periodic wildfires would continue to occur at Rocky Flats over the long term. In the event of unplanned fires, the Service will work with local agencies (through mutual aid agreements) to aggressively suppress the unplanned fires.

Prescribed fire is a restoration tool that would simulate the ecological benefits of natural fires and reduce the magnitude and severity of periodic wildfires. Prescribed fires would be conducted in accordance with approved vegetation management and fire management plans, Service policy, and state air quality regulations. In Alternatives A, B, and C, the use of prescribed fire would have a short-term, beneficial effect on vegetation communities by improving plant vigor, controlling weeds, and maintaining desired species composition. The timing of prescribed fire is critical to promoting desirable plant species and controlling weed species.

The indirect, long-term benefits of prescribed fire include the reduction of hazardous fuel loads that can contribute to uncontrolled wildfires. Prescribed fire would not be used as a restoration tool in Alternative D or in Alternative A outside of the Rock Creek Reserve. The lack of fire as a restoration tool would have a moderate adverse effect on the ability to maintain native plant communities, control weeds, and reduce the potential for wildfires.

Biological Control. The introduction of a non-native insect predator to control non-native weeds would beneficially affect native plant communities by controlling weed distribution for all alternatives. For example, in all alternatives the Service would distribute the field bindweed mite, a biological control agent, to appropriate locations. However, biological control methods have the potential to adversely affect native, non-target plant species. The remote potential for these adverse impacts is offset by the benefits of using a weed management tool that is self-sustaining and reduces the need for herbicide application.

Mechanical Control. The use of mowing and other

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Prescribed fire is a restoration tool that would be used in Alternatives A, B, and C to improve plant vigor, control weeds, and maintain species composition.

mechanical methods to control weeds as part of an overall IPM strategy would provide an additional weed management tool for all alternatives. Although mechanical control would not introduce chemicals into the environment, they may result in adverse impacts to vegetation communities, such as the dispersal of weed seeds, soil disturbance, and direct impacts to native plants within treatment areas. However, the potential adverse effects of mowing are generally offset by their benefits.

Grazing. Alternatives B and C would include selective grazing by cattle, goats or other livestock, which would have a beneficial effect on vegetation communities by reducing the number and density of weed species and stimulating native plant growth. A secondary benefit of selective grazing would be weed control. Grazing may also result in short-term impacts to wildlife, particularly elk, due to competition for limited forage. However, the benefits of managed grazing, such as grassland enhancement and weed control, are expected to have long-term beneficial effects on grasslands. Alternatives A and D would not include grazing and would not realize the potential benefits of weed control.

Weed Mapping. All alternatives include annual mapping of weed patches and treatment sites. This management tool would provide long-term benefits to a variety of vegetation communities on the Refuge by allowing Refuge staff to respond to new infestations and adapt weed control strategies based on past experience.

Interior Fencing. In Alternatives B and C, the Service would construct interior fencing to control and collect wind-dispersed tumbleweeds. While this may increase weed establishment near the fence, it would result in long-term overall benefits to a variety of vegetation communities at Rocky Flats. No interior fencing would be used for Alternatives A or D, and weed dispersal for species such as diffuse knapweed may be greater.

Deer and Elk Management

In all alternatives, the Service and/or CDOW would maintain deer and elk populations to meet target population estimates for the Refuge. This is expected to reduce the potential for overgrazing or overbrowsing of vegetation, resulting in long-term benefits to grassland and shrubland communities on the Refuge. Alternative A does not specify a timeframe for meeting target population goals. The potential for minor adverse effects to vegetation from overgrazing would be greatest for Alternative A followed by Alternative B and then Alternatives C and D.

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The Service and CDOW would work together to manage deer and elk populations.

All alternatives call for monitoring of ungulate-induced degradation of vegetation, although the frequency, methods, and detail of monitoring would vary among the alternatives. Monitoring would provide an indirect benefit to grassland and shrubland communities by enabling the Service to more readily respond to deer and/or elk overgrazing or overbrowsing.

Prairie Dog Management

Management of prairie dog populations for Alternatives B, C, and D would include confining their range to short and mixed grasslands and non-native grasslands. In Alternative A, prairie dog populations would be allowed to expand subject to natural habitat and predator controls. Under natural conditions, xeric tallgrass habitat does not provide suitable prairie dog habitat because of the tall height of the grass and the stony soils. Riparian communities are too moist and/or vegetation is too

tall to favor prairie dog establishment. However, prairie dogs have been known to colonize these areas when they have been degraded by drought, weeds, or accumulated thatch, which can lead to additional habitat degradation and further colonization (Hygnstrom et al. 2002).

If necessary, to protect important vegetation communities from the potential impacts of prairie dog colonization, all alternatives would trap and relocate prairie dogs from riparian areas. Prairie dog exclusion from these habitats would benefit the long-term viability of riparian communities and still allow development of sustainable prairie dog colonies. In Alternative A, the capture and relocation of prairie dogs from riparian areas would occur only in the Rock Creek Reserve. Alternatives B, C, and D would also relocate prairie dogs to protect xeric tallgrass habitat.

The expansion of prairie dog populations in Alternative A may have minor to moderate adverse effects on native plant communities, depending on the extent of prairie dog dispersal. A shift in vegetation composition for portions of the Refuge is possible. In Alternatives B, C, and D, limits on prairie dog expansion are expected to have a minor adverse effect on species composition and distribution.

Species Reintroductions

The planned removal of the Lindsay Ponds in Alternative C would affect about 1 acre of open water and adjacent wetland habitat. Restoration of the native stream channel is expected to replace some of the affected wetlands, but no open water habitat would be created. If the removal of the Lindsay Ponds requires a 404 permit and wetlands are affected, the Service would mitigate replacement wetlands in accordance with Service policy and permitting requirements. None of the other alternatives would affect wetlands or open water at the Lindsay Ponds.

Public Use, Education and Interpretation Actions

Public Use Facilities

New Trails. Implementation of Alternatives B and D would result in the direct long-term loss of vegetation from the construction of new trail segments within the xeric tallgrass and mixed grassland prairie communities (Figures 24 and 26). The area of disturbance from constructing these trails is 3.7 acres for Alternative B and 6.5 acres for Alternative D (Table 12). The loss of vegetation for both of these alternatives would be minor and would not adversely affect the overall quality and

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Trails would be designed to minimize impacts to wildlife.

characteristics of vegetation communities. No new trails are planned for Alternatives A and C; hence, there would be no disturbance to vegetation communities (Figures 23 and 25).

In Alternatives B and D, several trails would cross through riparian and wetland habitat areas sensitive to disturbance. Alternative B would have 11 such crossings, while Alternative D would have 18. All trail crossings would use existing culverts, bridges, or low-flow crossings to minimize effects to vegetation.

Alternative D includes a new, 0.2-mile hiking trail connecting the Lindsay Ranch area and the Plum Branch within the Rock Creek drainage. This short trail would descend through mixed grassland prairie along the pediment slopes adjacent to an area dominated by shrublands including the rare tall upland shrubland community. Only minor adverse effects to these shrubland communities are expected with careful trail design and placement.

Trail Use. Public trail use on the Refuge in Alternatives B and D would have the potential to adversely impact surrounding vegetation communities by:

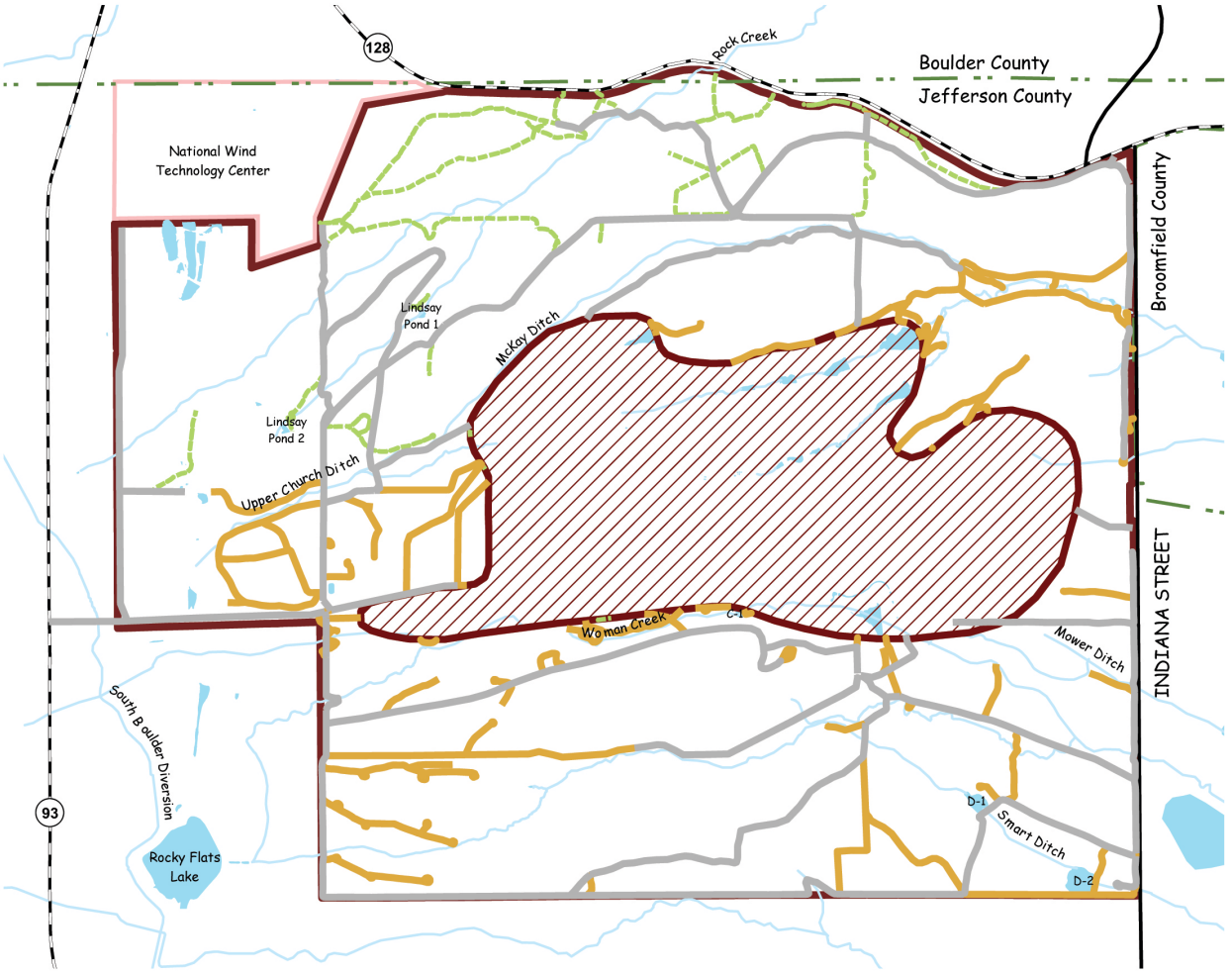
- Development of social trails
- Localized trampling and erosion
- Soil compaction
- Introduction and dispersal of noxious weeds and other introduced species
- Fragmentation of habitat

While there is disagreement in the scientific and recreation communities about the specific effects of various trail uses, the Service recognizes that, in

US Fish & Wildlife Service

Rocky Flats National Wildlife Refuge

Jefferson County, CO



Alternative A - Roads and Trails

- Unpaved Road (Publicly Accessible)
- Access Road
- Removed and Revegetated Roads
- DOE Retained Area (Subject to Change)

0 0.5 1 Mile

November 2004

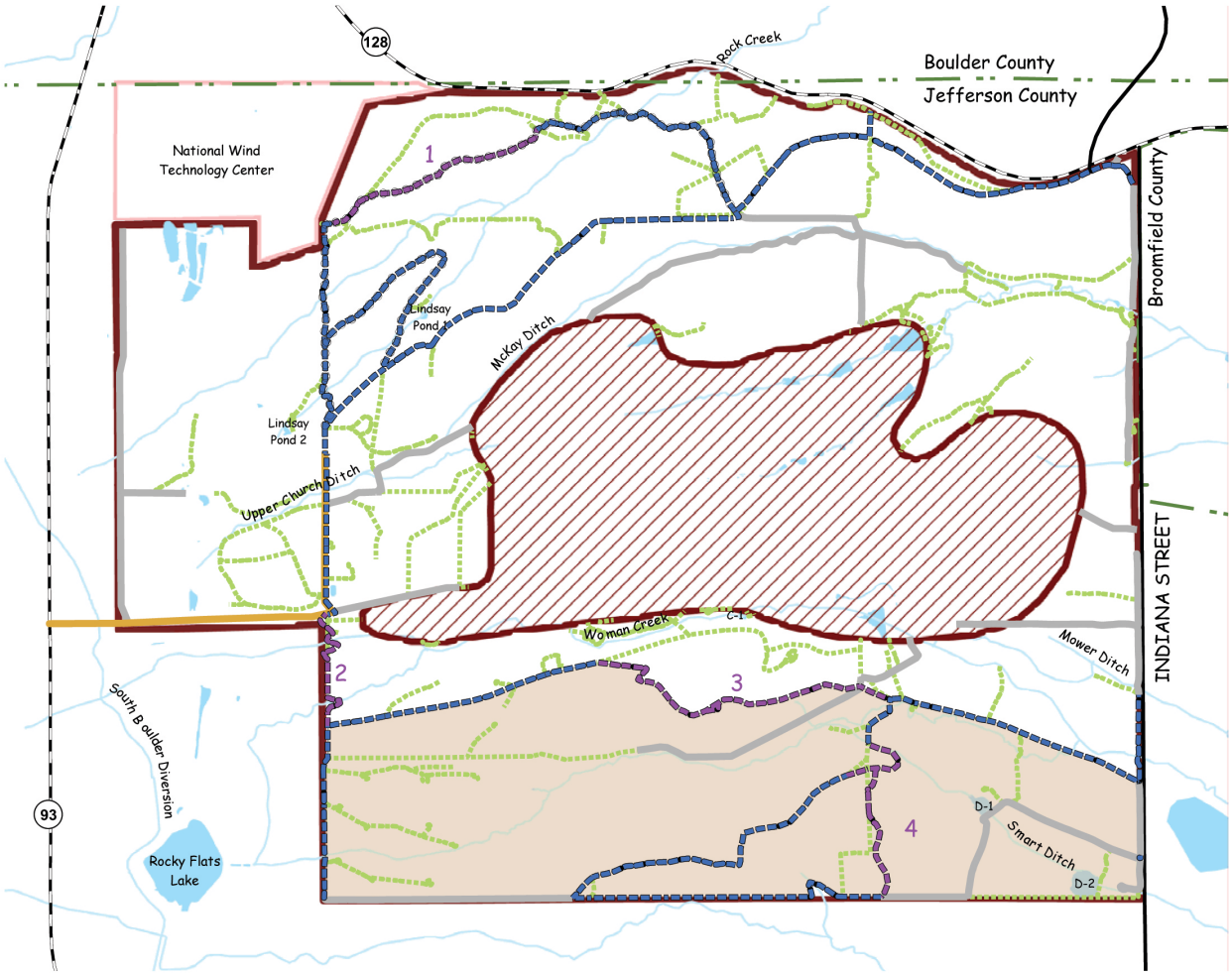
N

Figure 24. Alternative A Roads and Trails

US Fish & Wildlife Service

Rocky Flats National Wildlife Refuge

Jefferson County, CO



Alternative B - Roads and Trails

0 0.5 1 Mile

November 2004

N

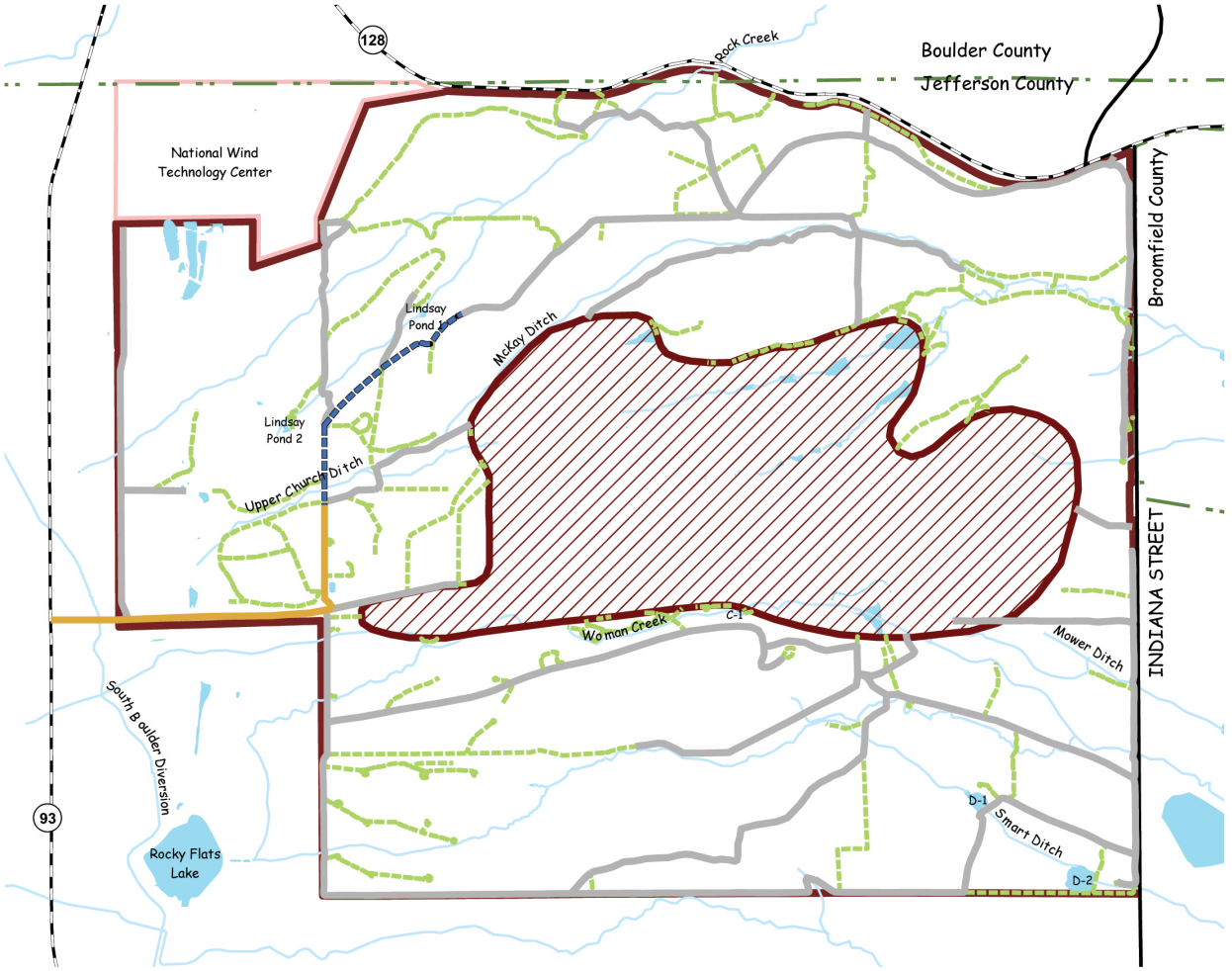
- Off-Trail Use Area
- Trail Converted From Existing Roads
- Newly Constructed Trail
- Unpaved Road (Publicly Accessible)
- Access Road
- Removed and Revegetated Roads
- 1 New Trail ID (See Table 12)
- DOE Retained Area (Subject to Change)

Figure 25. Alternative B Roads and Trails

US Fish & Wildlife Service

Rocky Flats National Wildlife Refuge

Jefferson County, CO



Alternative C - Roads and Trails

0 0.5 1 Mile

November 2004

N

- Trail Converted From Existing Roads
- Unpaved Road (Publicly Accessible)
- Access Road
- Removed and Revegetated Road
- DOE Retained Area (Subject to Change)

Figure 26. Alternative C Roads and Trails

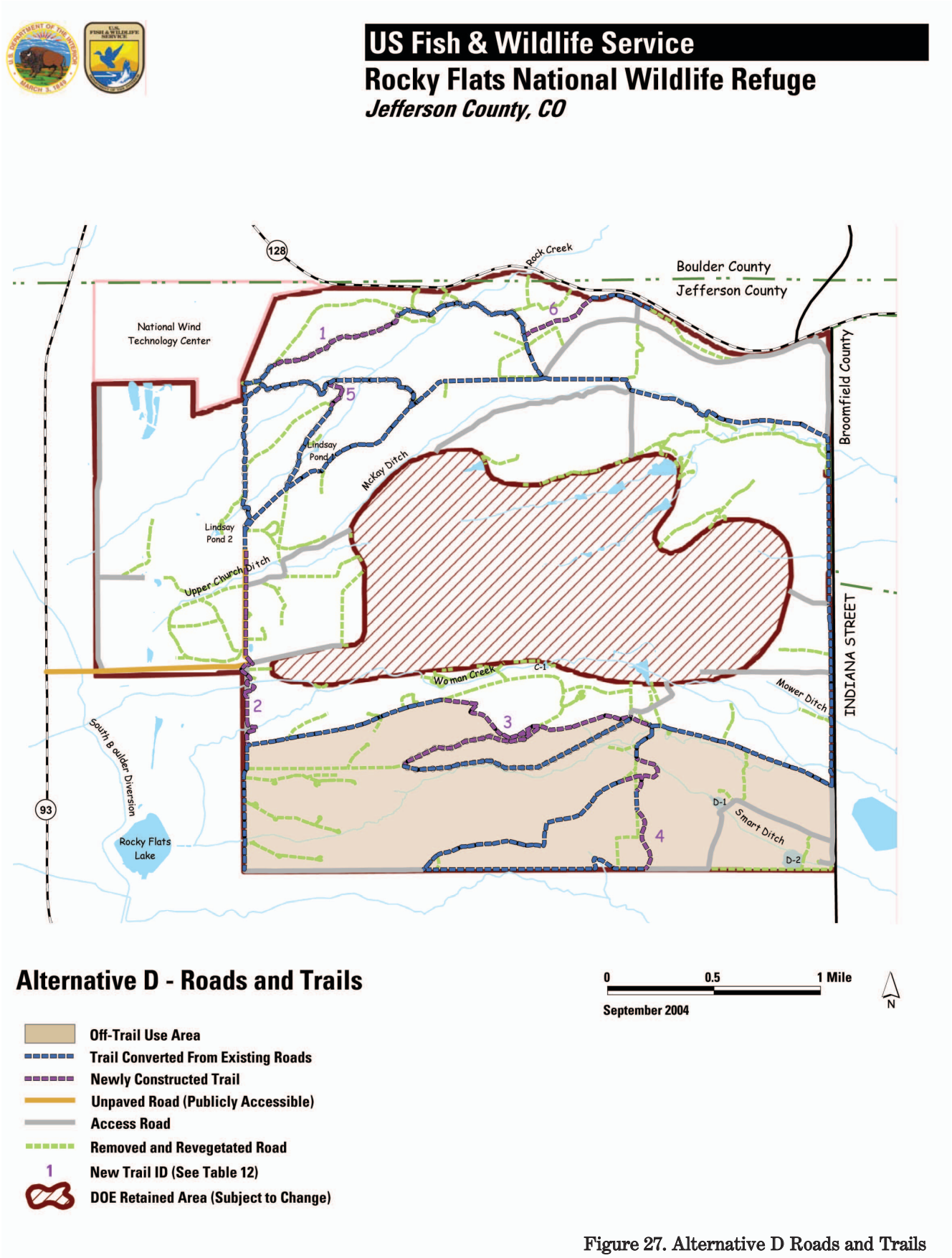


Figure 27. Alternative D Roads and Trails

Table 12. Vegetation Disturbance Associated With New Trail Construction

New Trail Segment	Map ID†	Segment Length (ft.)	Xeric Tallgrass Impact (acres)‡				Mixed Grassland Impact (acres)‡			
			A	B	C	D	A	B	C	D
Rock Creek Loop	1	4,180	–	0.9	–	0.9	–	0.6	–	0.6
Upper Woman Creek switchbacks	2	1,487	–	0.1	–	0.1	–	0.4	–	0.4
South ridge through trail	3	6,551	--	0.4	–	0.4	–	0.8	–	0.8
Southeast loop connection	4	1,580	–	--	–	–	–	0.5	–	0.5
South ridge loop	5	4,909	–	–	–	1.6	–	–	–	0.1
Lindsay Ranch-Plum Branch connection	6	1,012	–	–	–	–	–	–	–	0.4
North boundary connection	7	2,166	–	–	–	0.2	–	–	–	0.5
TOTAL			–	1.4	–	3.2	–	2.3	–	3.3

† Shown in Figure 25 and Figure 27.
‡ Area calculated assuming a 15-foot impact width during construction (does not include trails converted from existing roads).
– = No impact.

general, social trails and trampling are typically associated with hiking and equestrian use, while weed dispersal can be exacerbated along multi-use trails where bicycling and equestrian use is permitted (Weir 2000). Bicycles have the potential to carry and disperse weed seeds on the bike itself, while horses may introduce noxious weed seeds from off-site in their manure, hooves, and coat (Weir 2000; Benninger-Traux et al. 1992). Soil compaction associated with public use of social trails, especially in the case of equestrian use (Swinker et al. 2000), can hinder the re-establishment of native vegetation (Dehring 1997).

Public use of Refuge trails in Alternatives B and D may result in localized, long-term effects to vegetation communities near trails. However, with appropriate trail maintenance and visitor use management, the overall effect of public trail use on vegetation communities would be minor. The limited trail use in Alternatives A and C would have a negligible effect on vegetation.

In Alternatives B and D, the Service would monitor the impacts of public use on riparian communities. Monitoring would provide a long-term benefit to riparian habitat by allowing the Service to effectively respond to impacts and implement appropriate management measures.

Off-trail Use. Seasonal off-trail use in Alternatives B and D may result in localized vegetation trampling, the development of social trails, and increased weed dispersal in the southern portion of the Refuge (Figures 24 and 26). The extent and severity of these impacts may be increased by consistent off-trail use of specific areas, or by large groups of visitors. Impacts would be minimized by restricting off-trail access to the non-growing season. As a result, only minor, long-term effects to vegetation are anticipated for off-trail use in Alternatives B and D.

No off-trail public use would be allowed under Alternatives A and C, and there would be no effect to vegetation.

Table 13. Vegetation Impacts from Public Use Facilities

Vegetation Type	Area of Impact (acres)†			
	Alt. A	Alt. B	Alt. C	Alt. D
Xeric Tallgrass Grassland	–	0.5	0.01	0.08
Other Grassland	–	0.6	–	1.3
Riparian and Wetland	–	–	–	–
TOTAL	–	1.1	0.01	1.4

† This does not include impacts from new trail construction shown in Table 12.
– = No impact.

Visitor Use Facilities. Construction of public use and Refuge management facilities in Alternatives B, C, and D would result in minor impacts to the vegetation communities at Rocky Flats. New facilities would include parking areas, trailheads, restrooms, overlooks, viewing blinds, visitor contact facilities, and interpretive facilities. Disturbance to vegetation communities from specific facilities in Alternatives B, C, and D would be small (Table 13). The central parking and trailhead area in Alternatives B, C, and D would be primarily in a previously disturbed area of xeric tallgrass grassland north of the Upper Church Ditch. Additional indirect impacts may result from social trails, trampling, and weed infestations associated with public use of the parking and trailhead areas. Construction of most of these facilities would result in a minor, long-term loss of vegetation, but effects would be minimized by placing facilities in previously disturbed areas and directing visitors to developed facilities.

Refuge Operations, Safety and Partnerships

Refuge Operations

Maintenance Facilities. In all alternatives, the Service would construct a maintenance facility within degraded portions of the xeric tallgrass community to minimize effects. This would be a stand-alone facility in Alternative A; in Alternatives B, C, and D, the maintenance facility would be co-located with visitor use facilities (described above). The area of permanent impact for a maintenance facility would be less than 1 acre for all alternatives.

The construction of maintenance facilities would result in a minor, long-term loss of vegetation in the xeric tallgrass community. Additional, indirect impacts may result from social trails, trampling, and weed infestations associated with the ongoing use of the facility.

Partnerships

Regional Coordination. In Alternatives B, C, and D, the Service would meet annually with nearby open space managers and landowners to coordinate resource management strategies. Coordination of Refuge resources and management issues with adjacent land managers would likely result in long-term benefits to vegetation communities. The sharing of knowledge between agencies and other landowners would result in more effective and efficient vegetation management, including weed control, habitat restoration, and fire management. The coordination of management strategies would help ensure that resource management strategies off Refuge do not conflict with or counteract management actions on the Refuge. Alternative A would not realize these benefits.

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Monitoring Preble's meadow jumping mouse populations within the riparian habitat

Research. In alternatives B, C, and D, the Service would identify information needs and consider proposals for compatible scientific research on the Refuge by staff or external researchers. The Refuge presents many opportunities for targeted research on various resource management issues. This research would result in indirect benefits to wildlife and habitat on the Refuge by improving the Service's base of knowledge for management and decision-making. Alternative A would not realize these benefits.

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Invasive weeds such as Dalmatian toadflax can dominate native plant communities.

Cumulative Impacts

Mining

Potential future mining along the western edge of the Refuge would result in major, long-term impacts to the vegetation communities in those areas, due to major habitat disturbance and the encroachment of weed species. About 264 acres of xeric tallgrass grassland and 16 acres of riparian habitat may be lost or disturbed within the permitted mining areas. These vegetation communities may eventually be re-established following mining, but reclamation would be a long-term effort.

The deposition of windblown soil from mining areas has the potential to adversely impact adjacent vegetation communities by burying native plants and by providing a foothold for noxious weed infestations. The Service would work with the mining operators and the appropriate regulatory agencies to minimize and mitigate the effects of windblown soil deposition on the Refuge. Management actions on the Refuge would not add to the adverse cumulative impacts from mining.

The permit for the Church Ranch Rocky Flats Pit includes stipulations that mining will stay a minimum of 2 feet above groundwater (CDMG 2004; Church Ranch 2004). However, the permits for the Bluestone Pit and the Lakewood Brick and Tile operation do not have stipulations about groundwater. Therefore, these operations may potentially impact riparian vegetation communities in the Rock Creek and Walnut Creek drainages, which are downgradient of these operations.

Urban Development

Urban development adjacent to the Refuge to the south and west has the potential to adversely impact vegetation communities on the Refuge by contributing to the spread of noxious weeds on the Refuge. The process of urban development typically creates large areas of vacant, disturbed land as it is prepared for future development. These areas are prone to invasions of noxious weeds and in turn can become the source of subsequent infestations on the Refuge. These cumulative effects can be reduced by minimizing the size and duration of disturbed land during construction, developing and implementing a weed management plan, and if possible, incorporating into development plans a buffer of native vegetation between the Refuge and development areas.

The Service would work with local jurisdictions during the the land use and development planning process to minimize the impact of adjacent urban development on Refuge resources.

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The intensity of weed management efforts would vary between alternatives.

DOE Monitoring and Maintenance

The Refuge will surround the DOE retained area on all sides. Ongoing monitoring and maintenance activities within the DOE retained area may include ground disturbing activities that would be prone to noxious weed infestations. While the Service will provide the DOE recommendations on revegetation and natural resource management, the Service does not have decision-making authority on these matters. Therefore, the DOE retained area does have the potential to adversely affect vegetation communities on the Refuge through the spread of noxious weeds.

4.5. WILDLIFE RESOURCES

Potential effects to wildlife species were evaluated based on the anticipated types of actions and disturbances associated with each alternative. Quantifiable impacts to wildlife are not readily predicted, but inferences can be made based on the amount of habitat lost or gained, changes in the quality of the habitat, and known wildlife response to human activity and other disturbances. Potential effects to wildlife were refined further by input from regional wildlife specialists, the knowledge of Service and consulting biologists, previous studies at Rocky Flats, and published information.

Wildlife and Habitat Management Actions

Preble's Habitat Management

All alternatives would protect and maintain Preble's habitat on Refuge streams, survey habitat to detect any degradation, and allow natural revegetation of native species on abandoned roads. Habitat protection for Preble's in all alternatives would provide secondary benefits to riparian wildlife species such as raptors, numerous songbirds, voles, and other riparian rodents. This section addresses environmental consequences of Preble's habitat management on general wildlife resources; direct impacts of Preble's habitat management on Preble's and other threatened and endangered species is discussed in the *Threatened and Endangered Species* section.

Alternative A would provide the least benefit for Preble's and other wildlife. This alternative would protect Preble's habitat, control weeds (with limited herbicide use), and monitor the presence/absence of Preble's, but provides few other benefits to wildlife in general.

Alternatives B, C, and D would provide additional moderate benefits to all riparian wildlife species by protecting riparian vegetation with temporary fencing as needed and providing better control of ungulate populations. These measures have the potential to adversely affect some species by restricting movement and access to habitat areas. However, fencing to exclude ungulates from riparian habitat is not expected to be widely used, if at all, so the expected impacts to other wildlife species are expected to be minor to negligible. These three alternatives would protect, maintain, and improve about 1,000 acres of Preble's habitat, providing a moderate benefit to Preble's compared to the simple habitat protection in Alternative A. Alternative D would also establish a plan to monitor trail use and recreation impacts on Preble's. Results from monitoring would indirectly provide moderate benefits to other riparian wildlife potentially impacted by recreation and public use in sensitive habitats.

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Maintaining target populations of deer and elk would ensure healthy populations and limit habitat degradation.

In all alternatives, the periodic presence of humans in riparian habitat during monitoring may disturb or temporarily displace individual animals. The extent of the disturbance would depend on the magnitude, intensity, and duration of monitoring. Alternatives C and D have the greatest potential to disturb riparian wildlife as a result of more extensive vegetation monitoring; however, because of the low magnitude and short duration of monitoring, short-term impacts would be negligible in all alternatives. No long-term adverse effects to wildlife are anticipated with planned levels of monitoring.

Xeric Tallgrass Management

The maintenance and improvement of xeric tallgrass would benefit native wildlife species in all alternatives. Alternative A would manage 1,000 acres of tallgrass habitat; Alternatives B, C, and D would manage 1,500 acres of tallgrass habitat.

The short-term, minor, adverse impacts of xeric tallgrass management would be the same for all alternatives, possibly including direct injury or mortality of wildlife from weed control management strategies. Native wildlife, however, evolved with natural ecological processes such as fire and grazing and have developed behavioral or physiological adaptations to survive these events. Other strategies such as mowing are not anticipated to adversely affect wildlife populations.

Alternative A would have the fewest short-term adverse impacts and would provide the fewest long-term benefits for native wildlife by limiting xeric tallgrass management efforts to the Rock Creek Reserve. Prescribed fire would be used only within Rock Creek Reserve resulting in minor short-term adverse impacts and, because this tool would not be used Refuge-wide, long-term benefits also would be minor. Conversely, Alternatives B and C would have moderate short-term adverse impacts from restoration tools including prescribed fire and grazing, but also would result in the moderate to major long-term benefits for native wildlife by improving the quality of the habitat.

Alternative D would manage xeric tallgrass grasslands Refuge-wide, but the tools available would be limited. Prescribed fire and large herbivore grazing are part of the natural functions of the prairie ecosystem and excluding these processes may indirectly adversely impact wildlife. Alternative D would have minor short-term direct impacts on existing wildlife and, because natural processes would be suppressed, would result in negligible to minor benefits to the native prairie wildlife community. Alternatives B and C would monitor ecological conditions and provide long-term minor indirect benefits to wildlife. Alternatives A and D would have no monitoring and any short- or long-term benefits would not be realized.

Mixed Grassland Prairie Management

The only management activity specific to mixed grassland is related to grassland restoration. Alternatives B and C would restore 300 acres of monoculture hayfield and other areas to native grassland. These efforts would result in minor short-term impacts on wildlife species that use non-native grasslands or that would be directly impacted by grading or removal of existing vegetation (such as burrowing mammals). However, revegetation efforts would improve and diversify habitat conditions for a variety of wildlife species, including grassland birds and native burrowing mammals. Alternatives B and C would provide direct long-term benefits to wildlife at the Refuge. Alternatives A and D would not establish native vegetation in the existing hay meadow, and benefits to native wildlife would not be realized.

Road Restoration and Revegetation

In all alternatives, varying lengths of existing roads and stream crossings on the Refuge would be removed and revegetated. The short-term impacts of these restoration efforts on wildlife would be negligible to minor, primarily affecting species such as burrowing mammals and nesting birds that may be directly impacted by construction and grading activities. Restoration efforts, however, would result in major long-term benefits to a variety of wildlife species by reducing habitat fragmentation, increasing habitat patch size, and improving the overall quality and amount of wildlife habitat on the Refuge. In general, larger average patch sizes would have a positive effect on wildlife and habitat. Alternative C would have the most beneficial effect on patch size followed by Alternatives B, D, and A (Table 11).

Weed Management

Developing and implementing an IPM plan involves various applications of weed control strategies and monitoring. Invasive weeds can dominate a native plant community, alter native habitats, reduce the suitability of the habitat for native wildlife species, and attract non-native species. Short-term adverse impacts of weed management on wildlife populations could include direct injury or mortality to individuals from the various IPM strategies (such as mowing, prescribed fire, and chemical control), depending on

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The Service would monitor deer and elk populations and their impacts on sensitive habitat areas.

the intensity, duration and timing of control activities. Activities conducted during summer breeding or other active periods for wildlife have the greatest potential for adverse impacts. Implementation of an IPM plan would have long-term benefits for native wildlife species and communities on the Refuge including enhanced habitat quality and a reduction in non-native wildlife species.

While the intensity of weed management efforts would vary between alternatives, the tools would be similar except neither Alternative A nor Alternative D would use grazing, and prescribed fire would not be used in Alternative D. Alternative A would use only limited prescribed fire in the Rock Creek Reserve. The difference in impacts between the various tools would be negligible.

Large ungulate grazing of short, intense duration is a natural process in prairie ecosystems. Controlled grazing would have short-term minor impacts on large herbivores by reducing available forage, but would result in long-term moderate benefits to wildlife by restoring native grassland vegetation and processes.

A compatibility determination would be required for any grazing program that provides an economic benefit to a private party. This would not be needed for a contract to use goats for the purpose of weed control.

Chemical control has the potential for secondary impacts caused by inadvertent application to non-target species or secondary poisoning effects. All chemicals would be applied according to strict state, Service, and EPA requirements and guidelines to minimize adverse effects. Prescribed fire may directly impact wildlife by temporarily displacing animals or disturbing important breeding or foraging areas; however, native grassland wildlife evolved with fire as an important ecosystem process and has adapted fire survival mechanisms and behavior. Biological control would be a low impact strategy, but would have inherent risks such as impacts to non-target species and introduction of non-native organisms to the ecosystem.

Implementation of Alternative A would have the fewest short-term adverse impacts and, conversely, would provide the fewest long-term benefits for native wildlife by limiting weed control efforts to the Rock Creek Reserve plus weed control outside the Reserve. Alternatives B, C, and D would have the greatest short-term adverse impacts, but also would result in the greatest long-term benefits for native wildlife.

In Alternatives B and C, the establishment of interior fencing to collect weeds would have minor long-term impacts by creating barriers for certain species. Fencing would cause minor long-term impacts by altering the microhabitat, including altering moisture regimes, changing plant species composition, and establishing linear strips, or edges, of a perpetual early seral stage community. These edge effects would benefit some species and be detrimental to others. Weeds built up along fencelines also provide temporary cover for numerous bird, mammal and reptile species. Placing fences along existing edges such as trails or roads would minimize edge effects.

Deer and Elk Management

Population Management. The concept of management for a target population level would be used for deer and elk populations on the Refuge. Target population levels would be established in coordination with CDOW to maintain an optimum number of animals that can be supported by their habitat without that habitat being significantly degraded.

In all alternatives, the development and use of a target population would result in long-term benefits to deer and elk populations, other species, and their habitats. Establishing a target population level would allow the Service to be proactive in deer and elk management, maintain herd health in response to environmental variables including chronic wasting disease, and prevent or minimize the adverse effects of overgrazing and overbrowsing on habitat on which other species depend.

Alternative A would not have a time frame for establishing and achieving population targets, but would implement population targets in accordance with other Refuge management priorities.

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Wavy leaf thistle.

Alternatives B, C, and D would establish population targets within 3 years with the goal to achieve these targets within 5 years. Several population control methods would be used to achieve population targets including culling by Service staff and public hunting. Alternatives A and C would not include public hunting as a management tool.

Population targets would be the same in all alternatives (deer and elk populations would be maintained at target levels below the maximum supported by the Refuge in the absence of other refuge goals) and the impacts to deer and elk herds on the Refuge would be similar in all alternatives. Maintaining population target levels would directly impact individual animals that are killed by culling or public hunting, but would have negligible impacts on the overall population of the CDOW's Boulder Herd Management unit, in which the Refuge is located. Culling and hunting deer and elk would have minor, short-term impacts on the remaining herd.

Implementing population management measures would result in moderate, long-term benefits to the health and sustainability of deer and elk populations on the Refuge. Over the course of 15 years, the effects of culling and/or hunting, combined with the increased disturbance in Alternatives B and D from public trail use, may result in increased movement of deer between the Refuge and adjacent habitat areas. While this increased movement may benefit the population as a whole by increasing genetic diversity and reducing overuse of the habitat, it also may result in a minor increase in ungulate mortality along the roads and highways surrounding the Refuge.

The schedule for implementing these management strategies would vary among alternatives. Alternative A would have no specified implementation schedule and would risk populations exceeding targets and degrading habitat before any control measures would be enacted. Population control activities under this alternative likely would be implemented after current herds have expanded. Thus, Alternative A would require greater initial population control (culling and hunting). Alternatives B, C, and D would establish a target population within 3 years. This schedule would permit the Service to implement control measures in a timely manner and minimize impacts to vegetation and sensitive habitats from overgrazing.

Monitoring. In addition to monitoring deer and elk impacts on riparian and upland shrub communities in all alternatives, Alternatives B and C also would include monitoring of deer and elk populations and indices of herd health. Monitoring in Alternatives A and D would identify potential habitat degradation of sensitive shrub communities associated with an overabundance of deer and elk, but this may be inadequate to obtain reasonable population parameters for determining viable target populations and maintaining herd health. Without reasonable target population estimates in Alternative A, the Service may implement inappropriate population control, resulting in the inadequate or unnecessary removal of animals.

In Alternative B, riparian and shrub monitoring would every two years, and annual deer and elk counts would measure abundance and density. This level of monitoring would provide an adequate measure of deer and elk populations. However, monitoring in Alternative B may not be sufficient to assess seasonal movement and use patterns on the Refuge and the extent of emigration and immigration off-Refuge.

In addition to the monitoring in Alternative B, Alternative C also would include seasonal surveys of movement patterns, and annual surveys of population size, age and sex composition, fawning rates, and fawn survival. This level of monitoring would provide a moderate benefit by obtaining adequate information on population parameters necessary to establish sustainable target population, and provide managers the ability to accurately establish population control goals. Obtaining information on fawning rates and fawn survival usually involves intensive and invasive monitoring that requires some form of mark and recapture or telemetry methods that may result in occasional direct and indirect injury or death to fawns.

Prairie Dog Management

The biodiversity and productivity of grasslands result from a mosaic of habitat types; the prairie dog town is

one of those types. Alternatives B, C, and D would allow intra-Refuge relocation of prairie dogs, while Alternative D would evaluate the suitability of relocating prairie dogs onto the Refuge from other jurisdictions. Prairie dog relocations require careful and detailed planning, and are very labor intensive. Despite the best care, regional data collected by City of Boulder Open Space and Mountain Parks (City of Boulder 2003) show that only about 40 to 60 percent of relocated prairie dogs survive the relocation process. Prairie dog relocations also fail to address the survival of other animals that depend on their complex of burrows. When prairie dogs are live-trapped and removed, effects of habitat loss to other wildlife species that occupy the site are often ignored (City of Boulder 2003) resulting in minor impacts to common, widely dispersed species and moderate adverse impacts to uncommon or narrowly distributed species, such as the burrowing owl.

The prairie dog management objectives for all alternatives are similar and would vary primarily in the acreage allowed to be occupied by prairie dogs. Prairie dogs are prey for numerous avian and mammalian predators. In general, the more acreage occupied by prairie dogs, the more prey is available for larger predators, such as eagles, coyotes, and badgers.

Alternative A would permit unlimited natural expansion of prairie dogs throughout the Refuge. Because natural expansion of prairie dog colonies would occur gradually, all impacts would be considered long term. Moderate impacts to wildlife species assemblages may occur on a local scale, because changes in vegetation structure would result in local reductions of species associated with taller grasslands. On a Refuge-wide or regional scale, an increase in prairie dog acreage would have only a minor effect on the relative abundance or distribution of wildlife species preferring this habitat type, but would not likely change the overall species composition (gain or loss of additional species). Prairie dogs would be excluded from sensitive habitats within the Rock Creek Reserve and Preble's habitat, but not throughout the Refuge, and colonies may expand unchecked into sensitive xeric tallgrass communities resulting in moderate impacts to this community.

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Sharp-tailed grouse would be a priority species for reintroduction efforts.

Alternatives B, C, and D would restrict prairie dog expansion. Alternatives B and C would be more restrictive in the acreage allowed to become occupied by prairie dogs (750 and 500 acres, respectively). The expansion of the prairie dog population on the Refuge would have a beneficial effect on other wildlife species that typically inhabit prairie dog colonies, although some displacement of other mixed prairie grassland species, including bird and small mammal species, is likely. Overall, a greater diversity of wildlife is expected with expansion of prairie dog colonies. Alternatives B, C, and D would exclude prairie dogs from xeric tallgrass communities and Preble's habitat, providing a greater amount of protection and, consequently, negligible adverse impacts to these sensitive wildlife habitats.

Alternative D would allow expansion of prairie dogs up to 1,000 acres. This amount of habitat conversion would have moderate beneficial impacts on wildlife species assemblages by increasing the diversity of habitats on the Refuge. Alternative D would also evaluate the suitability of accepting prairie dogs from off-site locations. This may lead to the introduction of the plague or a more rapid expansion of prairie dog populations to the 1,000-acre limit.

Species Reintroductions

In Alternatives B, C, and D, the Service would work with the CDOW to evaluate the suitability of reintroducing extirpated species to the Refuge. In Alternative A, species reintroduction would be conducted at the discretion of CDOW. Species currently under consideration include native fish species and plains sharp-tailed grouse. The CDOW would be primarily responsible for the implementation, management, and control of the consequences of introductions. While the Service would not play a leading role in these activities, it would work with CDOW and other land management agencies in

providing habitat for reintroduced species and cooperating in other measures to improve the potential for successful reintroductions. The success of any reintroduction effort would depend on close cooperation with CDOW and surrounding open space land management agencies.

Native Fish Species. In all alternatives, the Service would continue to assist the CDOW with on-going reintroduction and monitoring of native fish species such as the common shiner and northern redbelly dace in Rock Creek and the Lindsay Ponds. The successful reintroduction and establishment of native fish species would provide long-term benefits to the survival of these species by establishing a population in its native habitat that can be a source for future reintroductions to other foothills and plains streams. Increasing the numbers and survival rates of these species in Colorado also may reduce the potential for future federal listing. Reintroduction monitoring data would enable Service staff to evaluate long-term population and habitat trends and respond accordingly.

All alternatives would have a monitoring component. In Alternatives A and D, the Service would only assist CDOW with monitoring. In Alternatives B and C, the Service would take a more active role and oversee annual monitoring. Monitoring common shiner and redbelly dace populations, which were introduced in 2003, would help CDOW determine if additional reintroductions are appropriate or other management actions are necessary.

In Alternatives A, B, and D, the Lindsay Ponds would remain intact, resulting in a long-term benefit for common shiner and redbelly dace. In Alternative C, additional native fish reintroductions would not occur until the Lindsay Ponds are removed and the stream habitat restored. Removal of the Lindsay Ponds in Alternative C would result in major short-term and long-term adverse impacts to common shiner and redbelly dace populations introduced in 2003. Lindsay Ponds provide both feeding and spawning habitat for these two species (Rosenlund 2003) and removing the ponds would result in a long-term loss of spawning habitat for both species in the Rock Creek drainage and eventual loss of population (Aquatics Associates 2003). Even if other suitable habitat is available for relocation of these native fish species, overall available habitat on the Refuge would be substantially reduced.

Alternative B would also evaluate reintroduction of native fish species into Walnut and Woman Creeks. This would provide additional long-term benefits for native species by expanding the distribution of the species and reducing the potential adverse effects of a single catastrophic event.

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The use of established viewing blinds and overlooks would help reduce the impacts of public use on wildlife.

Plains Sharp-tailed Grouse. While the proposed plan to allow sharp-tailed grouse reintroduction to the Refuge is the same among all alternatives, the timing and distribution of reintroduction efforts and the frequency of monitoring would be different for each alternative depending on different rates of satisfying pre-release procedures in the CDOW Plains Sharp-tailed Grouse Recovery Plan (CDOW 1992). The long-term benefits of grouse reintroduction efforts would include expanding the existing range and population stability of the grouse, increasing wildlife diversity on the Refuge, and an additional opportunity for wildlife observation and interpretation.

In Alternative A, the Service would adopt a passive approach to grouse re-introduction, assisting CDOW, but not taking the lead in reintroduction activities and

monitoring. The Service would not develop site-specific management plans for grouse in Alternative A. The lack of adequate planning would likely result in poorly defined management objectives, ineffective monitoring, inadequate success criteria, and conflicting management priorities on the Refuge that may lead to the failure of grouse re-introduction. Without proper management of the habitat, Alternative A may adversely affect the success of grouse reintroductions.

In Alternatives B, C, and D, the Service would evaluate the suitability of sharp-tail grouse reintroduction and complete a sharp-tailed grouse management plan within the first 2 to 3 years of the Refuge. This plan would benefit grouse by increasing the prospect for successful reintroduction. The success of grouse reintroduction efforts depends on the availability of suitable habitat. Sharp-tailed grouse reintroduction in habitat that is not suitable because of weed infestations or incorrect habitat composition (plant species) may result in increased sharp-tailed grouse mortality.

Grouse reintroduction in all alternatives probably would not impact or displace other ground-nesting birds or other wildlife species because the grouse would be re-filling a niche vacated by their earlier extirpation. Managing tallgrass and other grassland habitat for sharp-tailed grouse would conflict with shortgrass habitat requirements of prairie dogs.

Other Reintroductions. Alternative B also would evaluate the suitability for reintroduction of additional native species. This would provide an overall benefit to the Refuge by further enhancing the biodiversity of the Refuge and contributing to the overall functioning of the ecosystem.

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Red-winged blackbird.

Public Use, Education, and Interpretation Actions

Public Use and Facilities

Visitor Use Facilities. Impacts to wildlife from the construction of visitor use facilities would primarily involve disturbance or alteration of vegetation, which is discussed in Section 4.4, *Vegetation Communities*.

Hunting. Alternatives B and D call for a limited youth and/or disabled hunting program focused on mule deer and elk populations at Rocky Flats. No public hunting would occur in Alternatives A and C. The short-term impacts of this program would include direct impacts on individuals that are taken during the hunts, and the effect on the Refuge deer population from the introduction of a new disturbance. These minor short-term impacts would be offset by the long-term benefits of improved population dynamics (migration and dispersal) that may result from hunting.

Unharassed wildlife populations quickly adapt to some human disturbances such as wildlife observation and predictable levels of activity. Limited hunting on the Refuge would reinforce skittish behavior in wildlife and would result in minor to moderate impacts to wildlife observation opportunities.

New Trails. Construction of new trails can favor invasive weed species that may capitalize on the existence of trail corridors. These effects can include introducing a new pathway for predators, or the creation of an unnatural wildlife dispersal corridor for species such as prairie dogs. No new trails would be constructed in Alternatives A and C; thus, there would be no effect to wildlife. New trail segments would be constructed in Alternatives B and D, resulting in long-term impacts to wildlife, primarily burrowing animals. The area disturbed by new trail construction in Alternatives B and D is small (Table 12) and minor adverse impacts are expected to be offset by the benefits of restoring and revegetating abandoned roads and converting some roads to trails.

The conversion of existing roads to trails would minimize the effects to wildlife habitat for Alternatives B and D. Trail construction along existing roadways would result in a narrowing of the tread surface and active restoration (including weed management) in the areas adjacent to the trail. Over the long term, these activities would benefit wildlife and their habitat, and would help mitigate the impacts of public use along these trails.

Trail Use. Public use of trails would result in both short- and long-term adverse effects on wildlife species due to disturbance. While most trails would be along existing roads, the frequency and nature of disturbance would increase relative to present conditions. Presently, Rocky Flats roads are used sporadically by individual maintenance and patrol vehicles, resulting in infrequent disturbance to wildlife for short durations. Public trail use in Alternatives B and D would result in more continuous disturbance from trail users during peak public use periods resulting in minor local adverse impacts to wildlife.

Wildlife responses to recreational use of trails would vary by species, habitat type, and type of recreational use. Factors that influence the amount of wildlife disturbance include:

- Time of year
- Group size
- Number of visitors
- Duration (time spent near habitat)
- Predictability and habituation to trail use
- Noise and detectability
- Natural and created noise/visual barriers

Different uses would result in different types of impacts. Visitors engaging in wildlife photography and observation can cause short-term impacts to wildlife due to the long duration and unpredictability of their behavior (Knight and Cole 1995; Weir 2000). The use of established blinds and overlooks, as well as guided interpretive visits, would help mitigate these impacts.

Short-term impacts generally would apply to individuals rather than populations or communities, and include behavioral changes such as nest abandonment, changes in food habits, and physiological changes such as elevated heart rates during flight (Knight and Cole 1995). Repeated disturbance may result in long-term changes to the behaviors of both individuals and populations. These changes would include abandonment of preferred foraging areas, alterations in energy budgets due to flight and, in some cases, abandonment of broad habitat areas (Knight and Cole 1995).

Trail use disturbance to large, broad ranging species such as mule deer would result in minor adverse impacts by causing changes in movement patterns and abandonment of certain concentration areas. While elk are occasionally found in portions of Rocky Flats, their presence is limited and sporadic. Changes in public use of the Refuge are not anticipated to affect elk or their periodic use of the Refuge. Trails in the Rock Creek drainage would be closed seasonally to protect sensitive breeding areas. Trail use would have a beneficial effect if elk displacement resulting in a reduction in the amount of degradation to sensitive riparian habitat from overbrowsing. For smaller species including birds, small mammals, reptiles, and insects, the presence and ongoing use of a trail would be a minor and localized adverse impact by creating a barrier to movement and use of nearby habitat for species such as voles (Meaney et al. 2002; Dickerson 2003; Miller and Knight 2001).

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Internal barbed-wire fencing would be removed.

Trails and visitor use of the Refuge would have negligible to minor impacts on prairie dogs. The experience from trails located within or near prairie dog colonies on City of Boulder and Boulder County open space suggests that prairie dogs adapt to adjacent trails.

General Trail Density. Depending on the specific trail configuration, the overall trail density in a given area can be an indicator of the potential for use of those trails to adversely affect wildlife and habitat. The potential for such impacts are often balanced against the provision of trails for public access and recreation, as is the case with many open space areas near Rocky Flats. As shown in Table 14, the trail density in Alternative D would be comparable to other nearby open space areas, while Alternative B would have a lower trail density than many nearby open space areas.

Table 14. Comparison of Proposed Trail Density to Other Open Space Areas

Area	Jurisdiction	Size (acres)	Miles of Trail	Acres per Mile of Trail ‡
Alternative B	USFWS	5,000	16.4	305
Alternative D	USFWS	5,000	21.1	237
Boulder Mountain Park	City of Boulder	5,719	40.2	142
Mesa/South Boulder Creek †	City of Boulder	3,174	19.8	165
White Ranch Park	Jefferson County	4,335	19.6	221
Walker Ranch Open Space	Boulder County/ Co. State Parks	3,507	11.4	308
Doudy Draw Open Space †	City of Boulder	1,629	5.0	326

Source: City of Boulder and Boulder County GIS data; Jefferson County Open Space web page.
† Generally consists of grassland communities comparable to those at Rocky Flats.
‡ Areas with higher values have fewer trails per acre.

When compared against nearby open space areas with a similar grassland character such as the Mesa/South Boulder Creek area, both Alternatives B and D would be similar. By these measures, Alternatives B and D do not appear to have an excessive density of trails for the land area that is anticipated to become the Refuge.

Potential Impacts of Specific Trails

Northern East-West Trail. The east-west, multi-use trail in the northern portion of the Refuge (Alternatives B and D) may result in habitat fragmentation by disrupting the movement of mule deer and other wildlife species between the Rock Creek drainage and the Walnut Creek drainage. While several existing roads cross this area, public use along a single trail may create a barrier of disturbance during periods of high visitation. Such an impact would be moderate over the long term.

Rock Creek Hiking Trail. The hiking-only trail traversing the upper (western) portions of the Rock Creek drainage (Alternatives B and D) would have the potential to affect the movement of wildlife between Rock Creek and the open lands to the west of the Refuge, as well as disturbance to wildlife species in the vicinity of the trail. As a newly constructed trail, this trail also would have the potential to increase weed dispersal in the area. Because low pedestrian traffic and seasonal closures are expected along this trail, the long-term impacts to wildlife are anticipated to be minor.

Plum Branch Trail. In Alternative D, a hiking trail would traverse the Rock Creek drainage along the Plum Branch. Similar to the Rock Creek trail, this trail would have minor impacts on wildlife movement within the Rock Creek drainage. This trail would follow an existing road through riparian areas and mule deer concentration areas. The effects of disturbance and habitat fragmentation from this trail would be moderate at certain times of the year. During periods of heavy public use, the cumulative effect of this and the three other trails that would traverse the Rock Creek drainage in Alternative D may result in moderate to major impacts to some species of wildlife. These impacts would be partially mitigated by the enforcement of seasonal trail closures.

South Ridge East-West Through Trail. In Alternatives B and D, public use along an east-west multi-use trail may result in some fragmentation and disturbance of wildlife movement between Antelope Springs and the Woman Creek drainage, including mule deer concentration areas. This would constitute a minor impact to mule deer populations.

Walnut Creek, Smart Ditch, and Woman Creek Trails. In Alternative D, several trails would follow existing roads in close proximity to riparian habitat along Walnut Creek, the Smart Ditch, and South Woman Creek. Public use along these three trails would disturb potential raptor nesting habitat. In addition, public use along the Walnut Creek and Smart Ditch trails has the potential to fragment or disturb mule

deer concentration areas. Individually, the impacts of public use would be relatively minor. The combined impact of all three trails, however, may have a moderate impact on the availability of suitable nesting habitat for various raptor species, most notably, American kestrels, great horned owls, and red-tailed hawks.

Refuge Operations, Safety and Partnerships

Cultural Resource Management

Cultural resource management is not anticipated to affect overall wildlife habitat, populations or species composition on the Refuge. Removal of the Lindsay Ranch structures in Alternative C would eliminate some barn owl, bat, and invertebrate (honey bee) habitat. These effects would not occur in Alternatives A, B, or D.

Refuge Operations

Fencing
The existing barbed wire perimeter fence, which would remain in all alternatives, and would have negligible impacts to the movement of wildlife species.

Partnerships

In Alternative A, the Service would maintain dialogue with adjacent landowners and open space management agencies, while in Alternatives B, C and D, the Service would meet annually with adjacent open space managers. These activities would benefit wildlife populations on the Refuge by allowing the Service to learn about other landowners' and agencies' wildlife and wildlife habitat management successes and failures. This regional dialogue also would benefit wildlife on the Refuge by improving the coordination of habitat management across jurisdictional boundaries to improve and expand the range of available habitat for many species. Coordination with adjacent land managers also would be useful in protecting wildlife movement corridors between properties.

Research. All alternatives would allow for compatible scientific research that focuses on habitat, wildlife, and public use. All field research would introduce additional short-term researcher disturbance. This disturbance would be offset by improved knowledge that may be directly applied to the management and conservation of habitat.

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Trail use in Alternative D could impact nesting sites for raptors.

Cumulative Impacts

Mining

The impact of future aggregate mining on wildlife corridors along the western edge of the Refuge would disrupt or alter deer and elk movement between the Refuge and areas to the west and fragment existing grassland communities. Noise and human activity, as well as noxious weed infestations related to mining also would indirectly reduce habitat for native wildlife using lands surrounding the Refuge. The cumulative effect of reduced habitat, movement barriers and fragmented habitat from mining combined with increased public use may curtail ungulate movements on and off the Refuge and would have moderate adverse impacts to elk and possibly deer use on the Refuge.

Urban Development

The development of private lands along the western boundary of the Refuge would adversely impact numerous wildlife species on the Refuge by eliminating a major east-west movement corridor between the Refuge and the open space lands and foothills to the west. Development along the southern boundary of the Refuge would similarly impact the movement of wildlife species between the Refuge and the Big Dry Creek drainage. Urban development along the Refuge boundaries also has the potential to increase the occurrence of wildlife conflicts. Such conflicts include, but are not limited to wildlife seeking domestic food sources (gardens or trash), wildlife preying upon domestic pets, and domestic pets preying upon birds and small mammals, and traffic conflicts. Overall, these conflicts can be a nuisance and in some cases a danger to humans. Additionaly, wildlife/human conflicts can alter the natural foraging and movement patterns of some wildlife.

DOE Monitoring and Maintenance

The Service has recommended to the RFCA parties that DOE construct a four-strand barbed-wire stock fence around the DOE retained area to demarcate the boundary between the Refuge and DOE retained lands (Appendix E). The impact of such a fence on wildlife would be negligible to minor, depending on the species.

4.6. THREATENED AND ENDANGERED SPECIES

Potential effects to threatened and endangered species from alternative actions were evaluated based on potential impacts to Preble's meadow jumping mouse, which is found in riparian habitat on the Refuge, and bald eagles, which occasionally forage on the site. The determination of effects to these species was based the likelihood for direct impacts to individuals or a loss or change in habitat used by these species. No assessment of effects on threatened or endangered plant species was conducted because none are known to exist at the Refuge.

Wildlife and Habitat Management Actions

Preble's Habitat Management

The protection and management of riparian and adjacent upland grasslands specifically for Preble's would provide long-term benefits to the mouse. The periodic presence of humans in Preble's habitat for monitoring may potentially disturb or temporarily displace individual Preble's. The extent of the disturbance would depend on the magnitude, intensity and duration of monitoring, but is expected to be negligible for all alternatives. Alternatives C and D would have the greatest potential to disturb Preble's as a result of more extensive vegetation monitoring than Alternatives A and B. The magnitude and intensity of the disturbance would be substantially less then previous population monitoring of Preble's at Rocky Flats, which included extensive trapping, marking, and fitting individuals with radio transmitters or other marking devices.

Habitat surveys in all alternatives would facilitate more responsive management to early detection of problems or positive responses to habitat restoration. These surveys would detect any habitat degradation and lead to responsive actions such as deer and elk population management or weed control.

Road Restoration and Revegetation

Reclamation of roads and stream crossings would benefit all threatened and endangered species by:

- Improving habitat connectivity
- Reducing habitat fragmentation
- Reducing conduits for invasive weeds and predators

Alternative A would provide the least benefit by restoring 12 miles of unused roads and seven stream crossings. Alternatives B, C, and D would restore between 24 and 27 miles of unused roads Refuge-wide and up to 13 stream crossings. These alternatives would benefit Preble's by reducing habitat fragmentation and restoring connectivity Refuge-wide. Bald eagles would indirectly benefit from reduced fragmentation that may increase the distribution, diversity, and availability of prey populations. Restoration (road restoration in all alternatives and hay meadow restoration in Alternatives B and C) and weed management efforts (all alternatives) may indirectly improve foraging habitat for the bald eagle by increasing the abundance and diversity of prey species in the grasslands at Rocky Flats.

Weed Management

Weed management would benefit threatened and endangered species by reducing competition or degradation of habitat from invasive weeds. As discussed in Section 4.4, all forms of weed management would carry inherent short-term risk for adverse direct impacts to threatened and endangered species or their habitat. Alternative A would have the fewest short-

term adverse impacts and, conversely, would provide the fewest long-term benefits for threatened and endangered species by limiting efforts primarily to the Rock Creek Reserve. Alternatives B, C, and D would have the greatest short-term adverse impacts, but also would result in the greatest long-term benefits for threatened and endangered species.

Weed management and habitat restoration efforts would increase populations of some bird and small mammal species that provide prey for bald eagles, while populations of other species would decrease, resulting in overall negligible impacts to eagles.

Deer and Elk Management

Monitoring deer impacts on riparian habitat in Alternatives B and C would benefit Preble's by identifying excessive browsing that would prompt management activities to prevent excessive damage to Preble's habitat. Impacts of deer and elk management on bald eagles would be negligible in all alternatives.

Prairie Dog Management

Prairie dog exclusion from riparian, wetland, and xeric tallgrass habitat areas (Alternatives B, C, and D) would not reduce substantially the available colonization sites for prairie dogs, and would maintain the quality of native habitat for other Refuge resources, including Preble's. Intra-Refuge relocation (Alternatives B, C, and D) may benefit prairie dog populations, but would result in an accompanying change in the composition of existing shortgrass and mesic mixed grass habitat. Accepting prairie dogs from off-site locations (Alternative D) may benefit prairie dog populations at the expense of other Refuge resources, but may possibly introduce plague and other diseases.

A moderate adverse impact would occur in Alternative A with the potential expansion of prairie dog colonies into upland foraging habitat and shrub areas that would reduce habitat suitability for Preble's. Alternatives B, C, and D would exclude prairie dog expansion into Preble's habitat resulting in negligible impacts.

Prairie dog expansion in all alternatives would improve foraging conditions for both nesting and wintering bald eagles from surrounding areas. Expanded prairie dog populations may be a particularly important winter prey resource for Front Range eagles (U.S. Fish and Wildlife Service 1992; Gillihan 1998). The expansion of prairie dog habitat also would benefit other species by providing prey for predators, or habitat for prairie dog associates, such as burrowing owls and horned larks.

Species Reintroduction

In all alternatives, native fish reintroduction would have a negligible impact on terrestrial threatened and endangered species, including Preble's, and bald eagle. Creating a sustainable native fishery in Rock Creek would benefit aquatic predators such as herons and cormorants, but the native fish are typically too small to provide prey for bald eagles.

Reintroduction of sharp-tailed grouse in all alternatives likely would involve habitat restoration and weed management activities. Alternative A provides for no specific grouse management activities, while Alternatives B, C, and D would be implemented after the development of a management plan. Habitat restoration would benefit Preble's by maintaining or enhancing native grass and shrub communities. Grouse also may provide an additional prey species for both nesting and wintering bald eagles.

Public Use, Education and Interpretation Actions

Public Use

Trail Use. Public use may result in minor indirect impacts to Preble's populations, distribution, and behavior due to trail use in habitat areas. Meaney et al. (2002) found no strong indication that Preble's are adversely impacted by trails, although the study suggests possible negative trail effects on Preble's distribution and abundance.

Alternatives A and C would have the least impact to Preble's resulting from the conversion of existing roads into trails or other public uses. These two alternatives would have no trails or public use of riparian areas. Alternative B would have minor impacts to Preble's because some existing roads within riparian areas

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Alternatives A, B, and D would maintain the scenic, historic, and interpretive value of the Lindsay Ranch.

would be converted to pedestrian trails. While the existing number of roads would be reduced in this alternative, the use of trails will exceed the current occasional use of roads. The Ecological Services branch of the Service has previously concluded that conversion of a graded or two-track road did not constitute a change in land use and does not result in "take" of Preble's.

Table 15. Trail Lengths Within Preble's Habitat

	Alternatives	
	B	D
Existing Road	0.4 mi.	0.6 mi.
New Trail	0.1 mi.	0.1 mi.
TOTAL	0.5 mi.	0.7 mi.

Mileage based on riparian and wetland vegetation types that supports Preble's habitat. Upland grassland habitat is not included.

Public use of the Refuge may displace or discourage bald eagle use of potential foraging or perching areas. Currently, the Refuge is only occasionally visited by wintering bald eagles or possibly by eagles from nearby nesting areas. As habitat restoration progresses and the availability of prey (prairie dogs) increases under the various alternatives, bald eagle use of the Refuge would be expected to increase and potential human/eagle conflicts would also increase. Alternatives A and C would have the least public use and a negligible effect on bald eagles. Alternative B would have more trails and a greater potential impact on bald eagles; however, trails in Alternative B generally avoid riparian areas and other suitable eagle foraging or perching habitat. Alternative D would likely have the highest visitor use, the most diverse uses, and the most widely dispersed human use. Several trails specific to Alternative D would follow existing roads in close proximity to riparian habitat along Walnut Creek, the Smart Ditch, and South Woman Creek, and public use along all three of the trails may indirectly impact bald eagles by human activity near potential perch sites. Alternatives B and D are expected to have a minor effect on bald eagles because of their limited current use of Refuge habitat.

Trail Construction. In Alternative B, approximately 0.4 mile of existing roads within Preble's habitat would be converted to trails and 0.1 mile of new trail construction would occur in Preble's habitat. In Alternative D, 0.6 mile of existing roads would be converted to trails and 0.1 mile of new trail construction would occur in Preble's habitat (Table 15).

Construction of a new hiking trail in the Rock Creek area may fragment some habitat as it descends from the pediment top into the Short Ear Branch of Rock Creek (Alternative D). To avoid adverse impacts to Preble's, construction activities for new trails would be conducted outside the Preble's active season (May through September). Adverse impacts would be minor if trails are constructed during Preble's hibernation. Alternative D would have the most human disturbance within Preble's habitat, the most new trail construction, and the greatest potential for secondary impacts associated with erosion caused by equestrian and bicycle use. New trail construction for Alternatives B and D would have a minor effect on Preble's because of the limited extent of construction in Preble's habitat.

Because no new trails would be constructed for Alternatives A and C, there would be no effect on Preble's habitat. A beneficial effect would occur for all alternatives with the conversion of roads to trails and revegetation of the narrower corridor. Monitoring for recreation impacts in Alternatives B and D would benefit Preble's through adaptive management prescriptions implemented in response to recreation impacts.

Trail construction in Alternatives B and D may directly impact some prairie dog colonies due to disturbance and fragmentation in their habitat areas. This activity also would indirectly impact bald eagles by eliminating or curtailing use of some potential foraging areas.

Hunting

Limited deer and elk hunting would have no direct impact on any threatened or endangered species. Indirect short-term impacts would result from disturbance caused by the additional human presence in unpredictable locations and noise from gunshots.

Visitor Use Facilities

Construction of visitor use facilities such as parking areas, overlooks, and viewing blinds would be located in areas of previous disturbance. These facilities for all alternatives would have a negligible effect on threatened or endangered species.

Refuge Operations, Safety and Partnership Actions

Minor to negligible adverse impacts to threatened and endangered species would occur from most Refuge operations, including staffing, office and maintenance facilities, and cultural resources management.

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Habitat restoration in the mixed grassland prairie communities would help enhance internal views on the Refuge.

Alternatives C and D would result in the most benefits from monitoring and adaptive management prescriptions, due to staff available to implement monitoring efforts. These benefits would be reduced in Alternative B. Staffing levels in Alternative A would be inadequate for effective monitoring and management.

Partnerships

In Alternative A, the Service would maintain a dialogue with adjacent landowners and open space agencies. Alternatives B, C, and D would entail annual meetings with Refuge neighbors. These activities would benefit threatened or endangered species populations on the Refuge by allowing the Service to learn about successes and failures of other landowners and agencies in matters regarding threatened and endangered species habitat management. This regional dialogue also would benefit threatened and endangered wildlife and sensitive plant species on the Refuge by improving coordination of habitat management across jurisdictional boundaries to improve and expand the range of available habitat for many species.

Fencing

The existing stock fence that surrounds the Refuge would be maintained in all alternatives. This would permit wildlife movement, and maintain habitat connectivity and the exchange of genetic information between species, including Preble's.

Cumulative Impacts

Mining

Future aggregate mining may directly or indirectly affect Preble's habitat though habitat loss, introduction of noise and disturbance adjacent to habitat, and by changes to the hydrology that supports riparian habitat used by Preble's.

The permit for the Church Ranch Rocky Flats Pit includes stipulations that mining will stay a minimum of 2 feet above groundwater (CDMG 2004, Church Ranch 2004). However, the permits for the Bluestone Pit and the Lakewood Brick and Tile operation do not have stipulations about groundwater. Therefore, these operations may potentially impact habitat for the Preble's in the Rock Creek and Woman Creek drainages, which are downgradient of these operations.

Urban Development

Possible residential development along the southern boundary has the potential to impact Preble's due to harassment or predation by domestic cats. While such cumulative impacts are generally unlikely, they do have the potential to occur.

4.7. CULTURAL RESOURCES

The analysis of cultural resource effects was based on known cultural resources present on the site and anticipated disturbances. Effects were evaluated on a site's integrity of location, design, setting, materials, workmanship, feeling, and association. Site-specific impacts to cultural resources would be determined during final design and layout prior to surface disturbance. As discussed in Chapter 3, no identified cultural resources are eligible for listing in the National Register of Historic Places.

Wildlife and Habitat Management Actions

Some weed management tools, such as burning and mowing, have the potential to disturb, destroy, or otherwise impact cultural resource sites throughout the Refuge. Using these tools may adversely affect the integrity of some resources.

Refuge Operations, Safety and Partnerships

Cultural Resources

Lindsay Ranch. In Alternatives A, B and D, the Service would stabilize the Lindsay Ranch barn and allow other features, including the ranch house, to

deteriorate. The barn would be interpreted in Alternatives B and D. These actions would maintain the scenic, historical, and interpretive value of the barn. The integrity of the ranch house and other features would be lost over time. Alternative C would remove all Lindsay Ranch structures. This action would affect the integrity of the site as a historic, scenic, and interpretive resource.

Other Resources. Construction of new trails or facilities in all alternatives would not affect any identified sites. Disturbance and vandalism associated with improved public access to portions of the Refuge may indirectly affect some resources. In all alternatives, the Service would maintain an inventory of other cultural resources (such as the apple orchard) on the Refuge. None of the additional cultural resources would be maintained or restored. In Alternatives B and D, some of these resources would be interpreted to the public through signage and/or programs. Such interpretation would mitigate the long-term effects of not maintaining such resources.

Cumulative Impacts

Mining

The development of private mineral rights in the western portion of the Refuge has the potential to impact several cultural resource sites in those areas. Those sites, however, are not eligible for listing in the National Register of Historic Places.

Rocky Flats Cold War Museum

The proposed establishment of the Rocky Flats Cold War Museum near the Refuge would benefit cultural resources associated with the site by providing a venue to present and interpret the history of the site as former ranchland and a nuclear weapons production facility.

4.8. TRANSPORTATION

Visitation/Access

Visitation in Alternatives A and C would be similar to existing visitation unrelated to site cleanup. Annual visitation in Alternative A is estimated to be about 300 people per year and 1,000 people per year in Alternative C, and would be limited to guided tours (Table 16). Because of the public use component of Alternatives B and D, visitation in these alternatives would be considerably higher than in Alternatives A and C. In Alternative B, annual visitation is estimated to be 10,000 visitors in the first 3 to 5 years, increasing to 85,000 visitors after year 5 as more public use development occurs. Similarly, Alternative D would have less visitation anticipated in years 1 through 3, and would increase to 135,000 visitors after year 5. In all alternatives, weekend visitation is expected to be twice as much as weekday visitation (Table 16).

Vehicles per day would range from less than 1 in Alternatives A and C to 325 on a weekend in Alternative D (Table 16). For analysis purposes, it was assumed all visitors in all alternatives would access the site by vehicle. Non-motorized access would not occur in Alternatives A and C; the proportion of non-motorized access, such as by foot, bike, or horse, in Alternatives B and D is not known. Vehicles per day estimated for Alternatives B and D probably would be lower than those shown due to non-motorized access.

Alternative B would include three parking areas: a north trailhead parking lot with access off of Highway 128; and a central parking lot and west parking lot with a single access off of Highway 93 at the location of the existing Rocky Flats Environmental Technology Site gate. Alternative D would include three more parking areas in addition to the parking proposed with Alternative B: a northeast trailhead parking lot with access off of Indiana Street; a southeast trailhead

Table 16. Estimated Visitation and Associated Vehicles Per Day

Period	Alternative A		Alternative B		Alternative C		Alternative D	
	Annual Visitation	Vehicles/ day	Annual Visitation	Vehicles/ day	Annual Visitation	Vehicles/ day	Annual Visitation	Vehicles/ day
Weekday Years 1-3	100	<1	3,300	12	333	<1	8,000	30
Weekend Years 1-3	200	<1	6,700	24	667	<1	17,000	60
Weekday Years >5	100	<1	28,000	102	333	<1	45,000	162
Weekend Years >5	200	<1	57,000	204	667	<1	90,000	325

Table 17. Daily and Peak Hour Traffic Volume for Access and Trailheads Proposed in Alternatives B and D

Scenario	Total Site	SH 93 Access		SH 128 Trailhead		N. Indiana Trailhead		S. Indiana Trailhead	
	Daily Volume	Daily Volume	Peak Hour Volume	Daily Volume	Peak Hour Volume	Daily Volume	Peak Hour Volume	Daily Volume	Peak Hour Volume
Alternative B									
Years 1 - 5	48	48	6	-	-	-	-	-	-
Years > 5	409	266	35	143	19	-	-	-	-
Alternative D									
Years 1 - 3	120	78	10	18	2	6	1	18	2
Years 4 - 5	409	266	35	61	8	20	3	61	8
Years > 5	649	422	55	97	13	32	4	97	13

parking lot with an access off of Indiana Street; and an additional west parking area with a visitor center that would use the Highway 93 access (David Evans 2003).

Effect on Highway 93

The existing access road leading into Rocky Flats Environmental Technology Site carries about 2,700 vehicles per day. In all alternatives, this volume is expected to decrease substantially when the site is converted to a wildlife refuge. Alternative D, which would place the most traffic onto Highway 93, would include a visitor center and about 70 parking spaces on the access road. Alternative D would result in an estimated 422 vehicles per day using the Highway 93 access on a weekend day after year 5 (Table 17). This is a decrease of almost 85 percent from the current daily traffic. The Highway 93 access intersection would not warrant signalization through 2021 in all alternatives.

The existing deceleration and acceleration lanes would be beneficial to the safety of the intersection if the traffic signal is removed. The sight distance at the intersection appears adequate for stop control on the Highway 93 access. Traffic capacity and operations also would be improved along Highway 93 if CDOT removes the traffic signal (David Evans 2003). However, the removal of the existing traffic signal could make it difficult for visitors to exit the Refuge on to Highway 93. Truck traffic related to ongoing mining activities may increase the need for a traffic signal.

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Stream crossings would be restored and many roads revegetated.

Effect on Highway 128

Alternative D would include a roadside overlook at an existing pull off on the south side of Highway 128 across from an existing unimproved Boulder County trailhead. The overlook would be improved and paved to match the grade of Highway 128. Although the sight distance is good at this location, it would be improved with grading improvements. The Boulder County trailhead may provide informal spillover parking for the overlook. Placing pedestrian crossing warning signs would improve safety.

Alternatives B and D would include a trailhead with parking along Highway 128 in the vicinity of Rock Creek. The location would provide adequate sight distance from the horizontal curve to the west and good sight distance to the east.

Alternative B would include a pedestrian crossing of Highway 128 west of McCaslin Boulevard, contingent on the establishment of connecting trails. Locating the crossing at a signalized intersection would protect pedestrians. Pedestrian signals and push buttons would help crossing pedestrians (David Evans 2003).

Effect on Indiana Street

The existing access to the Rocky Flats Environmental Technology Site from Indiana Street is not proposed for public use in any alternative. Therefore, the

existing signal would not be warranted and would likely be removed by CDOT. Although sight distance is poor looking north from the access, it would be adequate for infrequent use by Service or DOE vehicles. Reducing the existing wide access road approach to the signal would discourage public use for parking or turn around maneuvers. Modifying pavement markings on Indiana Street would eliminate the existing intersection turn lanes. Traffic capacity and operations would be improved along Indiana Street if CDOT removes the traffic signal.

Alternative B would include a pedestrian crossing on Indiana Street south of Highway 128, contingent on the provision of connecting trails by neighboring entities. This crossing would connect the Refuge trail system to the future Great Western Trail in the Broomfield Open Space east of Indiana Street. Due to the rolling terrain along Indiana Street, the pedestrian crossing would be located north of Walnut Creek to maintain good visibility for approaching vehicles.

Another pedestrian crossing on Indiana Street north of 96th Avenue would be included in Alternative B. This crossing would connect the Refuge trail system to the future Westminster trail system in the Westminster Open Space east of Indiana Street. The proposed location of the crossing south of Woman Creek in the area of the monitoring station has good visibility for approaching vehicles.

Alternative D would include a trailhead with parking along Indiana Street in the vicinity of Walnut Creek. Similar to the potential pedestrian crossing, it is recommended that the trailhead be located north of Walnut Creek to achieve good sight distance with the vertical curves on Indiana Street. Alternative D would include another trailhead with parking along Indiana Street north of the signal at 96th Avenue. Traffic expected to use the accesses would not require acceleration or deceleration lanes for right turning traffic on Indiana Street.

The two trailhead access intersections proposed with Alternative D would need the minimum 40-foot length, so the total length of left turn lane required would be 540 feet at each access. Due to the limited distance to the 96th Avenue signal, the left turn lane at the southern trailhead access would be coordinated with the existing left turn lane at the 96th Avenue intersection.

If the roadway improvements at the Indiana Street trailhead accesses require replacement of the drainage structures located near the trailheads, the Service would consult with CDOT to determine if an expanded underpass structure would be needed to accommodate both drainage and pedestrian/bicyclists. This would remove crossing pedestrians and bicyclists from the vehicular travel lanes and lower the possibility of pedestrian/vehicle conflicts (David Evans 2003).

Cumulative Impacts

A discussion about the general effects of any transportation improvements to the roads and highways surrounding the Refuge is included in Section 4.16.

Urban Development

Urban development south and east of the Refuge would likely increase traffic on the roads and highways that surround the Refuge. Traffic associated with the Refuge and urban development would contribute to the overall traffic.

4.9. OPEN SPACE, RECREATION AND TRAILS

Refuge establishment would make a significant contribution to a nearly contiguous block of open space in northern Jefferson County and southern Boulder County. In all alternatives, the protection of the site from development would help conserve the interconnected natural resources of the Rocky Flats area for the long term. This section provides an analysis of the regional consequences or benefits of the proposed alternatives, and how they would affect resources on the Refuge and on adjacent open space lands and trails.

Wildlife and Habitat Management Actions

Preble's Habitat Management

Successful protection and enhancement of riparian habitat on the Refuge would benefit wildlife species on adjacent open space lands. Protection of riparian habitat also would provide a potential source of Preble's for downstream areas on Rock Creek, and open space to the east (Standley Lake). Recreational users would benefit from riparian area management by maintaining vegetation and scenic diversity.

Xeric Tallgrass Management

Several adjacent open space areas support xeric tallgrass habitat that is similar to the habitat at Rocky Flats. In all alternatives, the Service would develop a vegetation management plan and work with adjacent open space agencies towards regional

xeric tallgrass conservation. This management planning and collaboration would benefit both the Service and nearby open space management agencies in their management and restoration of the xeric tallgrass community.

Weed Management

In general, on-going weed management efforts in all alternatives would benefit adjacent open space lands. In Alternative A, the Service would focus weed management and reduction efforts in the Rock Creek Reserve. Efforts outside of Rock Creek Reserve would be limited to containing existing weed infestations. Adjacent open space lands would be adversely affected if weeds are not adequately contained in Alternative A. The proposed reduction of weed infestations in Alternatives B, C, and D would benefit adjacent open space lands by reducing the spread of weeds onto adjacent lands and by providing a source of information for regional weed management strategies.

Deer and Elk Management

In all alternatives, developing a target population for the Refuge and managing that population would benefit adjacent open space areas by reducing the potential effects of overgrazing or overbrowsing on adjacent open space areas. Alternatives B, C and D would include extensive monitoring of deer and elk populations, deer and elk habitat impacts, and fawning rates and survival in Alternative C. This monitoring would provide long-term benefits to adjacent open space managers by providing a growing base of scientific information that would be used in developing wildlife and habitat management strategies in other areas.

Prairie Dog Management

The Refuge has the potential to support many more prairie dog colonies and individuals than currently occupy the site. A healthy prairie dog population on the Refuge would provide a genetic base for the region if populations on nearby open space lands were eliminated due to plague, predation, or other reasons. In Alternative D, the Service would consider accepting unwanted prairie dogs onto the Refuge from off-Refuge locations. If deemed appropriate, relocations from off-site would benefit nearby open space managers by providing a non-lethal option for prairie dog removal.

Species Reintroduction

Species reintroduction would benefit wildlife diversity on open space lands throughout the area. Any expansion of wildlife populations also would provide a long-term benefit to adjacent open space, and recreational opportunity by improving wildlife viewing opportunities.

Public Use, Education and Interpretation Actions

Public Use

Recreation Opportunities. The wildlife-dependent public use programs proposed in Alternatives B and D would enhance the availability and diversity of outdoor recreation opportunities in the Rocky Flats area. These programs, including environmental education, interpretation, wildlife observation, and trail use, would complement recreational opportunities on nearby open space lands.

The guided tours and interpretive programs in Alternative C would also complement other outdoor recreation and learning opportunities in the Rocky Flats area. However, these opportunities at the Refuge would be limited to 1,000 visitors per year. In Alternative A, visitation would be limited to 300 visitors per year and recreational opportunities would be significantly less than in the other three alternatives.

The multi-use trails that are planned for Alternatives B and D could result in user conflicts between hikers and bikers in the northern portion of the Refuge, and hikers, bikers and equestrian users in the southern portion of the Refuge. Due to the size of the Refuge, the length of multi-use trails, and the open sight lines that characterize trails in a predominantly prairie landscape, user conflicts are anticipated to be rare, and their effect on the overall trail experience are anticipated to be minor. Conflicts among trail users can be reduced and mitigated by education, appropriate signage, and where necessary, law enforcement activities.

Equestrian use on the multi-use trails in the southern portion of the Refuge could potentially impact trail aesthetics from the accumulation of horse manure on trails. Concentrations of horse manure on trails could result in a minor impact on trail use and the experiences of other trail users. Removal of horse manure by volunteers, as stipulated in the Compatibility Determination for Multi-Use Trails (Appendix B), would mitigate these impacts.

Wildlife Displacement. Increased human presence, visitor use, and hunting in the Rocky Flats buffer zone in Alternatives B and D have the potential to displace some wildlife species, especially mule deer, and could

cause them to migrate onto adjacent open space lands. Wildlife displacement onto adjacent lands could decrease wildlife viewing opportunities on the Refuge, and could facilitate the spread of CWD to the deer population on the Refuge. Wildlife displacement, however, may benefit adjacent open space areas by increasing their native wildlife diversity and opportunities for wildlife viewing, depending on visitor use and habitat conditions on those lands.

Recreation Facilities

Trail Development. Recreational trails exist or are planned on open space parcels to the south, east, and north of Rocky Flats. A segment of the regional Front Range Trail is conceptually planned for the Highway 93 corridor on the west side of the Refuge. In Alternatives A and C, which would not have publicly accessible trails, Rocky Flats would continue to be a barrier to regional open space trail connections. In Alternatives B and D, the trail system at Rocky Flats would provide regional connections between Broomfield, Westminster, and Arvada trails, as well as the proposed Front Range Trail. These alternatives would not provide a direct connection to the City of Boulder or Boulder County's trails to the northwest, and would not provide connections for trail users with dogs. Alternative B would provide less trail connectivity for equestrians than Alternative D because it would not allow horse use on the northern multi-use trails that connect to Broomfield and Superior.

Trailhead Facilities. In addition to trail connections from adjacent open space areas, access to the trails and other wildlife observation facilities at the Refuge would be provided from the main entrance on Highway 93, and trailhead facilities on the periphery. Alternative B would provide a single peripheral trailhead along Highway 128, while Alternative D would provide additional trailhead facilities along Indiana Street. These facilities would benefit public access to the Refuge. However, the proposed parking and trailhead location along the north edge of the Refuge has the potential to impact nearby open space resources due to trespass to the north across Highway 128.

Refuge Operations, Safety, and Partnerships

Partnerships

Regional Coordination. In Alternative A, the Service would maintain dialogue with adjacent landowners and open space management agencies, while in Alternatives B, C and D, the Service would meet annually with adjacent open space managers. These efforts would benefit both the Refuge and surrounding open space by improving collaboration and coordination in resource and visitor use management plans, strategies and techniques.

Research. Alternatives B, C and D would support research related to wildlife, habitat and public use. Over the long term, this research would benefit nearby open space managers by providing an expanded foundation of scientific knowledge on which they can base resource and public use management decisions.

Cumulative Impacts

Trails

The cities of Arvada, Westminster, and Broomfield have future trails planned that can connect to the Refuge and to each other. The Refuge trail systems proposed in Alternatives B and D would contribute to this enhanced network of regional open space trails. In Alternatives A and C, which would not have publicly accessible trails, Rocky Flats would remain a barrier to regional open space trail connections.

4.10. VISUAL RESOURCES

Visual resources on the Refuge generally comprise views from surrounding areas, views from Rocky Flats to surrounding landmarks, and internal views. This section evaluates the impacts of the CCP alternatives on these resources. Given the qualitative nature of visual resources, the descriptions of the effects in this section attempt to account for differences in visual preferences.

Wildlife and Habitat Management Actions

Xeric Tallgrass Management

Habitat Maintenance and Enhancement. In all alternatives, the Service would focus weed management and habitat restoration tools to maintain and enhance the xeric tallgrass communities. Alternative A would focus these efforts on xeric tallgrass habitat within the Rock Creek Reserve. Successful maintenance and restoration of the xeric tallgrass community would likely result in a taller, more robust grassland that would benefit the quality and diversity of views within the Refuge.

Prescribed Fire. Smoke associated with prescribed fire in all alternatives except D would result in short-term visual impacts. Such impacts would include impaired views of the Rocky Flats/mountain backdrop area from

surrounding communities, and obscured views within the Refuge during fires. Blackened stubble that would likely follow fires would be a short-term visual impact. However, successful ecological restoration in these areas would benefit the visual quality and diversity in the long term.

Grazing. From the perspective of Refuge visitors (internal views), the use of grazing as a grassland management tool may result in short-term visual impacts to some areas due to manure, trampling, and dust. Some may consider the pastoral view of livestock grazing on Rocky Flats grasslands to be a benefit to internal visual resources. Livestock grazing would not be visible from surrounding communities and would not affect views from off Refuge.

Mixed Grassland Prairie Management

In Alternatives B and C, the 300-acre hay meadow in the southeast corner of the Refuge would be restored to native prairie. During the restoration process, the removal of non-native grasses and the establishment of native grasses would result in short-term visual impacts to the area, which would be bare, patchy, or weedy for several years. These impacts would affect internal views and distant views from the Refuge looking southeast, where the hay meadow provides a vegetated foreground to panoramic views. However, successful prairie restoration in this area would benefit the visual quality and diversity in the long term.

Road Restoration and Revegetation

In all alternatives, some roads and stream crossings would be removed and revegetated. Once completed, the revegetation efforts would benefit views on the Refuge and views from within the Refuge by creating larger patches of undisturbed grasslands and shrublands.

Deer and Elk Management

In all alternatives, the Service would monitor deer and elk browsing in riparian and upland shrub areas throughout the Refuge. This monitoring, and subsequent actions to prevent overbrowsing, may indirectly benefit internal visual quality in some riparian areas by facilitating healthy, robust vegetation.

Prairie Dog Management

In all alternatives, prairie dogs would be allowed to naturally expand within their habitat areas. To some, prairie dog colonies add to the natural diversity of the prairie landscape; to others, they are an eyesore.

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Views from Rocky Flats to downtown Denver.

Depending on their location and arrangement, expanded prairie dog colonies may impact the visual quality of Rocky Flats grasslands as they pertain to internal views and as a foreground for distant views toward the east. These impacts would be the most pronounced in Alternatives A (unlimited expansion) and D (where prairie dogs may expand to 1,000 acres) and less pronounced in Alternatives B and C (750 and 500 acres, respectively).

Public Use, Education and Interpretation Actions

Public Use Facilities

Public use facilities, such as trails, parking lots, restrooms, kiosks, viewing blinds and overlooks, would be constructed in Alternatives B, C, and D. These facilities would be designed and located to minimize their visual impact both within the Refuge and from outside of its boundaries. Most of these facilities, however, would be visible from surrounding roads. The extent of the visual impact of these facilities would be proportional to their quantity, ranging from negligible in Alternative C to minor in Alternatives A, B and D.

Cumulative Impacts

Urban Development

The planned Vauxmont development, as described in the *Reasonably Foreseeable Activities* section in Chapter 2, will be south of the Refuge boundary. This development will change the visual character of the Rocky Flats area, and may result in long-term impacts to the quality of views of the Refuge and the mountain backdrop from nearby communities. This development may also affect views from the Refuge to

the south from overlooks and trails. Refuge facilities and management would not contribute to the visual impacts of adjacent development. Any development adjacent to the Refuge could impact visual resources by increasing the number of lights in the area during the evening and night.

The development of private lands to the west would have a similar effect, and would further interrupt mountain views from the visitor contact station and other facilities in the western part of the Refuge.

Mining

Existing mined areas on the western edge of the Refuge have the potential to expand onto the Refuge in other permitted areas. If the permitted areas were mined, the visual quality of the western edge of the Refuge would be affected by aggregate mining operations. Visual resources on the Refuge would be affected, including views of the mountain backdrop from the Refuge, and internal views in the western portion of the Refuge. While expanded mining operations may be visible from surrounding communities, the impact on distant views of the Refuge would be less substantial than more local views from the Refuge.

Wind Technology Center

Located adjacent to the Refuge to the northwest, the National Wind Technology Center operates tall wind turbines for research on wind power generation. From many areas on the Refuge, these turbines interrupt the views of the mountain backdrop and Eldorado Canyon. To some visitors, however, the turbines may be a visual attraction in itself that adds to the character of the Rocky Flats area.

DOE Monitoring and Maintenance

The Service has recommended to the RFCA parties that DOE construct a four-strand barbed-wire stock fence around the DOE retained area to demarcate the boundary between the Refuge and DOE retained lands (Appendix E). Such a fence would only be visible from close distances, would be consistent with the character of the western landscape, and would not detract from the visual aesthetics of the Refuge.

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Future aggregate mining may impact wildlife habitat.

4.11. NOISE

Wildlife and Habitat Management Actions

In all alternatives, the Service and/or CDOW may use culling to manage deer and elk populations. Hunting rifles may be used for culling, resulting in occasional gunshots that may be audible on and off Refuge. Infrequent gunshots during deer and elk culling would result in a minor increase in noise levels within and around the Refuge.

Public hunting programs in Alternatives B and D would allow the use of shotguns. Gunshots associated with the use of such weapons may be audible from on- and off-Refuge, depending on hunter location, wind, and topography. Public hunting on the Refuge would result in short-term minor increase in noise levels in some areas of the Refuge. However, areas in the Refuge used for hunting would be closed to other visitors during hunting periods, and it is unlikely that noise from gunshots would adversely affect surrounding communities. Noise levels would return to existing levels after hunting ceases.

The removal and revegetation of roads and stream crossings in all alternatives would require the use of heavy equipment to regrade some areas. This equipment would result in a short-term minor increase in noise levels in the immediate vicinity of the restoration activities. Noise levels would return to existing levels after construction ceases.

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Sparrow

Public Use, Education and Interpretation Actions

Recreation Facilities

Construction of trails, overlooks, parking lots and other visitor use facilities would require the use of heavy equipment for site excavation and grading. This equipment would produce higher, short-term noise levels in the immediate vicinity of the construction activities. Noise levels would return to existing levels after construction ceases.

Cumulative Impacts

Urban Development

Construction of the proposed Vauxmont development to the south of Rocky Flats will require the use of heavy equipment for site excavation and grading. This equipment will produce higher, short-term noise levels in the immediate vicinity of the construction activities and may add to the cumulative noise levels on the Refuge. Noise levels would be reduced after construction ceases, but would would not likely return to existing levels after the development is occupied.

Mining

Ongoing surface mining in the western portions of the Refuge would adversely impact wildlife and public use in areas that are in close proximity to the mining operations.

4.12. AIR QUALITY

Dust and Emissions

Implementation of all alternatives would result in varying levels of equipment usage. Construction of public use facilities, habitat restoration activities, and on-going Refuge management would likely require the use of motorized equipment, which would result in localized carbon monoxide and hydrocarbon emissions. Construction activities also would create fugitive dust. Impacts of equipment usage on the Refuge would have a negligible effect on air quality in the Rocky Flats region, and would be mitigated by best management practices. Increased emissions and dust would cease after construction is completed.

Public access to the Refuge would occur in all alternatives, with Alternative D having the highest

public use and Alternatives A and C having the lowest. Some visitors would access the Refuge using automobiles. Auto emissions would be higher in Alternative D and lower in Alternatives A and C.

Prescribed Fire

Prescribed fire has been identified as a grassland management tool in all alternatives except D. This prescription would apply to lands managed by the Service and not lands retained by the DOE. Prescribed fires would be subject to approved plans, and factors such as weather conditions, fuel conditions, adequate firebreaks, and the preparedness of fire management and emergency response crews. Prescribed fire would be conducted in accordance with approved vegetation management plans, and an approved Fire Management Plan. These step-down plans would be developed with the involvement of the public and nearby communities. Any prescribed fire would be conducted in accordance with Service policy, and would adhere to state air quality regulations.

The periodic use of fire may result in short-term increases in particulates and decreased visibility in nearby areas. The amount of smoke and particulates generated by a prescribed fire would depend on variables such as wind, soil and vegetation moisture, and fire intensity.

In response to concerns about residual contamination outside of the DOE retained area, the EPA and the CDPHE believe the use of fire is an appropriate management tool on Refuge lands (Appendix D). Section 1.8 includes a discussion of issues related to contamination. In accordance with Service and DOE policies, any naturally occurring or human-caused wildfires on the Rocky Flats site, regardless of whether they are on Refuge lands or DOE-retained areas, would be aggressively suppressed.

Cumulative Impacts

Urban Development

Urban development south or west of the Refuge would likely require the use of motorized equipment, which would result in localized carbon monoxide and hydrocarbon emissions. Construction activities also create fugitive dust. Cumulatively, construction activities on- and off-Refuge are not expected to adversely affect regional air quality. Increased emissions and dust will cease after construction is completed.

Mining

Continued mining adjacent to the Refuge will likely increase dust blowing across the Refuge. Rocky Flats is a very windy location, and best management practices to reduce the amount of dust generated will not be able to be totally effective.

The accumulation of windblown sand onto the Refuge has been a problem in the past, because it facilitates the establishment of noxious weeds in the native grassland communities. The Service would work with mining operators and the appropriate regulatory agencies to minimize and mitigate the effects of windblown soil deposition on the Refuge.

4.13. SOCIOECONOMICS

Employment, Income, and Housing

Staffing levels at the Refuge would range between two full-time employees in Alternative A to eight employees in Alternative D. Annual staffing income is estimated to range from $77,000 in Alternative A to $468,000 in Alternative D. Additional temporary employment as well as indirect employment may be generated during construction of Refuge facilities. These anticipated staffing levels would have a negligible effect on local employment, income, or housing conditions in the communities surrounding Rocky Flats, or in the Denver metropolitan region.

Community

Over the long term, the establishment and successful management of Rocky Flats as a National Wildlife Refuge may alter the public perception of the site. While current public perception is dominated by its history as a former nuclear weapons facility with contamination issues, future perceptions may associate the site with wildlife habitat and protected open space. Such a change would benefit Rocky Flats and the surrounding communities. Rocky Flats serves as both a gateway and a backdrop to several surrounding communities, including Boulder, Arvada, Superior, and Broomfield. The open, rural visual character of all alternatives would benefit these communities.

Environmental Justice

Rocky Flats is not located in an area predominated by minority and low-income populations. None of the alternatives would result in disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Native American tribe.

Cumulative Impacts

Urban Development

Construction of the Vauxmont development south of the Refuge along with the Refuge development may benefit economic and employment conditions in Arvada as well as other nearby communities. While Refuge establishment may make development of adjacent lands more attractive, it would not cumulatively affect any land use, employment or income conditions outside of the Refuge.

4.14. WILDERNESS REVIEW

A wilderness review is the process used by the Service to determine whether to recommend lands or waters in the NWRS to Congress for designation as wilderness. The Service is required to conduct a wilderness review for each refuge as part of the CCP process. Land or waters that meet the minimum criteria for wilderness are identified in a CCP and further evaluated to determine whether they merit recommendation for inclusion in the Wilderness System. According to Section 13 of the Service's Director's Order No. 125 (July 2000), in order for a refuge to be considered for wilderness designation, all or part of the refuge must:

- Be affected primarily by the forces of nature, with the human imprint substantially unnoticeable
- Have outstanding opportunities for solitude or primitive and unconfined type of recreation
- Have at least 5,000 contiguous acres or be sufficient in size to make practical its preservation and use in an unimpaired condition, or be capable of restoration to wilderness character through appropriate management, at the time of review
- Be a roadless island

Rocky Flats NWR does not meet the above criteria and is not recommended for inclusion in the Wilderness System. The Refuge has considerable evidence of past human use, does not have outstanding opportunities for solitude or unconfined recreation, and is not roadless.

4.15. FENCING CONSIDERATIONS

The Refuge Act (Appendix A) directs the Service to consider "the characteristics and configuration of any perimeter fencing that may be appropriate or compatible for cleanup and closure purposes, refuge purposes, or other purposes." Fencing options that were considered during the planning process include:

- Chain-link security fence
- Barbed-wire stock fence (existing)

After consideration of the two fencing options, the maintenance of the existing stock fence was retained for all alternatives, as described in Objective 6.3 - *Fencing*. The chain-link security fence was not recommended because of the cost and ecological impacts (discussed below) and because it would not be consistent with the Refuge purpose and goals.

Fencing Costs

The estimated cost of installing a 6-foot chain-link security fence around the perimeter of the Refuge (a distance of about 13.5 miles) is about $4 million. A barbed-wire stock fence, which is currently in place, would have no installation costs. Costs of materials needed to maintain a chainlink fence would be approximately $ 7.50 per linear foot while barbed wire fencing materials would be only $ 0.17 per linear foot. Fence maintenance costs would be included in the Refuge operations budget.

Fencing Impacts

Wildlife
A chain-link security fence would result in major, long-term impacts to the movement of wildlife between the Refuge and surrounding areas. The fence would directly impact several mammal species such as deer, elk, fox, and coyote, while it may indirectly impact many other species due to changes in predator/prey relationships and habitat conditions. Such a fence may be an annoyance to prairie dogs, but would not likely create a barrier to movement for Preble's, prairie dogs, or bald eagles. The existing barbed-wire boundary fence would have negligible impacts to the movement of wildlife species, and habitat connectivity.

Visual Resources
A chain-link boundary fence would be visible from within the Refuge and from neighboring areas, changing the character of the Refuge from rural to semi-industrial. This change in the visual character of the Refuge and its surroundings would have a long-term major impact on visual resources in the immediate Rocky Flats area. However, this change would not be discernable from greater distances and would have a negligible impact on views of the mountain backdrop from surrounding communities.

The existing barbed-wire stock fence would maintain the rural character of the Refuge, would not be visible from most areas, and would not impact views of or from the Refuge.

4.16. POSSIBLE TRANSPORTATION IMPROVEMENTS NEAR THE REFUGE

The Refuge Act directs the Service to address and make recommendations on the land to be made available along Indiana Street for transportation improvements. This section addresses the Service's concerns and recommendations related to transportation improvements to any of the road corridors adjacent to or near the Refuge: Indiana Street, State Highway 128, and State Highway 93. While a definitive analysis of the direct impacts of potential transportation improvements is outside the scope of this CCP/EIS, this section includes potential indirect impacts to the Refuge, as well as recommendations that could minimize or mitigate the effects of transportation improvements surrounding the Refuge. Additional information about the Northwest Corridor Transportation Study EIS, or any other plans that address transportation improvements near Rocky Flats can be obtained from the Colorado Department of Transportation.

Lands Within 300 Feet of Indiana Street

The Refuge Act's §3174 prohibits the construction of a public road through the Refuge. However, the DOE can make available land along the eastern boundary of the Refuge for the sole purpose of transportation improvements along Indiana Street. Land made available under §3174 may not extend more than 300 feet from the west edge of the existing Indiana Street right of way. To be made available, DOE must receive an application submitted by a county, city, or other political subdivision of the State of Colorado that includes documentation demonstrating that the transportation improvements for which the land is to be made available:

- Are carried out so as to minimize adverse effects on the management of the Refuge as a wildlife refuge
- Are included in the regional transportation plan of the metropolitan planning organization designated for the Denver Metropolitan area

The Refuge Act requires that the CCP address and make recommendations on the land to be made available. Three possible alternative widths, 50 feet, 125 feet and 300 feet, are analyzed. A range of widths is analyzed to provide information to the Service and the DOE regarding lands that could be made available. The DOE will be responsible for determining the width of any transferred lands, but it is likely the width would range between 50 and 300 feet. The transfer of a 50-foot right of way would make the right of way along Indiana Street 100 feet wide, wide enough for a four-lane, undivided road. Similarly, the transfer of a 100-foot right of way would make the right of way along Indiana Street 200 feet wide. A 100-foot or 200-foot wide right of way would not be wide enough for a four-lane, divided highway. Typical right of way widths for a four-lane, divided highway are 300 to 400 feet. The transfer of a 300-foot right of way would make the right of way along Indiana Street 350 feet wide, wide enough for a four-lane, divided highway. The transfer would be designed to help meet regional transportation needs.

The amount of land that could be transferred is directly proportional to the possible width; a 300-foot width would transfer about 99 acres (Table 18). A 50-foot width would transfer about 16 acres. The intent of the analysis in Table 18 is to quantify the amount of each resource within each right of way width that has the potential to be impacted by transportation improvements. Some resources require qualitative descriptions. The analysis assumes the transfer of a given width along the entire eastern boundary of the Refuge. In all cases, the lands that could be transferred would be primarily mixed grasslands. Any wetlands directly or indirectly affected by transportation improvements along Indiana Street would require mitigation in accordance with CDOT policy. The Service would review any wetland mitigation plans. Similarly, the Service would consult on any improvement that may affect a threatened or endangered species, such as the Preble's mouse. Based on this analysis, and the need for future coordination and consultation associated with any transportation improvement along Indiana Street, the Service finds that transfer of a corridor up to 300 feet wide would not adversely affect the management of the Refuge.

Potential Impacts from Transportation Improvements

The following discussion briefly describes impacts that may result from any transportation improvement adjacent to or near the Refuge boundaries. It also includes recommended measures that can minimize or help mitigate the effects of the potential impacts. Such

mitigation is typically included for any proposed road improvements along the Front Range. This analysis was not completed in response to any particular plans or proposals, but is instead intended to characterize the types of impacts that could result from transportation improvements around the Refuge.

As discussed previously, a detailed analysis of any specific type of transportation improvement along Indiana Street, such as construction of a four-lane divided highway, is outside the scope of this CCP/EIS. The reader is referred to CDOT for more information about its Northwest Corridor Transportation Study.

Segments of roadway that were considered for potential impacts include Indiana Street along the east boundary of the Refuge, State Highway 128 along the north boundary of the Refuge, and State Highway 93, which runs parallel to the west boundary of the Refuge, ¼ mile to the west.

Water Quality

Additional runoff from Highway 128 and Highway 93 has the potential to impact water quality on the Refuge due to increased storm water runoff. These impacts could be reduced or mitigated through the use of best management practices to minimize discharges and erosion, and dissipate storm flows before they are conveyed to area creeks.

Noxious Weeds

Construction along any of the roadway corridors has the potential to exacerbate existing problems with noxious weeds at Rocky Flats, which could further impact native plant communities and wildlife habitat throughout the Refuge. This is especially the case along Highway 93 because it is generally upwind of the Refuge. Noxious weed impacts could be reduced by designing construction to minimize ground

Table 18. Potential Resource Impacts Within Various Right-of-Way Widths

Resource	Possible Transferred Width		
	50 feet	**125 feet**	**300 feet**
Area *(acres)*	16.4	41.0	98.7
Soils	Loss of soil productivity of paved area		
Water Resources *(length of streams/ditches - feet)*	705	2,218	5,133
Vegetation *(acres)*			
Wetlands	0.6	1.5	3.5
Mesic mixed grassland	10.6	25.9	61.0
Reclaimed mixed grassland	2.7	7.0	17.5
Riparian shrubland/woodland	0.1	0.3	0.7
Xeric tallgrass grassland	0.6	1.9	4.0
Xeric needle and thread grassland	1.5	3.8	9.2
Other	0.3	0.6	2.8
Wildlife	No direct impacts to mule deer concentration areas or known raptor nest sites. General impacts to overall wildlife habitat, potential raptor nesting habitat, and movement corridors would occur.		
Prairie dog suitable habitat *(acres)*	12.7	31.9	76.6
Prairie dog active colony *(acres)*	< 0.1	0.4	1.9
Threatened, Endangered, and Candidate Species			
Preble's habitat *(acres)*	0.9	2.8	8.5
Cultural Resources *(number of sites)*	1	1	1
Public Use/Recreation *(Alternatives B/D)*			
Trails *(feet)*	1,300/6,000	1,500/6,200	2,000/6,600
Trail connections	2/2	2/2	2/2
Parking Areas	1/2	1/2	1/2
Trailhead/Restroom	0/1	0/1	0/1
Visual	Easterly views from portions of the Refuge may be affected, depending on road grade and viewer location		
Noise	Increased noise levels may affect wildlife use and visitor use in portions of the Refuge		
Air Quality	May affect air quality in the eastern portion of the Refuge from increased concentrations of gaseous pollutants		

disturbance, developing and implementing a noxious weed management plan prior to and during construction, and monitoring and controlling noxious weeds during and after construction.

Wildlife Corridors

Indiana Street can be a barrier to wildlife movement between the Refuge and the open space lands to the east during high traffic periods. A variety of terrestrial wildlife species, including mule deer, periodically cross between Rocky Flats and open space lands to the east. A larger and/or faster roadway along Indiana Street would increase the barrier effect for wildlife.

During high traffic periods, Highway 128 is a barrier to the movement of a variety of wildlife species, including mule deer, elk, prairie dogs, and other terrestrial species between the Refuge and open space lands to the north. The culvert at the Rock Creek crossing is too small to provide safe passage for many species. Likewise, Highway 93 to the west of the Refuge cuts across a broad plain that is a major movement corridor between the Refuge and the Front Range foothills and open space lands to the west for a variety of wildlife species, including mule deer and elk. A larger and/or faster roadway along Highways 128 or 93 could contribute to wildlife corridor impacts.

In general, impacts to wildlife corridors to and from the Refuge could be minimized or mitigated with the following measures:

- Install below-grade wildlife crossings where necessary to facilitate the movement of wildlife under the roadway
- Locate crossings at stream corridors and in select upland locations
- Create designated wildlife corridors; minimize shared wildlife crossings and trail crossings
- Construct fencing, as appropriate, to prevent wildlife from crossing roadways and encourage the use of constructed crossings

In the case of Indiana Street, the Service does not want to encourage the movement of deer and elk between the Refuge and the open space lands to the east because of the potential for impacts to nearby subdivisions, and efforts to discourage the establishment of a resident elk herd in the grasslands around Rocky Flats. For these reasons, the design of any transportation improvements along the Indiana Street corridor could include crossings that facilitate the movement of smaller species (such as small mammals and reptiles) while prohibiting the movement of deer and elk. Crossings should be located at Woman Creek and Walnut Creek, as well as select upland locations.

If Highway 128 is widened, the Service recommends that the small culvert at Rock Creek be removed and replaced with a roadway design that facilitates the movement of wildlife (including deer and elk) between the Refuge and the open space lands to the north. The Service recommends that roadway designs along Highway 93 include wildlife crossings at several locations to facilitate the movement of wildlife between the Refuge and the open space lands to the west.

Noise and Aesthetics

Increased noise along any of the adjacent corridors could displace or alter the behavior and productivity of some wildlife species on the Refuge. Many species depend on sound to communicate, avoid danger and locate food. Studies have found that noise can impact reproduction, productivity, behavior and energy expenditure in wildlife (Bowles 1995). This is especially true in the case of Highway 128, which crosses through the Rock Creek drainage, one of the most important wildlife habitat areas on the Refuge. Increased traffic volume and/or speeds may impact wildlife species sensitive to noise. Lighting equipment and increased light along the roadway could adversely affect some wildlife species. Artificial light can disrupt bird behavior, affect migration, increase bird collisions with structures, and increase risk of predation (IDA 2002).

Impacts to the Refuge could be reduced by incorporating berms, sound walls, vegetation, or other noise-reducing techniques into the design of transportation improvements to reduce the impacts of traffic noise on wildlife and Refuge visitors. Roadway lighting could be designed to reduce light emission and be positioned to minimize effects to wildlife and Refuge aesthetics.

Public Use Facilities

The northern trailhead and overlook proposed in Alternatives B and D would be located adjacent to Highway 128. Roadway improvements could affect the use and safe access to these facilities. The northern multi-use trail proposed in Alternative B would parallel the south side of Highway 128 for about 1.5 miles in the northeastern part of the Refuge. In addition, a short section of the proposed Rock

Table 19. Adherence to Planning Goals

GOAL	ALTERNATIVES A	B	C	D
1. Wildlife and Habitat Management		z	z	z
2. Public Use, Education and Interpretation		z		z
3. Safety	z	z	z	z
4. Effective and Open Communication		z		z
5. Working with Others		z	z	z
6. Refuge Operations		z	z	z

z = The alternative satisfies the goal.
= The alternative partially satisfies the goal.
= The alternative does not satisfy the goal.

Creek hiking trail would be in close proximity to the highway. Improvements to the highway could result in visual and noise impacts to trail users. Improvements along Indiana could impact parking areas, trails, and trail connections on the Refuge. A larger and/or faster roadway along Highway 93 could hinder the safe access to the Refuge for visitors and staff.

Impacts to public use facilities can be reduced by relocating trails, trailheads, and other facilities to complement both the transportation improvements and Refuge operations, and by designing the roadway improvements to provide safe and reasonable access to the Refuge entrance, trailheads, and trail connections.

4.17. ADHERENCE TO PLANNING GOALS

Goal 1. Wildlife and Habitat Management

Conserve, restore, and sustain biological diversity of the native flora and fauna of the mountain/prairie interface with particular consideration given to threatened and endangered species.

While basic resource management would occur Refuge-wide under Alternative A, it would not be sufficient to satisfy this goal. However, the resource management activities for the Rock Creek Reserve (as directed by the 2001 Rock Creek Reserve Integrated Natural Resources Management Plan) would satisfy Goal 1.

Alternatives B, C, and D would satisfy Goal 1. The habitat restoration and resource management programs in all of these alternative are sufficient, although they would be the strongest in Alternative C, followed by B and D.

Goal 2. Public Use, Education, and Interpretation

Provide visitors and students high quality recreational, educational, and interpretive opportunities and foster and understanding and appreciation of the Refuge's xeric tallgrass prairie, upland shrub, and wetland habitats; native wildlife; the history of the site; and the NWRS.

While limited guided tours and interpretation would occur in Alternatives A and C, these programs would not be sufficient to satisfy Goal 2. Alternatives B and D both satisfy this goal, with the programs in D having the strongest adherence to the goal.

Goal 3. Safety

Conduct operations and manage public access in accordance with the final Rocky Flats cleanup decision documents to ensure the safety of the Refuge visitors, staff, and neighbors.

All alternatives would ensure the safety of visitors, staff, and neighbors, and would satisfy Goal 3.

Goal 4. Effective and Open Communication

Conduct communication outreach efforts to raise public awareness about Refuge programs, management decisions, and the mission of the U.S. Fish and Wildlife Service and the NWRS among visitors, students, and nearby residents.

Outreach efforts in Alternative A would be minimal, and would only partially satisfy Goal 4. Efforts in Alternatives B and D would be much more extensive and would satisfy this goal. Outreach efforts in Alternative C would be similar, but would not reach many visitors.

Goal 5. Working with Others

Foster beneficial partnerships with individuals, government agencies and non-governmental organizations and others that promote resource conservation, compatible wildlife-related research, public use, site history, and infrastructure.

Alternatives B, C, and D would satisfy Goal 4, while the reduced partnership efforts in Alternative A would partially satisfy the goal.

Goal 6. Refuge Operations

Based on available funds, provide facilities and staff to fulfill the Refuge vision and purpose.

While the staffing levels in Alternative A would be sufficient to manage the proposed activities, the alternative would not fulfill the Refuge vision and purpose. Alternatives B, C, and D would all provide sufficient facilities and staff to satisfy Goal 6.

4.18. RESOURCE COMMITMENTS COMMON TO ALL ALTERNATIVES

NEPA requires a discussion of any irreversible or irretrievable commitment of resources that would result from implementing the alternatives. An irreversible commitment of resources means nonrenewable resources are consumed or destroyed. These resources are permanently lost due to plan implementation. In contrast to an irreversible commitment of resources, an irretrievable commitment of resources is the loss of resources or resource production, or use of renewable resources during the 15-year life of the plan.

All alternatives would result in an irreversible commitment of soil resources. Topsoil would be removed before trail and facility construction for use in revegetation of disturbed areas, but some irreversible soil loss due to erosion would occur. The soil productivity of trails over the long term would be less than original undisturbed conditions, which would be an irreversible commitment of resources. Loss of soil productivity and vegetation, as well as changes to visual resources due to facility development would be an irretrievable commitment of resources.

Federal funding for staff and operations would be an irretrievable commitment of resources. These resources would not be available for other federal programs or projects.

Fossil fuels used during construction of facilities would represent an irreversible commitment of resources because their use is lost for future generations.

Rocky Flats lands transferred from the DOE to the Service would be retained as “public lands” unavailable for private use or development, with the exception of the transportation right of way. DOE also may transfer up to a 300-foot right of way. These transfers would be an irretrievable commitment of resources.

4.19. SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE OF LONG-TERM PRODUCTIVITY

Historical uses of the Refuge, including early settlement, the manufacture of nuclear weapons components, and cleanup of soil and ground water contamination, have affected the long-term productivity of the Refuge’s ecological environment. Short-term uses of the Refuge associated with implementing the CCP include the construction of facilities and modifications and enhancement of the natural environment. The effects of implementing the CCP would contribute to the maintenance and enhancement of long-term productivity of the Refuge environment.

4.20. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Adverse environmental effects associated with implementation of the CCP would be short term and minimal. During construction of additional facilities on the Refuge, wildlife would be disturbed and temporarily displaced. Facilities construction also would result in minor, short-term disturbance of soils and erosion. The long-term effects of implementing the CCP would be beneficial to the biological community and the diversity and productivity of the Refuge ecosystem.

4.21. SUMMARY OF ENVIRONMENTAL CONSEQUENCES

On the following pages, Table 21 compares the effects of the alternatives relative to the resources discussed in Chapter 3. Summary statements in this table are abbreviated and taken out of context to provide a quick comparison by resource. The reader is encouraged to review the supporting analysis in Chapter 4.

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Table 20. Impact Threshold Definitions

Impact Topics	Negligible	Minor	Moderate	Major
GEOLOGY AND SOILS	Change to the landscape or geologic formations would not be noticeable. Soils would not be affected or the effect would be below or at the lower end of detection. Any effects to soil productivity or fertility would be slight.	The effects to the landscape, geologic formations, and soils would be detectable. Changes to the landscape and geologic features would be small in size or area. The extent and magnitude of effects to soil productivity or fertility would be small or short-lived.	The effect to the landscape, geology, and soils would be readily apparent. Effects would result in a change to the landscape, geology, and soil character over a relatively large area or multiple locations.	The effect on the landscape, geology, and soils would be readily apparent and would substantially change the character of these resources over a large area.
WATER RESOURCES	Changes in water quality or quantity would not be measurable.	Changes in water quality or quantity would be measurable, although the changes would be small and the effects would be localized. Water quality standards would not be exceeded.	Changes in water quality or quantity would be measurable, affecting water resources on Rocky Flats. Water quality standards would not be exceeded.	Changes in water quality or quantity would be readily measurable, and would be noticed off of Rocky Flats. Water quality standards would be exceeded.
VEGETATION COMMUNITIES	Some individual native plants would be affected, but there would be no effect on native species populations. The effects would be on a small scale.	Some individual native plants would be affected over a relatively small area and minor portion of that species' population. A minor introduction or spread of non-native plant species is possible over a small area and eradication or control would be easily achieved.	Some individual native plants would be affected over a relatively wide area or multiple sites and would be readily noticeable. There would be limited impact to the species population, but for individual species, a sizeable segment of the species' population could be affected. The introduction or spread of non-native plant species would occur at multiple locations and extensive weed control measures would need to be implemented.	Native plant populations would be affected over a relatively large area. A widespread introduction or spread of non-native plant species would occur resulting in the likely establishment of exotic species and the need for aggressive weed control.
WILDLIFE AND AQUATIC SPECIES	Wildlife and aquatic resources would not be affected or the changes would be so slight that they would not be of any measurable or perceptible consequence to a species' population on a regional or local scale.	Effects to individual wildlife and aquatic species are possible, although the effects would be localized, small, and of little consequence to the species' population on a regional or local scale.	Effects to individual wildlife and aquatic species are likely and localized, with consequences at the population level.	Effects to wildlife and aquatic resources would have substantial consequences to species populations on both a local and regional scale.

Table 20. Impact Threshold Definitions (continued)

Impact Topic	Negligible	Minor	Moderate	Major
Threatened and Endangered Species and Species of Concern	No federally listed species would be affected, or an individual of a listed species or its critical habitat would be affected, but the change would be so small that it would not be of any measurable or perceptible consequence to the protected individual or its population. Negligible effect is the same as a "no effect" determination in a U.S. Fish and Wildlife Service Biological Opinion.	Individuals of a listed species or its habitat would be affected, but the change would be small or short-lived. Minor affect is the same as a "may effect" determination in a U.S. Fish and Wildlife Service Biological Opinion and would be accompanied by a statement of "not likely to adversely affect" the species.	An individual or population of a listed species, or its habitat would be noticeably affected. The effect could have some long-term consequence to the individual, population, or habitat. Moderate effect is the same as a "may affect" determination in a U.S. Fish and Wildlife Service Biological Opinion and would be accompanied by a statement of "likely to adversely affect" the species or a "not likely to adversely affect with mitigation and conservation measures."	An individual or population of a listed species, or its habitat would be noticeably affected with a long-term, consequence to the individual, population, or habitat. Major effect is the same as a "may affect" determination in a U.S. Fish and Wildlife Service Biological Opinion and would be accompanied by a statement of "likely to adversely affect" the species or critical habitat. Mitigation and conservation measures would lessen the effect, but would not completely remove the adverse effect.
Cultural and Historic Resources	Impact is at the lowest level of detection, with no perceptible consequences, either adverse or beneficial, to archeological or historic resources. For purposes of Section 106, the determination of effect would be no adverse effect.	Disturbance of a site would be confined to a small area with little, if any, loss of important information potential. Impact would not affect a character-defining feature of a structure or building listed or eligible for listing in the National Register of Historic Places. For purposes of Section 106, the determination of effect would be no adverse effect.	Disturbance of a site would not result in a substantial loss of important information. Impact would alter a character-defining feature of the structure or building, but would not diminish the integrity of the resource to the extent that its National Register eligibility is jeopardized. For purposes of Section 106, the determination of effect would be either adverse effect or no adverse effect.	Disturbance of a site is substantial and results in the loss of most or all of the site and its potential to yield important information. Impact would alter a character-defining feature of the structure or building, diminishing the integrity of the resource to the extent that it is no longer eligible to be listed in the National Register. For purposes of Section 106, the determination of effect would be an adverse effect.
Open Space, Recreation and Trails	Changes in visitor use or recreation opportunity would be below the level of detection.	Changes in visitor use or recreation opportunity would be detectable, but the changes would be slight.	Changes in visitor use or recreation opportunity would be apparent, but temporary.	Changes in visitor use or recreation opportunity would be readily apparent and long-lasting.
Visual Resources	Effects would not result in any perceptible changes to existing viewsheds.	Changes to visual resources would be short-lived or affect a small portion of the Refuge.	Effects would be readily apparent and would change the character of the visual resources in the area.	Effects would be highly noticeable and permanent, affecting significant views of or from the Refuge.
Noise	New noise sources would be below existing levels.	New noise sources would be above existing levels, but would be temporary and not adversely affect visitors or wildlife.	New noise sources would be substantially above existing levels and would adversely affect visitors and wildlife for short periods of time.	New noise sources would be substantially above existing levels and would adversely affect visitors and wildlife for long periods of time.

Table 20. Impact Threshold Definitions (continued)

Impact Topic	Negligible	Minor	Moderate	Major
TRANSPORTATION	Changes in traffic at or around the Refuge would not be noticeable.	Traffic at or around the Refuge would increase above existing conditions, but would not be noticeable to most travelers on surrounding public roads.	Traffic to and from the Refuge would increase above existing conditions. The additional traffic would cause an unacceptable level of service at some locations.	Traffic to and from the Refuge would increase substantially, causing an unacceptable level of service at many locations.
AIR QUALITY	Change in existing air quality or visibility would not be measurable or noticeable.	Increased airborne pollutants would be slight, but measurable. Changes in visibility would be observable at local sites. Air quality standards would not be exceeded.	Increased airborne pollutants would be readily measurable. Impacts to visibility would be readily observable and widespread. Air quality standards would not be exceeded.	Increased airborne pollutants would be readily measurable. Visibility at the Refuge or surrounding areas would be reduced. Air quality standards would be exceeded.
SOCIO-ECONOMIC RESOURCES	No effects would occur or the effects to socio-economic conditions would be below or at the level of detection.	Effects to employment, income and housing would be insignificant in relation to the local economy. Effect on low income and minority populations would be similar to the surrounding area.	Effects to employment, income and housing would be would be measurable, altering the local economy. Impacts borne by low income and minority populations would be slight, but larger than average in the surrounding area.	Effects to employment, income, and housing would have substantial impacts to the regional population or economy. Impacts borne by low income and minority populations would be significantly larger than the average in the surrounding area.

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Table 21. Summary of Environmental Consequences

	ALTERNATIVE A — *No Action*	ALTERNATIVE B — *Wildlife, Habitat, & Public Use (Preferred Alternative)*
Geology and Soils	• **Deer and Elk Management:** Population control would reduce potential for soil erosion due to overgrazing. • **Prairie Dog Expansion:** May result in increased soil erosion. These impacts may be offset by the increased nutrient cycling and soil stability provided by prairie dog colonies. Effects could be Refuge-wide. • **Road Restoration and Revegetation:** Removal and revegetation of roads and stream crossings would result in short-term soil disturbance and erosion. Long-term benefits of revegetation would offset the short-term effects. – 12 miles of road and 7 stream crossings restored – Rock Creek Reserve only	• **Prairie Dog Expansion:** Same effects as A, up to 750 acres. • **Mixed Prairie Grassland Management:** Restoration of hay meadow and other disturbed areas would result in short-term soil disturbance and long-term benefits. • **Road Restoration and Revegetation:** Road removal would result in short-term soil disturbance and erosion. Long-term benefits of revegetation would offset the short-term effects. – 26 miles of road and 13 stream crossings restored • **Public Use and Maintenance Facilities:** New trails and facilities would result in localized soil disturbance and erosion during construction, and long-term impacts from use. – Soil loss on 1.1 acres from facilities – Soil disturbance from 1.7 miles of newly constructed trail
Water Resources	• **Preble's Habitat Management:** Protection and maintenance of riparian habitat and vegetated buffer would benefit water resources. • **Road Restoration and Revegetation:** Road removal in Rock Creek Reserve may result in short-term impacts due to sedimentation, and long-term benefits due to improved bank vegetation, stream channel, etc. Outside of Rock Creek Reserve, lack of restoration may result in long-term sedimentation from existing roads.	• **Weed Management:** Localized, short-term erosion may occur following prescribed fire or grazing. • **Road Restoration and Revegetation:** Road removal Refuge-wide may result in short-term impacts due to sedimentation, and long-term benefits due to improved bank vegetation, stream channel, etc. • **Public Use:** Trail use and off-trail use near streams may result in bank destabilization and erosion. Facility construction may result in short-term impacts due to erosion and sedimentation.

ALTERNATIVE C — *Ecological Restoration*	ALTERNATIVE D — *Public Use*
• **Prairie Dog Expansion:** Same effects as A, up to 500 acres.	**Prairie dog expansion:** Same effects as A, up to 1,000 acres.
• **Road Restoration and Revegetation:** Same as B, except: – 26 miles of road and 13 stream crossings restored	• **Road Restoration and Revegetation:** Same as A, except: – 24 miles of road and 6 stream crossings restored
• **Public Use and Maintenance Facilities:** Same as B, except: – Soil loss on 0.2 acres from facilities – No newly constructed trails	• **Public Use and Maintenance Facilities:** Same as B, except: – Soil loss on 1.7 acres from facilities – Soil disturbance from 3.3 miles of newly constructed trail
	• No grazing or prescribed fire.
• **Lindsay Pond:** Pond removal would result in a long-term loss of aquatic habitat, water storage, and sediment removal.	• **Public Use:** Same effects as B.

Table 21. Summary of Environmental Consequences (continued)

	ALTERNATIVE A — *No Action*	ALTERNATIVE B — *Wildlife, Habitat, & Public Use* (Preferred Alternative)
Vegetation Communities	• **Deer and Elk Management:** Population management by CDOW and vegetation monitoring would benefit vegetation by reducing impacts of overbrowsing/ overgrazing. Benefits more uncertain by lack of a timeframe. • **Prairie Dog Management:** Exclusion of prairie dogs from riparian and xeric tallgrass habitat in Rock Creek Reserve would benefit these communities. Outside of Rock Creek Reserve, prairie dogs could degrade plant communities. • **Preble's Habitat Management:** Maintenance and protection of riparian and wetland habitat would benefit these communities. – Exclusion of ungulates would benefit riparian habitat • **Xeric Tallgrass Conservation:** Management planning and regional conservation efforts would benefit xeric tallgrass community. Benefits would be limited to Rock Creek Reserve. • **Road Restoration and Revegetation:** Road removal would benefit vegetation communities within the Rock Creek Reserve by reducing fragmentation. Removal of stream crossings would result in short-term impacts to wetlands and riparian habitat. Would result in: – 18 acres of additional habitat – Average patch size of 58 acres • **Weed Management:** Weed management efforts in Rock Creek Reserve would benefit vegetation communities. – Chemical, biological, and mechanical control may have short-term adverse impacts that would be offset by long-term benefits. Benefits may be reduced by lack of grazing as a management tool – Outside of Rock Creek Reserve, benefits would be greatly reduced	• **Deer and Elk Management:** Same benefits as A, except benefits would be increased by the Service's larger role and the 5-year target population timeframe. • **Prairie Dog Management:** Prairie dogs may impact some plant communities. Exclusion of prairie dogs from riparian and xeric tallgrass habitat Refuge-wide would benefit these communities. • **Preble's Habitat Management:** Maintenance, protection, and improvement of riparian and wetland habitat would benefit those communities. – Exclusion of ungulates would benefit riparian habitat – Monitoring recreation impacts only may provide insufficient information for effective riparian habitat management • **Xeric Tallgrass Conservation:** Same as A, except benefits would be Refuge-wide. • **Mixed Grassland Prairie Management:** Restoration of hay meadow and other areas would benefit grassland communities. • **Road Restoration and Revegetation:** Road removal would benefit vegetation communities Refuge-wide by reducing fragmentation. Removal of stream crossings may result in short-term impacts to wetlands and riparian habitat, with long-term benefits. Would result in: – 48 acres of additional habitat – Average patch size of 93 acres • **Weed Management:** Same as A, except benefits and impacts would be Refuge-wide. – Benefits may be increased because of Refuge-wide use of rescribed fire and grazing • **Public Use Facilities:** New trails and facilities would directly impact vegetation, and indirectly impact adjacent vegetation. Includes: – 4.8 acres of impacts to vegetation • **Off-trail Use:** Minor impacts to vegetation due to trampling, social trails, and weed dispersal. • **Public Use Monitoring:** Monitoring impacts of public use on riparian habitat would provide long-term benefit. • **Regional Coordination:** Coordination with adjacent landowners would benefit vegetation through better management. • **Research:** Habitat-related research would benefit vegetation and habitat management.

ALTERNATIVE C — *Ecological Restoration*	ALTERNATIVE D — *Public Use*
	• **Prairie Dog Relocation:** Accepting unwanted prairie dogs from other jurisdictions may impact grassland communities.
• **Preble's Habitat Management:** Same as B, except: – Vegetation surveys would benefit riparian habitats	• **Preble's Habitat Management:** Same as B.
• **Road Restoration and Revegetation:** Same as B, with a larger reduction in fragmentation. Would result in: – 46 acres of additional habitat – Average patch size of 121 acres	• **Road Restoration and Revegetation:** Same as B, except no benefits from hay meadow restoration. Would result in: – 44 acres of additional habitat – Average patch size of 90 acres
	• **Weed Management:** Same as A, except benefits and impacts would be Refuge-wide. Benefits may be reduced due to a lack of grazing and prescribed fire as management tools.
• **Public Use Facilities:** Same as B, except: – 0.01 acre of impacts to vegetation	• **Public Use Facilities:** Same as B, except: – 7.9 acres of impacts to vegetation
	• **Off-trail Use:** Same as B.
	• **Public Use Monitoring:** Same as B.

Table 21. Summary of Environmental Consequences (continued)

	ALTERNATIVE A — *No Action*	ALTERNATIVE B — *Wildlife, Habitat, & Public Use* (Preferred Alternative)
Wildlife	• **Native Fish Reintroduction:** Would provide long-term benefits to fish populations and survival rates.	→
	• **Sharp-tailed Grouse Reintroduction:** Lack of management plan may result in conflicting management priorities and adverse impacts on introduced grouse.	• **Sharp-tailed Grouse Reintroduction:** Management planning and weed management efforts would benefit grouse reintroduction efforts.
	• **Deer and Elk Management:** Passive approach to population management by CDOW with no set timeframe; may impact ungulates and other resources. – Culling would impact individual animals due to mortality, but would provide long-term population benefits. – Monitoring levels would be inadequate for effective population management.	• **Deer and Elk Management:** Population targets would be realized within 5 years, providing moderate benefits. – Culling and hunting would impact animals due to mortality or stress, would provide long-term benefits. – Monitoring would be minimum necessary for effective population management.
	• **Preble's Habitat Management:** Habitat protection would benefit other riparian wildlife species.	• **Preble's Habitat Management:** Same as A, plus: Minor impacts to riparian wildlife species due to greater Preble's monitoring.
	• **Prairie Dog Management:** Colony expansion could result in long-term impacts to vegetation structure and local extirpation of some species over large areas of the Refuge.	• **Prairie Dog Management:** Same as A except reduced magnitude of change (750 acres).
	• **Road Restoration and Revegetation:** Road revegetation would benefit various wildlife species in Rock Creek Reserve.	• **Road Restoration and Revegetation:** Road revegetation would benefit various wildlife species Refuge-wide.
	• **Vegetation and Wildlife Monitoring:** May result in short-term impacts (disturbance/displacement) to individual animals.	→
	• **Xeric Tallgrass Management:** Efforts in Rock Creek Reserve may have short-term adverse impacts to wildlife and long-term benefits due to habitat enhancement.	• **Xeric Tallgrass Management:** Efforts Refuge-wide may have greater short-term adverse impacts to wildlife and long-term benefits due to habitat enhancement. • **Mixed Grassland Prairie Management:** Restoration of disturbed areas may impact some resident wildlife; would result in long-term habitat benefits to wildlife.
	• **Weed Management:** Various management tools have the potential to cause direct mortality or injury to individual animals. Impacts would be offset by long-term benefits of improved habitat.	• **Public Use:** Trail use throughout the Refuge may adversely affect wildlife in the following ways: – Creating a new disturbance that may disrupt wildlife movement and fragment habitat areas. – New trails may provide a conduit for predators and weeds. – Short-term stress and adjustment for mule deer; followed by long-term benefits of increased deer movement that may improve genetic diversity and decrease habitat impacts.
	• **Regional Coordination:** Coordination with other land managers would improve wildlife and habitat management.	• **Regional Coordination:** Same as A, except more pronounced benefits due to better coordination. • **Research:** Short-term wildlife disturbance would be offset by improved knowledge of wildlife management. • **Fence Removal:** Removal of unnecessary interior stock fencing would benefit wildlife species by facilitating open movement through Refuge.

ALTERNATIVE C — *Ecological Restoration*	ALTERNATIVE D — *Public Use*
• **Native Fish Reintroduction:** Same as A, except: Removal of the Lindsay Ponds would result in major adverse impacts to common shiner and redbelly dace populations on the Refuge.	• **Native Fish Reintroduction:** Same as A.
• **Deer and Elk Management:** Same as B, except: – No hunting. – Monitoring would provide adequate information for effective population management. – Fawn monitoring may result in injury or death of some fawns.	• **Deer and Elk Management:** Same as B, except: – Monitoring levels would be inadequate for effective population management.
• **Prairie Dog Management:** Same as A except reduced magnitude of change (500 acres).	• **Prairie Dog Management:** Same as A except moderate magnitude of change (1,000 acres).
• **Vegetation monitoring:** May result in short-term impacts (disturbance/displacement) to individual animals. More extensive monitoring may have greater impacts.	
• **Public Use:** Impacts in Alternative C would be negligible.	• **Public Use:** Same as B, except: – Additional impacts to raptor nesting habitat. – General impacts to wildlife more pronounced.
• **Lindsay Ranch:** Removal of structures would eliminate some habitat for barn owl, bats, and other species.	

Table 21. Summary of Environmental Consequences (continued)

	ALTERNATIVE A — *No Action*	ALTERNATIVE B — *Wildlife, Habitat, & Public Use* (Preferred Alternative)
Threatened and Endangered Species	• **Grouse Reintroduction:** Grouse habitat management would provide additional eagle prey; may conflict with prairie dog habitat management. • **Deer and Elk Management:** Delayed population management may impact Preble's through overbrowsing. • **Prairie Dog Management:** Unlimited colony expansion acres could improve foraging for bald eagles, but could impact Preble's habitat. • **Preble's Habitat Management:** Exclusion of grazing from habitat may have moderate benefits to Preble's. Monitoring could lead to short-term disturbance. Habitat management may benefit bald eagle foraging perches. • **Road Restoration and Revegetation:** Revegetation of unused roads and stream crossings would benefit all species. • **Weed Management:** Short-term habitat impacts from management tools followed by long-term habitat improvements.	--- • **Deer and Elk Management:** More aggressive population management could benefit Preble's by reducing overbrowsing. • **Prairie Dog Management:** Same benefits and impacts as A but reduced in magnitude (750 acres). → --- • **Weed Management:** Same as A, except impacts and benefits would be more pronounced. • **Public Use:** Trail development and use in riparian areas may impact Preble's (mitigated by seasonal closures). Facility development may impact prairie dogs and associated foraging habitat for eagles.
Cultural and Historic Resources	• **Lindsay Ranch:** Stabilization efforts would benefit barn, but continued degradation of the hours would impair its interpretive value.	→
Open Space, Recreation, and Trails	• **Wildlife Management:** Species reintroductions and deer and elk population management on the Refuge may result in long-term benefits to wildlife populations and wildlife viewing opportunities on adjacent open space lands. • **Preble's Habitat Management:** Refuge could provide a core reserve for Preble's and other species that would benefit populations on adjacent open space lands. • **Vegetation Management:** Efforts such as xeric tallgrass management planning, and regional collaboration could benefit adjacent open space areas by improving knowledge and coordination. • **Weed Management:** Reduced diligence outside of Rock Creek Reserve may impact adjacent open space areas by potentially contributing to spread of weeds. • **Trail Facilities:** Rocky Flats would continue to be a barrier for regional trail connectivity.	• **Wildlife Management:** Same as A, but benefits would be more pronounced. --- --- • **Weed Management:** Weed reduction efforts on the Refuge could benefit adjacent open space by reducing spread of weeds and increasing management knowledge. • **Recreation Opportunities:** Recreation programs would compliment but not duplicate opportunities on nearby open space lands. • **Trail Facilities:** Trails and trailheads would benefit the regional connectivity of trails, but would lack a direct connection to Boulder trails.

ALTERNATIVE C — *Ecological Restoration*	ALTERNATIVE D — *Public Use*
• **Prairie Dog Management:** Same benefits and impacts as A but reduced in magnitude (500 acres).	• **Prairie Dog Management:** Same benefits, impacts, and similar magnitude as A (1,000 acres).
• **Preble's Habitat Management:** Same as A, except increased magnitude of disturbance due to monitoring.	
	• **Public Use:** Same as B, except: – More extensive impacts from additional trail use. – Potential impacts to bald eagle habitat due to trail use adjacent to riparian areas.
• **Lindsay Ranch:** Removal of all structures would impact historical and interpretive value of site.	• **Lindsay Ranch:** Stabilized barn would have greatest benefits for site; house would be lost.
• **Wildlife Management:** Same as A, but benefits would be greatest.	• **Wildlife Management:** Same as B.
	• **Recreation Opportunities:** Same as B, except more pronounced.
• **Trail Facilities:** Same impact as A.	• **Trail Facilities:** Same effects as B, but greater trail connectivity.

Table 21. Summary of Environmental Consequences (continued)

	ALTERNATIVE A — *No Action*	ALTERNATIVE B — *Wildlife, Habitat, & Public Use* (Preferred Alternative)
Visual Resources	• **Deer and Elk Management:** May reduce visual impacts of overgrazing/overbrowsing. • **Prairie Dog Management:** Colonies would be a visual impact to some, a benefit to others. Greatest effects in Alternative A (unlimited). • **Prescribed Fire:** Short-term visual impacts associated with smoke and burned areas from prescribed fires. • **Grazing:** May result in short-term visual impacts; though some may consider livestock to be a benefit for landscape views. • **Road Removal and Revegetation:** Revegetation would benefit visual aesthetics within Rock Creek Reserve.	• **Prairie Dog Management:** Same effects as A, but less pronounced (750 acres). • **Road Removal and Revegetation:** Revegetation would benefit visual aesthetics Refuge-wide. • **Mixed Grassland Prairie Management:** Revegetation would likely cause short-term visual impacts followed by long-term benefits. • **Public Use Facilities:** May result in minor visual impacts.
Noise	• **Deer and Elk Management:** Occasional gunshots associated with culling may be audible from within Refuge, but would not impact overall noise levels. • **Excavation and Construction:** Heavy equipment for road restoration and facility development would result in short-term noise impacts in nearby areas.	• **Deer and Elk Management:** Same as A, except additional gunshots from public hunting.
Trans-portation	• **Highway 93:** Contribution of Refuge traffic to Highway 93 would be much less than pre-Refuge conditions. Would not warrant a traffic signal at access road intersection.	• **Highway 93:** Contribution of Refuge traffic to Highway 93 would be much less than pre-Refuge conditions. Would not warrant a traffic signal, but existing acceleration/ deceleration lanes would be beneficial. • **Highway 128:** No impacts from trailhead location. Potential trail crossing at McCaslin would require pedestrian signals. • **Indiana Street:** Potential pedestrian crossings should include warning signs for safety. Recommended locations are north of Walnut Creek, and south of Woman Creek.
Air Quality	• **Dust and Emissions:** Equipment usage would result in short-term localized emissions and fugitive dust. • **Prescribed Fire:** Would result in short-term increases in particulates and decreased visibility nearby.	
Socio - economics	• **Staffing:** Staffing levels would have no impact on regional employment, income or housing conditions. • **Community:** Change from past use to Refuge would benefit community perceptions of Rocky Flats. • **Environmental Justice:** No adverse effects on minority or low-income populations, or Native Americans.	

ALTERNATIVE C — *Ecological Restoration*	ALTERNATIVE D — *Public Use*
• **Prairie Dog Management:** Same effects as A, but least impact (500 acres).	• **Prairie Dog Management:** Same effects as A, with moderate impact (1,000 acres).
• **Public Use Facilities:** Negligible visual impact from facilities.	• **Public Use Facilities:** Same as B.
• **Deer and Elk Management:** Same as A.	• **Deer and Elk Management:** Same as B.
• **All Roads:** Same as A.	• **Highway 93:** Same as B. • **Highway 128:** Same as B. • **Indiana Street:** Same effects as B from potential trail crossings. Trailhead access may require left turn lanes.

chapter 5

PREPARERS

Chapter 5. Preparers

U.S. Fish and Wildlife Service

Name	*Responsibilities*	*Education*	*Experience*
Dean Rundle	Refuge Manager	B.S. Fisheries and Wildlife M.S. Fisheries and Wildlife	29 years
Laurie Shannon	Team Leader, RF CCP Plan	B.S. Recreation Resources Mgmt.	27 years
Michael Spratt	Chief of Refuge Planning Region 6	B.S. Forestry M.S. Landscape Architecture	23 years
Mark Sattelberg	Contaminants Biologist RF	B.A. Chemistry and Biology M.S. Biology	15 years
Andrew Todd	Water Quality Specialist	B.A. Biology M.S. Civil Engineering/Water Res.	6 years
Amy Thornburg	Refuge Operations Specialist	B.S. Wildlife Biology	9 years
Sherry James	Supervisory Park Ranger Visitor Services, RMA		14 years
Bruce Hastings	Supervisor, Wildlife/Habitat RMA	B.S. Chemistry and Psychology M.S. Wildlife Science Ph.D. Ecology	18 years
Lorenz Sollmann	Integrated Pest Management Fire Management, RMA	B.S. Wildlife Biology	9 years
Robin Romero	Biocontrol of weeds, RF Planning Assistance	B.S. Animal Science M.S. Biology/Entomology	10 years
Beth Dickerson	Planning Assistance Preble's Consultation	M.S. Biology	4 years

Shapins Associates, Inc.

Name	*Responsibilities*	*Education*	*Experience*
Ann Moss	Project Manager, CCP	B.A. Art and Art History Masters of Landscape Architecture	27 Years
Mimi Mather	Planner, CCP; Public Use	B.A. Sociology Masters of Landscape Architecture	4 Years
Brian Braa	Planner, CCP; Public Use	B.S. Accounting Masters of Landscape Architecture	4 Years

RESOLVE

Name	*Responsibilities*	*Education*	*Experience*
Mike Hughes	Facilitation	B.A. Political Science Masters of City Planning	20 Years
Jody Erikson	Facilitation	B.A. Human Communication	4 Years

ERO RESOURCES CORP.

Name	*Responsibilities*	*Education*	*Experience*
Richard Trenholme	Project Manager, EIS	B.S. Agronomy	25 years
Bill Mangle	Project Planning and Coordination	B.S. History/Political Science M.S. Natural Resource Policy/Planning	6 years
Ron Beane	Wildlife	B.S. Biology M.S. Wildlife Biology	28 years
Mark DeHaven	Vegetation, Soils, and Geology	B.A., Business M.S., Natural Resources	24 years
Barbara Galloway	Water Resources and Aquatic Life	B.A., Environmental Conservation and Biology M.S., Water Resources	20 years
Michael Simler	GIS	B.S., Biology	5 years
Martha Clark	Technical Editor	B.A., English	18 years

ADDITIONAL CONTRIBUTORS

The following individuals also contributed to the development of the CCP/EIS by sharing their knowledge in planning workshops or at other times during the planning process.

U.S. FISH AND WILDLIFE SERVICE, REGION 6 REGIONAL OFFICE

Name	
Rick Coleman	Chief of Refuges
Ron Cole	Former Region 6 Program Supervisor (CO, KS, NE)
Ron Shupe	Region 6 Program Supervisor (CO, KS, NE)
Larry Gamble	Chief, Environmental Contaminants
Mark Ely	Planning, GIS and Mapping Coordinator
Sheri Fetherman	Chief, Education and Visitor Services Division
Melvie Uhland	Education and Visitor Services, CO/KS/NE
Ken Kerr	Zone Fire Management Officer, CO/KS/NE

Harvey Wittmier	Chief, Realty Division
David Redhorse	External Affairs

U.S. Fish and Wildlife Service, Region 6 Ecological Services

Name	
Lee Carlson	Former CO Ecological Services Field Office Supervisor

U.S. Fish and Wildlife Service, Colorado Fish and Wildlife Assistance Office

Name	
Bruce Rosenlund	Colorado Management Assistance Office

U.S. Fish and Wildlife Service, Private Lands

Name	
Bill Noonan	Private Lands Coordinator

U.S. Fish and Wildlife Service, Washington Office

Name	
Liz Bellatoni	Planning Coordinator

U.S. Fish and Wildlife Service, Rocky Mountain Arsenal NWR Staff

Name	
Vic Elam	Refuge Operations Specialist
Stephen Smith	Civil Engineer
Tom Jackson	Remedy Coordinator
Mindy Hetrick	Wildlife Biologist
Eric Stone	Wildlife Biologist

U.S. Department of Energy, Rocky Flats Field Office

Name	
Cliff Franklin	Physical Scientist
John Rampe	Physical Scientist

KAISER-HILL/LABAT-ANDERSON

Name	
Jody Nelson	Plant Ecologist

COLORADO DIVISION OF WILDLIFE

Name	
Mike Wedermyer	District Wildlife Manager
Aaron Lindstrom	Wildlife Biologist

chapter 6

CONSULTATION AND COORDINATION

Chapter 6. Consultation and Coordination

The public involvement process was an important component of the CCP/EIS project. During the scoping phase of the project, the Service sought input from the public and interested organizations and agencies to help direct the CCP/EIS process. Scoping helped identify specific opportunities, issues, concerns and ideas related to the management of the future Refuge.

The Service used various methods to solicit guidance and feedback from interested citizens, organizations, and government agencies. These methods included public scoping meetings, public agency scoping meetings, briefings and presentations, issue-specific focus group workshops, as well as letters, email and telephone calls.

6.1. PROJECT SCOPING

The scoping process began with informal public agency consultations in February 2002. On July 23, 2002, Service staff met with the Rocky Flats Coalition of Local Governments (RFCLOG). The RFCLOG is a coalition of seven local governments (Boulder County, Jefferson County, City and County of Broomfield, and the cities of Arvada, Boulder, Westminster, and Superior).

Beginning in early 2002, Service staff met with representatives from communities, agencies, and businesses that may have an interest in the Rocky Flats CCP/EIS process. The Service also met with state representatives, including the offices of the Governor, the Attorney General and the CDPHE to help develop the public process. The purpose of these meetings was to brief the stakeholders on the planning process, and solicit their comments and concerns for the scoping process.

Between February 6 and April 12, 2002, Dean Rundle and Laurie Shannon with the U.S. Fish and Wildlife Service met individually with each member of the RFCLOG. All the local governments had questions about developing the Memorandum of Understanding between DOE and the Service in addition to the planning process. Copies of the Service's policy on Planning and Compatibility were distributed. Service staff also met with representatives of the cities of Golden, Thornton, Northglenn, Louisville and Lafayette.

The formal scoping period for the general public began on August 23, 2002, with the publication of a Notice of Intent in the Federal Register. The Notice of Intent notified the public of the Service's intent to begin the CCP/EIS process, set the dates for public scoping meetings, and solicited public comments. The scoping period ended on October 31, 2002.

Public Scoping Meetings

Public scoping meetings were held in September 2002 in Broomfield, Arvada, Westminster, and Boulder. Several weeks before the public scoping meetings, Planning Update #1, an announcement of the scoping meetings, was mailed to 889 individuals, businesses and organizations. The mailing list consisted of individuals and organizations that had previously expressed an interest in Rocky Flats-related issues and were on the Rocky Flats Citizen Advisory Board (RFCAB), the DOE, or Kaiser-Hill (DOE contractor) mailing lists.

Planning Update #1 described the planning process, the draft vision and goals for the Refuge, and the dates, times and locations of the public scoping meetings. Information contained in Planning Update #1 also was announced at RFCLOG and RFCAB meetings. A press release soliciting participation in the scoping process was also sent to 23 local and national media organizations. The Service placed advertisements in seven newspapers to publicize the project and invite the public to the scoping meetings. Flyers announcing the public scoping meetings were posted in public buildings in several communities surrounding the Rocky Flats site.

Project Website

The Rocky Flats NWR web site (http://rocky flats.fws.gov/) was published for public access during the week of July 21, 2002, and contained information about the public scoping meetings, as well as downloadable versions of all of the available public scoping documents.

Public Agency Meeting

On August 19, 2002, the Service hosted a meeting for representatives from various state and federal agencies

interested in the future management of the Rocky Flats site. The following agencies were represented:

- Agency for Toxic Substances and Disease Registry
- City of Westminster
- Colorado Attorney General's Office
- Colorado Department of Agriculture
- Colorado Department of Public Health and Environment
- Colorado Department of Transportation
- Colorado Division of Minerals and Geology
- Colorado Division of Wildlife
- Colorado Geological Survey
- Colorado Historical Society
- Colorado State Parks
- Denver Regional Council of Governments
- Federal Aviation Administration
- Governor Owens' Office
- Rocky Flats Coalition of Local Governments
- State Land Board
- Senator Allard's Office
- U.S. Army Corps of Engineers
- U.S. Department of Energy
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- Urban Drainage and Flood Control District
- Xcel Energy

Focus Groups

Six focus group meetings were held on October 28, 29, and 30, 2002. The purpose of the focus group meetings was to convene a forum to better explore key issues, as well as the potential management alternatives and their potential implications. Participants were invited because of their knowledge of a particular subject. Focus groups were convened around the following topics: Recreation; Environmental Education; Public Perception/Public Information: Managing a NWR in the Context of Remediation and Contamination; Trails; Vegetation Management; and Wildlife Management.

Native American Tribes

Representatives from the Arapaho Tribe, Cheyenne and Arapaho Tribes of Oklahoma, Northern Cheyenne Tribe, the Ute Indian Tribe Business Council, Southern Ute Tribe, and the Ute Mountain Ute Tribe were contacted by the Service to solicit their input for the scoping process. The Service received responses from the Cheyenne and Arapaho Tribes of Oklahoma and will continue to work with them during the planning process. The Service did not receive any scoping comments from the Tribes.

6.2. RESULTS FROM SCOPING

During the course of the public scoping process, the planning team received 1,881 comments from the public or other stakeholders. Every comment was considered and grouped by topic area (Table 22). The objective of the scoping process is to gather the full range of comments, questions and concerns that the public has about the future Rocky Flats NWR.

Major topics included public use, cultural resources, real estate, infrastructure, vegetation management, and wildlife management. Other topics that have attracted comments include Refuge operations, cleanup level and remediation issues, and comments on the planning process.

Table 22. Percentage of Scoping Comments by Topic

Topic Area	Percentage of Comments
Public Use	31
Vegetation	13
Wildlife	12
Infrastructure	11
Contamination†	10
Property‡	8
Cultural Resources	6
Refuge Operations	6
Planning Process	3

† Issues related to contamination and site cleanup are outside the scope of this CCP/EIS, as explained in Section 1.8.

‡ Issues related to property include mineral rights, potential land acquisitions, and the transportation corridor right of way, all of which are discussed in Section 2.9.

Written submissions came in the form of letters, email, questionnaires, and notes from telephone calls. Questionnaires were distributed at the public scoping meetings and could also be downloaded from the project website. Sixty-two written submissions were received. All written submissions were carefully read and evaluated to determine the specific issues or concerns that were being addressed.

6.3. ALTERNATIVE WORKSHOPS

After the significant issues were identified during the scoping period, the Service developed alternatives for the management of the Refuge. In May 2003, the Service held workshops in Broomfield, Arvada, Westminster, and Boulder to present four preliminary management alternatives. The alternatives ranged from providing little or no public access to extensive public access and facility development. At each workshop, the participants were encouraged to provide comments on the alternatives, and were specifically asked what they liked or disliked about them.

Issues to Reconsider

The public expressed differing opinions on several issues. The following were the predominant concerns:

Proposed Action: Re-examine Alternative B and determine if it should remain as is or be modified in some specific way.

Equestrian Use: Evaluate whether equestrian use is consistent with the goals of Alternative B, and if it is compatible with the Refuge purposes.

Trail Design: Consider modifying trail configurations in Alternatives B and D to improve connectivity and enhance visitor experience while minimizing potential impacts on sensitive natural resources.

Restoration: Consider phasing options that would accelerate habitat conservation and delay public use facility and programming development until restoration efforts are underway.

Public Preferences

Comments on the alternatives were highly varied as to people's desires, with some wanting no public access to Rocky Flats and some wanting extensive public use. More people supported Alternative B, either as it is or with some modifications. A majority of the comments were related to public use opportunities (42 percent) and habitat and wildlife management (30 percent). These percentages reflect what was heard through the comment period, which ended in June 2003.

After the workshops were completed, the Service re-evaluated all the issues and revised some portions of the alternatives prior to the development of the CCP/EIS.

6.4. COMMENTS ON DRAFT EIS

The Draft CCP/EIS was available for public review from February 19, 2004 to April 25, 2004. In March 2004, the Service held four public hearings on the draft in Westminster, Boulder, Arvada, and Broomfield. In addition to the public hearing testimony, comments were also received in the form of letters, emails, form letters, and petitions. During the Draft CCP/EIS comment period, the Service received over 5,000 comments from 251 individuals, 34 agencies/ organizations, and 933 form letters. From those who specifically stated a preference for a particular alternative, 21 percent supported Alternative A, 63 percent supported Alternative B, 15 percent for Alternative C, and 1 percent for Alternative D.

The most significant issue raised was about public access and whether there should be any public access due to past contamination history and the current level of cleanup on the site and how the DOE retained area would be demarcated. Other significant issues included public hunting, prescribed fire and grazing, prairie dog management, water rights, Lindsay Ranch, cumulative impacts of adjacent mining, and nearby transportation improvements. All substantive issues raised in the comments were addressed in the Final CCP/EIS.

All of the comments received on the Draft CCP/EIS, as well as responses to substantive comments, are included or summarized in Appendix H-*Comments and Responses on the Draft Environmental Impact Statement* (under a separate cover). Public comments will be available for review at the Front Range Community College Library, Rocky Flats Reading Room or at the Rocky Mountain Arsenal National Wildlife Refuge Visitor Center on weekends. Responses to comments are included as a companion document with the Final CCP/EIS.

Changes from the Draft CCP/EIS

As a result of public comments and concerns about the Draft CCP/EIS, numerous changes were made to the Final CCP/EIS. The most significant changes include the following:

- **Trails:** New trail configurations for Alternatives B and D (See Figures 7, 9, 25, and 27)

- **Hunting Weaponry:** Muzzleloading rifles were eliminated from the list of weapons to be allowed for the hunting program.
- **Contamination:** Expanded discussion of contamination, cleanup, and the DOE retained lands (See Sections 1.8, 3.2, and 4.2, and Appendix E)
- **Transportation Improvements:** Revised discussion about the transportation corridor and nearby transportation improvements (See Sections 2.10 and 4.16)

6.5. DRAFT CCP/EIS RECIPIENTS

FEDERAL, STATE AND LOCAL AGENCIES

Name	
Glen Tucker	Agency Toxic Substance and Disease Register
Scott Fredericksen	Federal Aviation Administration
Steve Balzek	National Renewable Energy Laboratory
Tim Carey	U.S. Army Corps of Engineers
John Rampe	U.S. Department of Energy
Frazier Lockart	U.S. Department of Energy
Amy Bergstedt	U.S. Environmental Protection Agency
Robert Roberts	U.S. Environmental Protection Agency
John Brejcha	Colorado Board of Land Commissioners
Eric Lane	Colorado Department of Agriculture
Ron Cattany	Colorado Division of Minerals and Geology
Steve Gunderson	Colorado Department of Public Health and Environment
Howard Roitman	Colorado Department of Public Health and Environment
Steve Tarlton	Colorado Department of Public Health and Environment
Brad Beckham	Colorado Department of Transportation
Tim Harris	Colorado Department of Transportation
Eric O'Dell	Colorado Division of Wildlife
Mike Wedermyer	Colorado Division of Wildlife
Scott Hoover	Colorado Division of Wildlife
Ken Knox	Colorado Division of Water Resources
Charlie Unseld	Colorado Department of Local Affairs
Dan Corson	Colorado Office of Historic Preservation
Vicki Cowart	Colorado Office of Minerals and Geology
Greg Squire	Colorado Office of Minerals and Geology
Bob Finch	Colorado State Parks
Roxanne Brickell-Reardon	Colorado State Parks
Dan McAuliffe	Colorado Water Conservation Board
John Sovell	Colorado State University
Dr. George Beck	Colorado State University
Len Ackland	University of Colorado
Dr. Tim Seastadt	University of Colorado
Bill Broderick	Denver Regional Council of Governments
Scott Tucker	Urban Drainage and Flood Control District
Honorable Paul Danish	Boulder County
Jane Uitti	Boulder County
Rich Koopman	Boulder County Parks and Open Space
Scott Robson	Boulder County Transportation
Mike Bartleson	City and County of Broomfield
Shirley Garcia	City and County of Broomfield
Councilor Hank Stoval	City and County of Broomfield
Councilor Tom Bruner	City and County of Broomfield
Honorable Ken Fellman	City of Arvada
Gordon Reusink	City of Arvada
Councilor Lorraine Anderson	City of Arvada
Clark Johnson	City of Arvada
Andrea O'Neill	City of Arvada Park Advisory Committee
Shawn McGrath	City of Boulder
Mike Weil	City of Boulder

Jim Crain	City of Boulder Open Space
Matt Jones	City of Boulder Open Space
Kristin Pritz	City of Broomfield Open Space
Councilor Bob Nelson	City of Golden
Mike Bestor	City of Golden
Gary Klaphake	City of Lafayette
Bill Simmons	City of Louisville
Philip Nelson	City of Northglenn
Jack Ethredge	City of Thornton
Ron Hellbusch	City of Westminster
Albert Nelson	City of Westminster
Lynn Wodell	City of Westminster
Councilor Sam Dixon	City of Westminster
Honorable Michelle Lawrence	Jefferson County
Nannette Neelan	Jefferson County
Ken Foelske	Jefferson County Open Space
Frank Kunze	Jefferson County Open Space
Trustee Karen Imbierowicz	Town of Superior
Matt Magley	Town of Superior

Government Representatives

Name	
Dan Miller	Office of Attorney General Ken Salazar
Felicity Hannay	Office of Attorney General Ken Salazar
Doug Young	Office of Congressman Mark Udall
Terry Van Keuren	Office of Congressman Tom Tancredo
John Swartout	Office of Governor Bill Owens
Brandy Belta	Office of Senator Ben Nighthorse Campbell
Jeanette Alberg	Office of Senator Wayne Allard
Kim Cadena	Office of Congressman Bob Beauprez

Organizations

Name	
Suzanne Webel	BATCO - Boulder Area Trails Coalition
Jim McKee	Boulder County Nature Assn.; Colorado Wildlife Federation
Jyoti Wind	Citizens Concerned About Nuclear Waste Impacts
Steve Davies	Cold War Museum
Michael Menefee	Colorado Natural Heritage Program
Suzanne O'Neil	Colorado Wildlife Federation
David Buckner	Esco Associates
Paula Elofson-Gardine	Environmental Information Network
David and Doris DePenning	Friends of the Foothills
Roman Kohler	Homesteaders
Gary Spring	International Mountain Biking Association
David Shelton	Kaiser-Hill
Bob Meulengracht	Mule Deer Foundation
Steve Torbit	National Wildlife Federation

Paul Kilburn	North Jeffco Area Group
Jim Stone	Rocky Flats Cleanup Commission
David Abelson	Rocky Flats Coalition of Local Governments
Kimberly Chelboun	Rocky Flats Coalition of Local Governments
Tom Gallegos	Rocky Flats Citizens Advisory Board
Victor Holm	Rocky Flats Citizens Advisory Board
Jerry Henderson	Rocky Flats Citizens Advisory Board
William Cossack	Rocky Flats Citizens Advisory Board
Ken Korkia	Rocky Flats Citizens Advisory Board
Jim Kinsinger	Rocky Flats Citizens Advisory Board
Patricia Rice	Rocky Flats Citizens Advisory Board
Erin Hamby	Rocky Mountain Peace & Justice Center
Tom Marshall	Rocky Mountain Peace & Justice Center
LeRoy Moore	Rocky Mountain Peace & Justice Center
Hildegard Hix	Sierra Club
Joan Seeman	Sierra Club
Justin Spring	Trust for Public Land
Len Carpenter	Wildlife Management Institute
Steve Smith	Xcel Energy

Native American Tribes

Name	
Anthony Addison, Chairman	Arapaho Business Committee
Virgil Franklin, Sr., NAGPRA Contact	Cheyenne and Arapaho Tribes of Oklahoma
James Pedro	Cheyenne and Arapaho Tribes of Oklahoma
Geri Small, President	Northern Cheyenne Tribal Council
Nelson Tallbull Sr., NAGPRA Contact	Northern Cheyenne Tribal Council
Leonard Burch, Chairman	Southern Ute Tribe
O. Roland McCook Sr., NAGPRA Contact	Ute Indian Tribe
Floyd Wopsock, Chairman	Ute Indian Tribe Business Committee
Judy Knight-Frank, Chairperson	Ute Mountain Ute Tribe
Terry Knight, NAGPRA	Ute Mountain Ute Tribe

Individuals

Name	*Name*
Bini Abbott	Ann Lockhart
Jacques and Carolyn Adam	Doug Magee
Donald and Pamela Anderson	Julie Maheu
Hildy Armour	Brenda Marriott
Amy Bowman	Michael Mauro
John Boylan	Charlie McKay
Judy Capra	Nancy McNally
Judy Childers	Caecilia McNeill
Kirk Cunningham	Dan and Barb Michaels
Alex Deya-Santiago	Chris Morrison
Becky Eades	Renee Nelson
Janice Echardt	Werner and Nancy Newpert
Judy Enderle	Harvey Nichols
Anne Fenerty	Shelly Reed

Linda Georges
John Giezertunner
Francesca Giongo
Deb Griew
Doug Grinbergs
Al Gunter
Erin Hamby
Jeanniene Haynes
Tom Hoffman
Karen Hollweg
Bob Kropfli
Joel Selbin
Barbara Taylor
Bryan Taylor
Janet Torma
Eric Vogelsberg
Henry Von Struve
D. Waddington
Lisa and Rick Woodward
Sharon Zuelsdor

Public Libraries

Name	
Arvada Public Library	Louisville Public Library
Boulder Public Library	Thornton Public Library
Westminster Public Library	Mamie Doud Eisenhower Public Library, Broomfield
Golden Public Library	Front Range Community College
Daniels Public Library	

glossary

accessibility: the state or quality of being easily approached or entered, particularly as it relates to the Americans With Disabilities Act.

accessible facilities: structures accessible for most people with disabilities without assistance; ADA-accessible (e.g., parking lots, trails, pathways, ramps).

adaptive management: the rigorous application of management, research, and monitoring to gain information and experience necessary to assess and modify management activities. A process that uses feedback from refuge research and monitoring and evaluation of management actions to support or modify objectives and strategies at all planning levels.

alternative: a reasonable way to fix an identified problem or satisfy a stated need (40 CFR 1500.2 [cf. "management alternative"]).

alluvium: soils that have been formed by the deposition of water borne materials.

appropriate use: a proposed or existing use of a national wildlife refuge that (1) supports the Refuge System Mission, the major purposes, goals or objectives of the refuge; (2) is necessary for the safe and effective conduct of a priority general public use on the refuge; (3) is otherwise determined under Service Manual Chapter 605 FW1 (draft), by the Refuge Manager and Refuge Supervisor to be appropriate.

aquifer: a formation, group of formations, or part of a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs.

aquitard: a layer of rock having low permeability that stores groundwater but delays its flow.

biodiversity: the variety of life in all its forms.

breeding habitat: habitat used by migratory birds or other animals during the breeding season.

buffer zones: land bordering and protecting critical habitats; areas created or sustained to lessen the negative effects of land development on animals, plants, and their habitats.

candidate species: species for which the Service has sufficient information on file about their biological vulnerability and threats to propose their listing under the Endangered Species Act.

CERCLA: The Comprehensive Environmental Response, Compensation, and Liability Act (commonly known as Superfund), which created a tax on the chemical and petroleum industries to, among other purposes, establish a trust fund to provide for long-term cleanup of contaminated sites.

Chronic Wasting Disease: a contagious fatal neurological disease among deer and elk that produces small lesions in brains of infected animals. It is characterized by loss of body condition, behavioral abnormalities and death.

community: the locality in which a group of people resides and shares the same government.

vegetation community type: a particular assemblage of plants and animals, named for its dominant characteristic.

compatible use: “a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge" (National Wildlife Refuge System Improvement Act of 1997 [Public Law 105-57; 111 Stat. 1253]).

compatibility determination: a required determination for wildlife-dependent recreational uses or any other public uses of a refuge before a use is allowed.

Comprehensive Conservation Plan: a document mandated by the National Wildlife Refuge System Improvement Act of 1997 that describes desired future conditions for a refuge unit, and provides long-range guidance for the unit leader to accomplish the mission of the System and the purpose(s) of the unit (P.L. 105-57;FWS Manual 602 FW 1.4).

concern: cf. "issue."

conservation: managing natural resources to prevent loss or waste (N.b. Management actions may include preservation, restoration, and enhancement).

conservation agreements: voluntary written agreements among two or more parties for the purpose of ensuring the survival and welfare of unlisted species of fish and wildlife or their habitats or to achieve other specified conservation goals.

conservation easement: a legal agreement between a landowner and a land trust (a private, nonprofit conservation organization) or government agency that permanently limits uses of a property to protect its conservation values.

cooperative agreement: the legal instrument used when the principal purpose of a transaction is the transfer of money, property, services, or anything of value to a recipient in order to accomplish a public purpose authorized by Federal statute, and substantial

involvement between the Service and the recipient is anticipated (cf. "grant agreement").

cultural resource: a general term applied to buildings, structures, landscape features, places, or other identifiable artifacts of scientific, aesthetic, educational, spiritual, archaeological, architectural, or historic significance. Can also be more narrowly defined to refer to a prehistoric or historic district, site, building, structure or object listed in or eligible for listing in the National Register of Historic Places.

designated wilderness area: an area designated by Congress as part of the National Wilderness Preservation System (FWS Manual 610 FW 1.5 [draft]).

disturbed area: an area where natural processes have been degraded or destroyed due to human impacts (e.g., mining, cultivation, development).

easement: an agreement by which landowners give up or sell one of the rights on their property (e.g., ditch owners may have an easement to maintain the waterway [cf. "conservation easement"]).

ecosystem: a natural community of organisms interacting with its physical environment, regarded as a unit.

endangered species: a Federal- or State-listed protected species that is in danger of extinction throughout all or a significant portion of its range.

environmental education: education aimed at producing a citizenry that is knowledgeable about the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution" (Stapp et al. 1969).

Environmental Impact Statement: (EIS) a detailed, written analysis of the environmental impacts of a proposed action, adverse effects of the project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources (cf. 40 CFR 1508.11).

erosion: the detachment and movement of soil from the land by wind, water, or gravity.

extirpated: no longer occurring in a given geographic area.

Federal land: public land owned by the Federal Government, including national forests, national parks, and national wildlife refuges.

Federally listed species: a species listed either as endangered, threatened, or a species at risk (formerly, a "candidate species") under the Endangered Species Act of 1973, as amended.

geographic information system: (GIS) a computerized system to compile, store, analyze and display geographically referenced information (e.g., GIS can overlay multiple sets of information on the distribution of a variety of biological and physical features).

global positioning system: (GPS) a satellite-based navigation and positioning system that can be used to locate and store specific points on the earth. GPS technology can be used to create accurate maps of refuge resources or management issues (such as weed patches) that can be easily loaded onto a GIS for analysis.

habitat fragmentation: the breaking up of a specific habitat into smaller, unconnected areas (N.b. A habitat area that is too small may not provide enough space to maintain a breeding population of the species in question).

habitat conservation: protecting an animal or plant habitat to ensure that the use of that habitat by the animal or plant is not altered or reduced.

habitat: the place where a particular type of plant or animal lives.

hay meadow: reference to a 300-acre portion of Rocky Flats that was once cultivated for agriculture and is now comprised primarily of non-native smooth brome and crested wheatgrass. In its current condition, the hay meadow provides marginal wildlife habitat, though it does not adversely affect other Refuge resources.

informal monitoring: (see monitoring) the on-going observation of resource conditions and needs by Service staff that does not follow a pre-determined schedule or observation method.

Integrated Pest Management: (IPM) sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks.

interpretive facilities: structures that provide information about an event, place, or thing by a variety of means, including printed, audiovisual, or multimedia materials (e.g., kiosks that offer printed materials and audiovisuals, signs, and trail heads).

forbs: flowering plants (excluding grasses, sedges, and rushes) that do not have a woody stem and die back to the ground at the end of the growing season.

interpretive materials: any tool used to provide or clarify information, explain events or things, or increase awareness and understanding of the events or things (e.g., printed materials like brochures, maps or curriculum materials; audio/visual materials like video and audio tapes, films, or slides; and, interactive multimedia materials, CD-ROM or other computer technology).

issue: any unsettled matter that requires a management decision (e.g., a Service initiative, an opportunity, a management problem, a threat to the resources of the unit, a conflict in uses, a public concern, or the presence of an undesirable resource condition).

local agencies: generally, municipal governments, regional planning commissions, or conservation groups.

long-term protection: mechanisms like fee title acquisition, conservation easements, or binding agreements with landowners that ensure land use and land management practices will remain compatible with maintaining species populations over the long term.

managed grazing: the use of livestock such as cattle or goats for purposes other than livestock production (including weed management and vegetative succession). Often requires fencing and moving animals in an organized fashion to achieve resource management objectives.

management alternative: a set of objectives and the strategies needed to accomplish each objective [FWS Manual 602 FW 1.4].

management concern: cf. "issue"; "migratory nongame birds of management concern."

management opportunity: cf. "issue."

management plan: a plan that guides future land management practices on a tract.

management strategy: a general approach to meeting unit objectives (N.b. A strategy may be broad, or it may be detailed enough to guide implementation through specific actions, tasks, and projects [FWS Manual 602 FW 1.4]).

mission statement: a succinct statement of the purpose for which the unit was established; its reason for being.

mitigation: actions taken to compensate for the negative effects of a particular project (e.g., wetland mitigation usually restores or enhances a previously damaged wetland or creates a new wetland).

mixed grassland prairie: a combination of several grassland communities, including mesic mixed grassland, short grassland, xeric needle and thread grassland, and reclaimed mixed grassland, that are composed of similar types of native and non-native grasses and have common management requirements.

monitoring: the collection of scientific information to determine the effects of resource management actions and to identify changing resource conditions or needs.

multi-use trails: trails designated for a variety of uses including hiking, biking and, in some cases, equestrian use.

National Environmental Policy Act of 1969: (NEPA) requires all Federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in planning and implementing environmental actions. (Federal agencies must integrate NEPA with other planning requirements, and prepare appropriate NEPA documents to facilitate better environmental decision-making [cf. 40 CFR 1500].)

National Register of Historic Places: Authorized under the National Historic Preservation Act of 1966, the National Register is the nation's official list of cultural resources worthy of preservation. National Register properties are distinguished by having been documented and evaluated according to uniform standards.

National Wildlife Refuge Complex: (Complex) an internal Service administrative linking of refuge units closely related by their purposes, goals, ecosystem, or geopolitical boundaries. In this case, referring to the Rocky Mountain Arsenal National Wildlife Refuge (NWR), Two Ponds NWR, and Rocky Flats NWR as a complex.

National Wildlife Refuge System: (System) all lands and waters and interests therein administered by the Service as wildlife refuges, wildlife ranges, wildlife management areas, waterfowl production areas, and other areas for the protection and conservation of fish and wildlife, including those that are threatened with extinction.

native species: a plant or animal that has grown in the region since the last glaciation and occurred before European settlement.

Notice of Intent: (NOI) an announcement published in the Federal Register that states what the an agency will prepare and review an environmental impact statement [40 CFR 1508.22].

noxious weeds: non-native species that have been introduced into an area and, because of their aggressive growth and lack of natural predators, displace native species.

objective: a concise statement of what the Service wants to achieve, how much to achieve, when and where to achieve it, and who is responsible for the work. Objectives derive from goals and provide the basis for determining strategies, monitoring refuge accomplishments, and evaluating the success of strategies. Objectives are made to be attainable, time-specific, and measurable.

off-trail use: designated areas where visitors are permitted to traverse across the landscape and are not limited to the trail corridors.

outdoor classroom: an environmental education facility that provides learning space and storage for educational materials and props in the field.

overlook: A designated viewing area often furnished with a bench and interpretive signage.

partnership: a contract or agreement among two or more individuals, groups of individuals, organizations, or agencies, in which each agrees to famish a part of the capital or some service in kind (e.g., labor) for a mutually beneficial enterprise.

patch: a relatively homogenous habitat area that is not interrupted by disturbance corridors such as roads, trails, or fences.

permitted mining use: an area in which an outside party owns the rights to subsurface minerals and a permit to mine those minerals. Mining could occur on these areas.

picocurie: A unit of measurement for radioactivity, equal to one trillionth of a curie ($1x10^{-12}$). A curie is a unit of radioactivity, based originally on the radioactivity of 1 gram of pure radium, equal to 37 billion disintegrations per second.

Planning Updates: newsletters distributed, primarily through mailing lists, in order to update the interested public on the status of the CCP project.

pre-settlement condition: a conceptual goal for habitat restoration based on ecological conditions that existed prior to ranching and modern use and disturbance of the site.

prescribed fire: the application of fire to wildland fuels, either by natural or intentional ignition, to achieve identified land use objectives (FWS Manual 621 FW 1.7).

private land: land owned by a private individual or group or non-government organization.

private landowner: cf. "private land."

private organization: any non-government organization.

Proposed Action (or alternative): activities for which an Environmental Impact Statement is being written; the alternative containing the actions and strategies recommended by the planning team. The proposed action is, for all proactive purposes, the draft CCP for the Refuge. (Referred to as the Preferred Alternative in the Final CCP/EIS).

pedestrian trails: trails designated for hiking use only and not opened to other modes of transportation such as biking or equestrian uses.

protection: mechanisms like fee title acquisition, conservation easements, or binding agreements with landowners that ensure land use and land management practices will remain compatible with maintaining species populations at a site (cf. “long-term ")

public: individuals, organizations, and non-government groups; officials of Federal, State, and local government agencies; Native American tribes, and foreign nations includes anyone outside the core planning team, those who may or may not have indicated an interest in the issues and those who do or do not realize that our decisions may affect them.

public involvement: offering to interested individuals and organizations that our actions or policies may affect an opportunity to become informed; soliciting their opinion.

public involvement plan: long-term guidance for involving the public in the comprehensive planning process.

public land: land owned by the local, State, or Federal Government.

rare species: species identified for special management emphasis because of their uncommon occurrence.

rare community types: plant community types classified as rare by any State program (as used in CCPs, includes exemplary community types).

recommended wilderness: areas studied and found suitable for wilderness designation by both the Director (FWS) and Secretary (DOI), and recommended by the President to Congress for inclusion in the National Wilderness System (FWS Manual 610 FW 1.5 [draft]).

Record of Decision: (ROD) a concise public record of a decision by a Federal agency pursuant to NEPA. (N.b. A ROD includes: the decision; all the alternatives considered; the environmentally preferable alternative; a summary of monitoring and enforcement, where applicable, for any mitigation; and, whether all practical means have been adopted to avoid or minimize environmental harm from the alternative selected [or if not, why not].)

refuge goals: "descriptive, open-ended, and often broad statements of desired future conditions that convey a purpose but do not define measurable units" (Writing Refuge Management Goals and Objectives: A Handbook).

refuge management economic activity: a management activity on a national wildlife refuge that results in the generation of a commodity which is or can be sold as income or revenue or can be traded for goods and services. Examples include: farming, grazing, haying, timber harvesting, and trapping.

Refuge Manager: the official directly in charge of a national wildlife refuge or a wildlife refuge complex.

refuge purposes: "The purposes specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit" (National Wildlife Refuge System Improvement Act of 1997).

refuge lands: lands in which the Service holds full interest in fee title or partial interest like an easement.

refuge use: a recreational use (including actions associated with a recreational use or other general public use), or refuge management economic activity.

Regional Chief: the official in charge of the National Wildlife Refuge System within a Region of the U.S. Fish and Wildlife Service.

relative cover: a measure of abundance for individual plant species or group of species of interest in a specified area, relative to the total cover all species. Can be expressed as a percentage.

restoration: the artificial manipulation of habitat to restore it to its former condition (e.g., restoration may involve planting native grasses and forbs, removing shrubs, prescribed burning, or re-establishing habitat for native plants and animals on degraded grassland).

restored stream crossing: obstructions such as culverts, roads and trails are removed or restructured to allow stream flows to return to a more natural condition.

revegetation: the process of establishing a native plant community in an area that was formerly disturbed. May involve removing existing non-native vegetation, grading, soil preparation, seeding, and supplemental irrigation.

RFCA Parties: the agencies that are signatories to the Rocky Flats Cleanup Agreement: U.S. Department of Energy, Environmental Protection Agency, and the Colorado Department of Public Health and Environment.

riparian area: see riparian habitat.

riparian habitat: habitat along the banks of a stream or river that is characterized by trees and shrubs (such as cottonwood and willow) that grow in moist conditions.

right of way: that land on which a public road may be built within The Refuge boundary.

runoff: water from rain, melted snow, or agricultural or landscape irrigation that flows over a land surface into a water body (cf. "urban runoff").

scoping: the process used at the beginning of a planning process to engage the public and other agencies to determine the scope and significant issues to be addressed in the plan and analyzed in the EIS.

seasonal closures: areas and/or trails closed for the protection of wildlife based on their annual life cycles and habitat needs. Closures are seasonal and are determined by Refuge staff.

sedimentation: the introduction of eroded soil particles to a water body which can result in increased turbidity (cloudiness) and affect aquatic plants and animals.

Service presence: Service programs and facilities that it directs or shares with other organizations; public awareness of the Service as a sole or cooperative provider of programs and facilities.

site improvement: any activity that changes the condition of an existing site to better interpret events, places, or things related to a refuge (e.g., improving safety and access, replacing non-native with native plants, refurbishing footbridges and trail ways, and renovating or expanding exhibits).

Refuge mailing list: A list containing names and addresses of people with an interest in the Refuge. As part of the planning process, the list was continually updated to include conservation agencies, recreation interests, Congressionals, workbook respondents, open house/focus group attendees, etc.

social trail: unplanned trails that develop informally through repeated use. Are commonly formed between planned trails and points of interest.

soil productivity: The overall productive status of a soil arising from all aspects of its quality, such as its physical and structural condition as well as its chemical content.

species of concern: species not federally listed as threatened or endangered, but about which the Service or our partners are concerned.

stabilization: reinforcing a building (e.g., Lindsay Barn) to avoid further deterioration of its structural integrity.

State agencies: generally, natural resource agencies of State governments.

State land: State-owned public land.

State-listed species: cf. Wildlife species that are listed as threatened or endangered within the State of Colorado by the Colorado Division of Wildlife.

step-down management plan: a plan for dealing with specific refuge management subjects, strategies, and schedules, e.g., hunting, vegetation and fire (FWS Manual 602 FW 1.4).

target population: the preferred number of animals (deer or elk) that live on the Refuge, as determined by Service and CDOW staff based on fluctuating habitat conditions.

threatened species: a Federally listed, protected species that is likely to become an endangered species in all or a significant portion of its range.

urban runoff: water from rain, melted snow, or landscape irrigation flowing from city streets and domestic or commercial properties that may carry pollutants into a sewer system or water body.

vision statement: a concise statement of what the unit could achieve in the next 10 to 15 years.

visitor center: a permanently staffed building offering exhibits and interpretive information to the visiting public. Some visitor centers are co-located with refuge offices, others include additional facilities such as classrooms or wildlife viewing areas.

visitor contact station: compared to a visitor center, a contact station is a smaller facility that may not be permanently staffed.

viewing blind: a structure that provides shelter and a suitable vantage for wildlife observation and photography.

warm-season grass: native prairie grass that grows the most during summer, when cool-season grasses are dormant.

trail connections: trailheads along the refuge boundary that provide a link to outlying trail systems.

watchable wildlife: wildlife that are visible and enjoyed by Refuge visitors. A watchable wildlife program is one that helps maintain viable populations of all native fish and wildlife species by building an active, well-informed constituency for conservation. Watchable wildlife programs are tools for meeting wildlife conservation goals while at the same time fulfilling public demand for wildlife-dependent recreational activities (other than sport hunting, sport fishing, or trapping).

water bar: a constructed trail structure that diverts water off of the trail surface. May consist of a earthen berm, rock, wood, or other materials.

watershed: the geographic area within which water drains into a particular river, stream, or body of water; land and the body of water into which the land drains.

wetlands: lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water" (Cowardin et al 1979).

wilderness: cf. "designated wilderness."

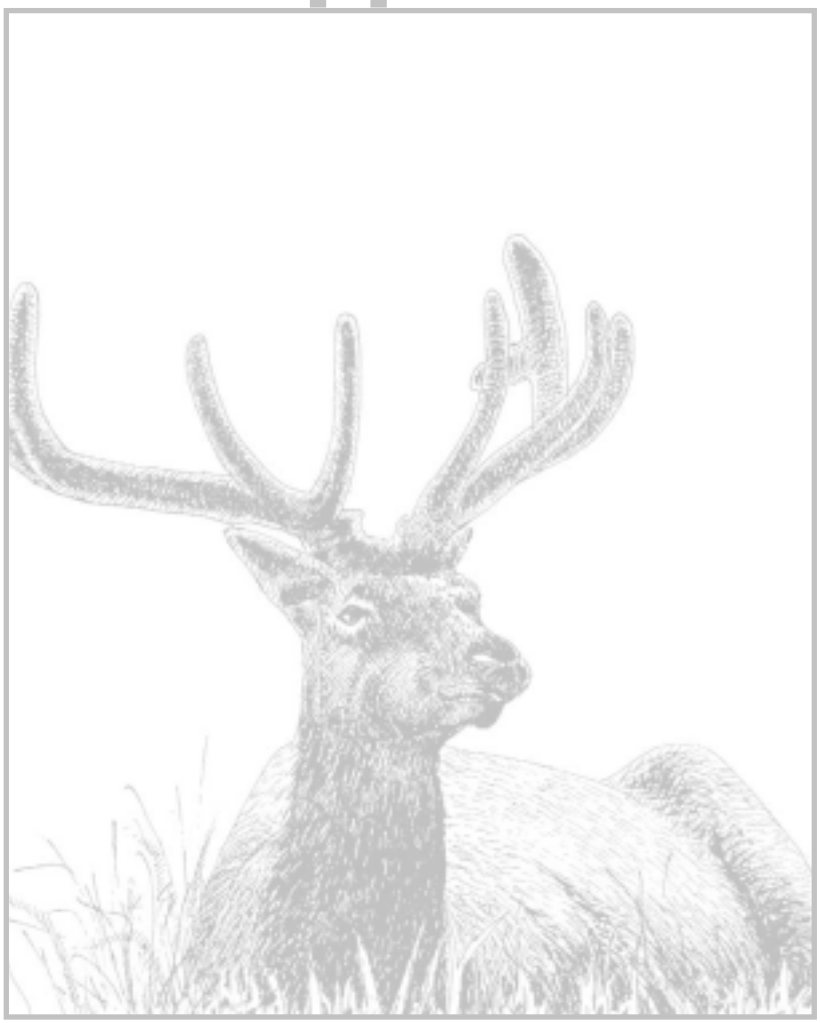
wildfire: a free-burning fire requiring a suppression response; all fire other than prescribed fire that occurs on wildlands (FWS Manual 621 FW 1.7).

wildland fire: every wildland fire is either a wildfire or a prescribed fire (FWS Manual 621 FW 1.3).

wildlife management: manipulating wildlife populations, either directly by regulating the numbers, ages, and sex ratios harvested, or indirectly by providing favorable habitat conditions and alleviating limiting factors.

wildlife-dependent recreation: recreational experiences in which wildlife is the focus. The terms “wildlife-dependent recreation” and '”wildlife-dependent recreational use” mean a use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation (National Wildlife Refuge System Improvement Act of 1997).

appendices



appendix a

Refuge Legislation

defense plutonium or defense plutonium materials to the Savannah River Site during the period beginning on February 1, 2002, and ending on the date on which such plans are submitted to Congress.

(g) RULE OF CONSTRUCTION.—Nothing in this section may be construed to prohibit or limit the Secretary from shipping defense plutonium or defense plutonium materials to sites other than the Savannah River Site during the period referred to in subsection (f) or any other period.

(h) ANNUAL REPORT ON FUNDING FOR FISSILE MATERIALS DISPOSITION ACTIVITIES.—The Secretary shall include with the budget justification materials submitted to Congress in support of the Department of Energy budget for each fiscal year (as submitted with the budget of the President under section 1105(a) of title 31, United States Code) a report setting forth the extent to which amounts requested for the Department for such fiscal year for fissile materials disposition activities will enable the Department to meet commitments for the disposition of surplus defense plutonium and defense plutonium materials located at the Savannah River Site, and for any other fissile materials disposition activities, in such fiscal year.

SEC. 3156. MODIFICATION OF DATE OF REPORT OF PANEL TO ASSESS THE RELIABILITY, SAFETY, AND SECURITY OF THE UNITED STATES NUCLEAR STOCKPILE.

Section 3159(d) of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (Public Law 105–261; 42 U.S.C. 2121 note) is amended by striking "of each year, beginning with 1999," and inserting "of 1999 and 2000, and not later than February 1, 2002,".

Subtitle F—Rocky Flats National Wildlife Refuge

Rocky Flats National Wildlife Refuge Act of 2001.
16 USC 668dd note.

SEC. 3171. SHORT TITLE.

This subtitle may be cited as the "Rocky Flats National Wildlife Refuge Act of 2001".

SEC. 3172. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress finds the following:

(1) The Federal Government, through the Atomic Energy Commission, acquired the Rocky Flats site in 1951 and began operations there in 1952. The site remains a Department of Energy facility. Since 1992, the mission of the Rocky Flats site has changed from the production of nuclear weapons components to cleanup and closure in a manner that is safe, environmentally and socially responsible, physically secure, and cost-effective.

(2) The majority of the Rocky Flats site has generally remained undisturbed since its acquisition by the Federal Government.

(3) The State of Colorado is experiencing increasing growth and development, especially in the metropolitan Denver Front Range area in the vicinity of the Rocky Flats site. That growth and development reduces the amount of open space and thereby diminishes for many metropolitan Denver communities the vistas of the striking Front Range mountain backdrop.

(4) Some areas of the Rocky Flats site contain contamination and will require further response action. The national interest requires that the ongoing cleanup and closure of the entire site be completed safely, effectively, and without unnecessary delay and that the site thereafter be retained by the United States and managed so as to preserve the value of the site for open space and wildlife habitat.

(5) The Rocky Flats site provides habitat for many wildlife species, including a number of threatened and endangered species, and is marked by the presence of rare xeric tallgrass prairie plant communities. Establishing the site as a unit of the National Wildlife Refuge System will promote the preservation and enhancement of those resources for present and future generations.

(b) PURPOSES.—The purposes of this subtitle are—

(1) to provide for the establishment of the Rocky Flats site as a national wildlife refuge following cleanup and closure of the site;

(2) to create a process for public input on the management of the refuge referred to in paragraph (1) before transfer of administrative jurisdiction to the Secretary of the Interior; and

(3) to ensure that the Rocky Flats site is thoroughly and completely cleaned up.

SEC. 3173. DEFINITIONS.

In this subtitle:

(1) CERCLA.—The term "CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.).

(2) CLEANUP AND CLOSURE.—The term "cleanup and closure" means the response actions for covered substances carried out at Rocky Flats, as required by any of the following:

(A) The RFCA.

(B) CERCLA.

(C) RCRA.

(D) The Colorado Hazardous Waste Act, 25–15–101 to 25–15–327, Colorado Revised Statutes.

(3) COVERED SUBSTANCE.—The term "covered substance" means any of the following:

(A) Any hazardous substance, as such term is defined in paragraph (14) of section 101 of CERCLA (42 U.S.C. 9601).

(B) Any pollutant or contaminant, as such term is defined in paragraph (33) of such section 101.

(C) Any petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) of such section 101.

(4) RCRA.—The term "RCRA" means the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.), popularly known as the Resource Conservation and Recovery Act.

(5) REFUGE.—The term "refuge" means the Rocky Flats National Wildlife Refuge established under section 3177.

(6) RESPONSE ACTION.—The term "response action" means any of the following:

(A) A response, as such term is defined in paragraph (25) of section 101 of CERCLA (42 U.S.C. 9601).

(B) A corrective action under RCRA or under the Colorado Hazardous Waste Act, 25–15–101 to 25–15–327, Colorado Revised Statutes.

(C) Any requirement for institutional controls imposed by any of the laws referred to in subparagraph (A) or (B).

(7) RFCA.—The term "RFCA" means the Rocky Flats Cleanup Agreement, an intergovernmental agreement, dated July 19, 1996, among—

(A) the Department of Energy;

(B) the Environmental Protection Agency; and

(C) the Department of Public Health and Environment of the State of Colorado.

(8) ROCKY FLATS.—

(A) IN GENERAL.—Except as provided in subparagraph (B), the term "Rocky Flats" means the Rocky Flats Environmental Technology Site, Colorado, a defense nuclear facility, as depicted on the map titled "Rocky Flats Environmental Technology Site", dated October 22, 2001, and available for inspection in the appropriate offices of the United States Fish and Wildlife Service.

(B) EXCLUSIONS.—The term "Rocky Flats" does not include—

(i) the land and facilities of the Department of Energy's National Renewable Energy Laboratory, including the acres retained by the Secretary under section 3174(f); and

(ii) any land and facilities not within the boundaries depicted on the map referred to in subparagraph (A).

(9) SECRETARY.—The term "Secretary" means the Secretary of Energy.

SEC. 3174. FUTURE OWNERSHIP AND MANAGEMENT.

(a) FEDERAL OWNERSHIP.—Except as expressly provided in this subtitle, all right, title, and interest of the United States, held on or acquired after the date of the enactment of this Act, to land or interest therein, including minerals, within the boundaries of Rocky Flats shall be retained by the United States.

(b) LINDSAY RANCH.—The structures that comprise the former Lindsay Ranch homestead site in the Rock Creek Reserve area of the buffer zone, as depicted on the map referred to in section 3173(8)(A), shall be permanently preserved and maintained in accordance with the National Historic Preservation Act (16 U.S.C. 470 et seq.).

(c) PROHIBITION ON ANNEXATION.—Neither the Secretary nor the Secretary of the Interior shall allow the annexation of land within the refuge by any unit of local government.

(d) PROHIBITION ON THROUGH ROADS.—Except as provided in subsection (e), no public road shall be constructed through Rocky Flats.

(e) TRANSPORTATION RIGHT-OF-WAY.—

(1) IN GENERAL.—

(A) AVAILABILITY OF LAND.—On submission of an application meeting each of the conditions specified in paragraph (2), the Secretary, in consultation with the Secretary of the Interior, shall make available land along the eastern boundary of Rocky Flats for the sole purpose of transportation improvements along Indiana Street.

(B) BOUNDARIES.—Land made available under this paragraph may not extend more than 300 feet from the west edge of the Indiana Street right-of-way, as that right-of-way exists as of the date of the enactment of this Act.

(C) EASEMENT OR SALE.—Land may be made available under this paragraph by easement or sale to one or more appropriate entities.

(D) COMPLIANCE WITH APPLICABLE LAW.—Any action under this paragraph shall be taken in compliance with applicable law.

(2) CONDITIONS.—An application referred to in paragraph (1) meets the conditions specified in this paragraph if the application—

(A) is submitted by any county, city, or other political subdivision of the State of Colorado; and

(B) includes documentation demonstrating that the transportation improvements for which the land is to be made available—

(i) are carried out so as to minimize adverse effects on the management of Rocky Flats as a wildlife refuge; and

(ii) are included in the regional transportation plan of the metropolitan planning organization designated for the Denver metropolitan area under section 5303 of title 49, United States Code.

(f) WIND TECHNOLOGY EXPANSION AREA.—The Secretary shall retain, for the use of the National Renewable Energy Laboratory, the approximately 25 acres identified on the map referred to in section 3173(8)(A) as the "Wind Technology Expansion Area".

SEC. 3175. TRANSFER OF MANAGEMENT RESPONSIBILITIES AND JURISDICTION OVER ROCKY FLATS.

(a) TRANSFER REQUIRED.—

(1) IN GENERAL.—Subject to the other provisions of this section, the Secretary shall transfer administrative jurisdiction over the property that is to comprise the refuge to the Secretary of the Interior.

(2) DATE OF TRANSFER.—The transfer shall be carried out not earlier than the completion certification date, and not later than 30 business days after that date.

(3) COMPLETION CERTIFICATION DATE.—For purposes of paragraph (2), the completion certification date is the date on which the Administrator of the Environmental Protection Agency certifies to the Secretary and to the Secretary of the Interior that cleanup and closure at Rocky Flats has been completed, except for the operation and maintenance associated with response actions, and that all response actions are operating properly and successfully.

(b) MEMORANDUM OF UNDERSTANDING.—

(1) REQUIRED ELEMENTS.—The transfer required by subsection (a) shall be carried out pursuant to a memorandum

of understanding between the Secretary and the Secretary of the Interior. The memorandum of understanding shall—

(A) provide for the division of responsibilities between the Secretary and the Secretary of the Interior necessary to carry out such transfer;

(B) address the impacts that any property rights referred to in section 3179(a) may have on the management of the refuge, and provide strategies for resolving or mitigating these impacts;

(C) identify the land the administrative jurisdiction of which is to be transferred to the Secretary of the Interior; and

(D) specify the allocation of the Federal costs incurred at the refuge after the date of such transfer for any site investigations, response actions, and related activities for covered substances.

(2) PUBLICATION OF DRAFT.—Not later than one year after the date of the enactment of this Act, the Secretary and the Secretary of the Interior shall publish in the Federal Register a draft of the memorandum of understanding.

(3) FINALIZATION AND IMPLEMENTATION.—

(A) Not later than 18 months after the date of the enactment of this Act, the Secretary and Secretary of the Interior shall finalize and implement the memorandum of understanding.

(B) In finalizing the memorandum of understanding, the Secretary and Secretary of the Interior shall specifically identify the land the administrative jurisdiction of which is to be transferred to the Secretary of the Interior and provide for a determination of the exact acreage and legal description of such land by a survey mutually satisfactory to the Secretary and the Secretary of the Interior.

(c) TRANSFER OF IMPROVEMENTS.—The transfer required by subsection (a) may include such buildings or other improvements as the Secretary of the Interior has requested in writing for purposes of managing the refuge.

(d) PROPERTY RETAINED FOR RESPONSE ACTIONS.—

(1) IN GENERAL.—The transfer required by subsection (a) shall not include, and the Secretary shall retain jurisdiction, authority, and control over, the following real property and facilities at Rocky Flats:

(A) Any engineered structure, including caps, barrier walls, and monitoring or treatment wells, to be used in carrying out a response action for covered substances.

(B) Any real property or facility to be used for any other purpose relating to a response action or any other action that is required to be carried out by the Secretary at Rocky Flats.

(2) CONSULTATION.—The Secretary shall consult with the Secretary of the Interior, the Administrator of the Environmental Protection Agency, and the Governor of the State of Colorado on the identification of all real property and facilities to be retained under this subsection.

(e) COST.—The transfer required by subsection (a) shall be completed without cost to the Secretary of the Interior.

(f) NO REDUCTION IN FUNDS.—The transfer required by subsection (a), and the memorandum of understanding required by

subsection (b), shall not result in any reduction in funds available to the Secretary for cleanup and closure of Rocky Flats.

SEC. 3176. ADMINISTRATION OF RETAINED PROPERTY; CONTINUATION OF CLEANUP AND CLOSURE.

(a) ADMINISTRATION OF RETAINED PROPERTY.—

(1) IN GENERAL.—In administering the property retained under section 3175(d), the Secretary shall consult with the Secretary of the Interior to minimize any conflict between—

(A) the administration by the Secretary of such property for a purpose relating to a response action; and

(B) the administration by the Secretary of the Interior of land the administrative jurisdiction of which is transferred under section 3175(a).

(2) PRIORITY IN CASE OF CONFLICT.—In the case of any such conflict, the Secretary and the Secretary of the Interior shall ensure that the administration for a purpose relating to a response action, as described in paragraph (1)(A), shall take priority.

(3) ACCESS.—The Secretary of the Interior shall provide to the Secretary such access and cooperation with respect to the refuge as the Secretary requires to carry out operation and maintenance, future response actions, natural resources restoration, or any other obligations.

(b) ONGOING CLEANUP AND CLOSURE.—

(1) IN GENERAL.—The Secretary shall carry out to completion cleanup and closure at Rocky Flats.

(2) CLEANUP LEVELS.—The Secretary shall carry out such cleanup and closure to the levels established for soil, water, and other media, following a thorough review by the parties to the RFCA and the public (including the United States Fish and Wildlife Service and other interested government agencies) of the appropriateness of the interim levels in the RFCA.

(3) NO RESTRICTION ON USE OF NEW TECHNOLOGIES.—Nothing in this subtitle, and no action taken under this subtitle, restricts the Secretary from using at Rocky Flats any new technology that may become available for remediation of contamination.

(c) OPPORTUNITY TO COMMENT.—The Secretary of the Interior shall have the opportunity to comment with respect to any proposed response action as to the impacts, if any, of such proposed response action on the refuge.

(d) RULES OF CONSTRUCTION.—

(1) NO RELIEF FROM OBLIGATIONS UNDER OTHER LAW.—Nothing in this subtitle, and no action taken under this subtitle—

(A) relieves the Secretary, the Administrator of the Environmental Protection Agency, the Secretary of the Interior, or any other person from any obligation or other liability with respect to Rocky Flats under the RFCA or any Federal or State law;

(B) impairs or alters any provision of the RFCA; or

(C) alters any authority of the Administrator of the Environmental Protection Agency under section 120(e) of CERCLA (42 U.S.C. 9620(e)), or any authority of the State of Colorado.

(2) CLEANUP LEVELS.—Nothing in this subtitle shall reduce the level of cleanup and closure at Rocky Flats required under the RFCA or any Federal or State law.

(3) PAYMENT OF RESPONSE ACTION COSTS.—Nothing in this subtitle affects the obligation of a Federal department or agency that had or has operations at Rocky Flats resulting in the release or threatened release of a covered substance to pay the costs of response actions carried out to abate the release of, or clean up, the covered substance.

SEC. 3177. ROCKY FLATS NATIONAL WILDLIFE REFUGE.

(a) IN GENERAL.—On completion of the transfer required by section 3175(a), and subject to section 3176(a), the Secretary of the Interior shall commence administration of the real property comprising the refuge in accordance with this subtitle.

(b) ESTABLISHMENT OF REFUGE.—Not later than 30 days after the transfer required by section 3175(a), the Secretary of the Interior shall establish at Rocky Flats a national wildlife refuge to be known as the Rocky Flats National Wildlife Refuge.

(c) COMPOSITION.—The refuge shall be comprised of the property the administrative jurisdiction of which was transferred as required by section 3175(a).

(d) NOTICE.—The Secretary of the Interior shall publish in the Federal Register a notice of the establishment of the refuge.

(e) ADMINISTRATION AND PURPOSES.—

(1) IN GENERAL.—The Secretary of the Interior shall manage the refuge in accordance with applicable law, including this subtitle, the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd et seq.), and the purposes specified in that Act.

(2) REFUGE PURPOSES.—The refuge shall be managed for the purposes of—

(A) restoring and preserving native ecosystems;

(B) providing habitat for, and population management of, native plants and migratory and resident wildlife;

(C) conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)); and

(D) providing opportunities for compatible scientific research.

(3) MANAGEMENT.—In managing the refuge, the Secretary of the Interior shall—

(A) ensure that wildlife-dependent recreation and environmental education and interpretation are the priority public uses of the refuge; and

(B) comply with all response actions.

SEC. 3178. COMPREHENSIVE PLANNING PROCESS.

(a) IN GENERAL.—Not later than 180 days after the date of the enactment of this Act, in developing a comprehensive conservation plan for the refuge in accordance with section 4(e) of the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd(e)), the Secretary of the Interior shall establish a comprehensive planning process that involves the public and local communities. The Secretary of the Interior shall establish such process in consultation with the Secretary, the members of the Coalition, the Governor of the State of Colorado, and the Federal

Deadline.

and State of Colorado officials who have been designated as trustees for Rocky Flats under section 107(f)(2) of CERCLA (42 U.S.C. 9607(f)(2)).

(b) OTHER PARTICIPANTS.—In addition to the entities specified in subsection (a), the comprehensive planning process required by subsection (a) shall include the opportunity for direct involvement of entities that are not members of the Coalition as of the date of the enactment of this Act, including the Rocky Flats Citizens' Advisory Board and the cities of Thornton, Northglenn, Golden, Louisville, and Lafayette, Colorado.

(c) DISSOLUTION OF COALITION.—If the Coalition dissolves, or if any Coalition member elects to leave the Coalition during the comprehensive planning process required by subsection (a)—

(1) such comprehensive planning process shall continue; and

(2) an opportunity shall be provided to each entity that is a member of the Coalition as of September 1, 2000, for direct involvement in such comprehensive planning process.

(d) CONTENTS.—In addition to the requirements of section 4(e) of the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd(e)), the comprehensive conservation plan referred to in subsection (a) shall address and make recommendations on the following:

(1) The identification of any land referred to in subsection (e) of section 3174 that could be made available under that subsection.

(2) The characteristics and configuration of any perimeter fencing that may be appropriate or compatible for cleanup and closure purposes, refuge purposes, or other purposes.

(3) The feasibility of locating, and the potential location for, a visitor and education center at the refuge.

(4) Any other issues relating to Rocky Flats.

(e) COALITION DEFINED.—In this section, the term "Coalition" means the Rocky Flats Coalition of Local Governments established by the Intergovernmental Agreement, dated February 16, 1999, among—

(1) the city of Arvada, Colorado;
(2) the city of Boulder, Colorado;
(3) the city of Broomfield, Colorado;
(4) the city of Westminster, Colorado;
(5) the town of Superior, Colorado;
(6) Boulder County, Colorado; and
(7) Jefferson County, Colorado.

Deadline.

(f) REPORT.—Not later than three years after the date of the enactment of this Act, the Secretary of the Interior shall submit to Congress—

(1) the comprehensive conservation plan referred to in subsection (a); and

(2) a report that contains—

(A) an outline of the involvement of the public and local communities in the comprehensive planning process, as required by subsection (a);

(B) to the extent that any input or recommendation from the comprehensive planning process is not accepted, a clear statement of the reasons why such input or recommendation is not accepted; and

(C) a discussion of the impacts of any property rights referred to in section 3179(a) on management of the refuge, and an identification of strategies for resolving and mitigating these impacts.

SEC. 3179. PROPERTY RIGHTS.

(a) IN GENERAL.—Except as provided in subsections (c) and (d), nothing in this subtitle limits any valid, existing property right at Rocky Flats that is owned by any person or entity, including, but not limited to—

(1) any mineral right;

(2) any water right or related easement; and

(3) any facility or right-of-way for a utility.

(b) ACCESS.—Except as provided in subsection (c), nothing in this subtitle affects any right of an owner of a property right referred to in subsection (a) to access the owner's property.

(c) REASONABLE CONDITIONS.—

(1) IN GENERAL.—The Secretary or the Secretary of the Interior may impose such reasonable conditions on access to property rights referred to in subsection (a) as are appropriate for the cleanup and closure of Rocky Flats and for the management of the refuge.

(2) NO EFFECT ON OTHER LAW.—Nothing in this subtitle affects any Federal, State, or local law (including any regulation) relating to the use, development, and management of property rights referred to in subsection (a).

(3) NO EFFECT ON ACCESS RIGHTS.—Nothing in this subsection precludes the exercise of any access right, in existence on the date of the enactment of this Act, that is necessary to perfect or maintain a water right in existence on that date.

(d) UTILITY EXTENSION.—

(1) IN GENERAL.—The Secretary or the Secretary of the Interior may allow not more than one extension from an existing utility right-of-way on Rocky Flats, if necessary.

(2) CONDITIONS.—An extension under paragraph (1) shall be subject to the conditions specified in subsection (c).

(e) EASEMENT SURVEYS.—Subject to subsection (c), until the date that is 180 days after the date of the enactment of this Act, an entity that possesses a decreed water right or prescriptive easement relating to land at Rocky Flats may carry out such surveys at Rocky Flats as the entity determines are necessary to perfect the right or easement.

SEC. 3180. LIABILITIES AND OTHER OBLIGATIONS.

(a) IN GENERAL.—Nothing in this subtitle shall relieve, and no action may be taken under this subtitle to relieve, the Secretary, the Secretary of the Interior, or any other person from any liability or other obligation at Rocky Flats under CERCLA, RCRA, or any other Federal or State law.

(b) COST RECOVERY, CONTRIBUTION, AND OTHER ACTION.—Nothing in this subtitle is intended to prevent the United States from bringing a cost recovery, contribution, or other action that would otherwise be available under Federal or State law.

SEC. 3181. ROCKY FLATS MUSEUM.

(a) MUSEUM.—To commemorate the contribution that Rocky Flats and its worker force provided to winning the Cold War and

the impact that such contribution has had on the nearby communities and the State of Colorado, the Secretary may establish a Rocky Flats Museum.

(b) LOCATION.—The Rocky Flats Museum shall be located in the city of Arvada, Colorado, unless, after consultation under subsection (c), the Secretary determines otherwise.

(c) CONSULTATION.—The Secretary shall consult with the city of Arvada, other local communities, and the Colorado State Historical Society on—

(1) the development of the museum;

(2) the siting of the museum; and

(3) any other issues relating to the development and construction of the museum.

(d) REPORT.—Not later than three years after the date of the enactment of this Act, the Secretary, in coordination with the city of Arvada, shall submit to Congress a report on the costs associated with the construction of the museum and any other issues relating to the development and construction of the museum.

SEC. 3182. ANNUAL REPORT ON FUNDING.

For each of fiscal years 2003 through 2007, at the time of submission of the budget of the President under section 1105(a) of title 31, United States Code, for such fiscal year, the Secretary and the Secretary of the Interior shall jointly submit to Congress a report on the costs of implementation of this subtitle. The report shall include—

(1) the costs incurred by each Secretary in implementing this subtitle during the preceding fiscal year; and

(2) the funds required by each Secretary to implement this subtitle during the current and subsequent fiscal years.

TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Sec. 3201. Authorization.

SEC. 3201. AUTHORIZATION.

There are authorized to be appropriated for fiscal year 2002, $18,500,000 for the operation of the Defense Nuclear Facilities Safety Board under chapter 21 of the Atomic Energy Act of 1954 (42 U.S.C. 2286 et seq.).

TITLE XXXIII—NATIONAL DEFENSE STOCKPILE

Sec. 3301. Definitions.
Sec. 3302. Authorized uses of stockpile funds.
Sec. 3303. Authority to dispose of certain materials in National Defense Stockpile.
Sec. 3304. Revision of limitations on required disposals of certain materials in National Defense Stockpile.
Sec. 3305. Acceleration of required disposal of cobalt in National Defense Stockpile.
Sec. 3306. Restriction on disposal of manganese ferro.

50 USC 98d note.

SEC. 3301. DEFINITIONS.

In this title:

appendix b

Compatability Determinations

COMPATIBILITY DETERMINATION

Use: Hunting

Refuge Name: Rocky Flats National Wildlife Refuge
Jefferson and Boulder Counties, Colorado

Establishing Authority: Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)

Refuge Purposes:

1. Restoring and preserving native ecosystems.

2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife.

3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)).

4. Providing opportunities for compatible scientific research.

NWRS Mission: "...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans." (16 U.S.C. 668dd(a)(2)).

Description of Use: The Refuge will administer a limited big game (mule deer and elk) hunting program for youth and disabled hunters. The program may be expanded after year 2 to include able-bodied hunters, if needed to control ungulate populations in order to meet wildlife management goals.

A maximum of 10 hunter/participants would be allowed per hunt. There will be two hunts per year (one for youth and one for disabled hunters). Each hunt will last for 1 weekend, including a Saturday and Sunday. Hunts will be scheduled during the period October 15 - January 15 annually.

Weapons will be limited to: shotguns (20 gauge or larger), firing single projectiles; and archery (bow and arrow). No centerfire rifles or muzzleloading rifles will be allowed. Disabled hunters may be authorized to use centerfire handguns or cross-bow archery tackle, determined on a case-by-case basis, depending on the nature of the hunter's disability.

All weapons will meet requirements of the Colorado Division of Wildlife, (CDOW) for the species hunted.

The Rocky Flats NWR program will be highly managed. Permits/licenses will be issued by drawing cooperatively administered by the Refuge and CDOW. All hunters will be required to check-in prior to hunting and attend a safety/orientation briefing, and check-out at the end of each hunt day.

Youth hunters will be required to hunt with a mentor and disabled hunters will be required to have a volunteer to assist them. There will be a minimum ratio of 1 Refuge or CDOW staff present on-site for every 3 hunter participants.

Each hunter will be assigned to a unique hunting zone within the Refuge for his/her exclusive use and is restricted to hunting in that zone.

Hunters will be required to present all harvested game for inspection and collection of biological data, including sampling for Chronic Wasting Disease.

Other authorized public uses of the Refuge will be suspended and the Refuge will be closed for any non-hunting public use activities on hunt weekends.

Hunt dates, bag limits, hunter quotas, and any adjustments to Refuge Hunt Zones will be determined on an annual basis, in consultation with CDOW.

Availability of Resources: It is anticipated that annual planning and execution of the proposed hunting program will require approximately 20 staff-days of work, spread among the Refuge Manager, Biological, Visitor Services and Law Enforcement staff and cost approximately $5,000 to operate. Refuge O&M resources are expected to be augmented by the services and volunteers and partnership with CDOW and conservation organizations.

This is a "pre-acquisition" compatibility determination, prepared to accompany the Comprehensive Conservation Plan (CCP) for the future Rocky Flats NWR. No
facility development will be required to operate the proposed hunting program and funds are anticipated to be available for the operation of this program based on the Refuge staffing levels and budget proposed in the CCP.

Anticipated Impacts: This limited big game hunting program is anticipated to have minimal potential impacts on Refuge wildlife, but potentially significant beneficial impacts on the unique flora of the Refuge. The proposed use is a Wildlife-Dependent Recreational Use and a Priority Public Use of the NWRS.

The Rocky Flats site has supported a mule deer herd numbering approximately 160 animals (on 6,240 acres) since at least the late 1990s (Kaiser Hill 2001). Small, but increasing numbers of white-tailed deer also occur on the site. Prior to 2002, elk were known to visit Rocky Flats, but were not considered to be a resident species by DOE (DOE 1997). During the winter of 2002 - 2003, significant numbers of elk were observed regularly on the east side of Highway 93 adjacent to Rocky Flats and at least 9 cow elk are known to have calved on the site in the summer of 2003.

The future Refuge is bordered by public conservation lands to the north and west. Fencing is typical stock fencing that does not impede movement of ungulates. Although there is potential for future commercial development on the west side of the site, it is anticipated that deer, elk and other large mammals will continue to be able to move freely between the Refuge and adjacent public lands, and into the Roosevelt National Forest to the west.

The Refuge is located in CDOW's Game Management Unit (GMU) No. 38, and adjacent to GMU 29. Those two GMUs make up CDOW's Data Analysis Unit (DAU) D-27 which covers to the Boulder Deer Herd. CDOW has published the Boulder Deer Herd Management Plan (CDOW 2002). DAU D-27 lies at the edge of the endemic area for Chronic Wasting Disease (CWD) in northeast Colorado. The plan focuses on keeping the prevalence of CWD in the Boulder Deer Herd at no more than 1% infection rate and the Boulder Deer Herd.

In December 2002, 26 deer were collected at Rocky Flats, by CDOW as part of the state's CWD surveillance program. All animals harvested were negative for CWD.

Under the Region 6 CWD Policy, it will be necessary to continue surveillance of the Refuge herds for occurrence and prevalence of CWD. Hunter-harvested deer and elk will provide data for this surveillance requirement and reduce or eliminate the need for Refuge staff to take deer for CWD surveillance purposes.

Colorado has the largest elk population of any state or province in North America. The current Colorado elk herd is far above CDOW's objective level, and CDOW has taken aggressive action in recent years to reduce the herd through sport hunting. Increasingly, elk are becoming established in suburban and agricultural areas along the Front Range. Elk in the cities of Evergreen and Estes Park, and a newly

established population near Loveland, Colorado are creating numerous depredation issues. In Rocky Mountain National Park, the unhunted elk herd is destroying important riparian habitat.

It will be important to prevent or control the establishment of a resident elk herd on the Refuge. Year-round grazing and browsing by elk has the potential to significantly degrade rare plant communities and destroy or reduce the quality of Preble's meadow jumping mouse on the Refuge.

Hunting will have a positive impact on habitats by controlling ungulate grazing and browsing pressure on the Refuge. Direct impacts of the hunting program will be insignificant because of the timing (during Preble's meadow jumping mouse hibernation and outside the bird nesting season) and small number of participants walking through upland and riparian areas. The program will require no facility development or conversion of habitat areas to administrative use.

Public Review and Comment: This Compatibility Determination was presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

At four public hearings, and throughout the comment period for the Draft CCP/EIS for Rocky Flats NWR, significant public input was received regarding the provisions in the Proposed Action to provide a hunting program at Rocky Flats NWR. None of the comments received were specifically addressed to the Draft Compatibility Determination that was published with the Draft CCP/EIS. However, several individuals and organizations expressed the opinion that hunting, in general, is not a compatible use of the National Wildlife Refuge System. All public testimony presented at the hearings and written comments received and responses are reported in Appendix H, Comments and Responses on the Draft Environmental Impact Statement (EIS), of the Final EIS for the Rocky Flats NWR Comprehensive Conservation Plan.

Numerous public comments were received both in favor and in opposition of the proposed hunting program. A petition was received with 89 signatures (23 incomplete or illegible) stating "The following object to any recreational sport hunting at Rocky Flats National Wildlife Refuge." The petition did not address issues germane to the compatibility determination.

Letters supporting the hunting proposal were received from: the State of Colorado, Division of Wildlife, Colorado Wildlife Federation, National Wildlife Federation and the Wildlife Management Institute and other organizations and individuals. Letters opposing hunting were received from the Rocky Mountain Peace and Justice Center, Prairie Preservation Alliance and other organizations and individuals. Local units of government had mixed responses, with some supporting hunting, and others wanting no public use at all. Several local governments expressed concerns about the safety of the hunting proposal, and in response to those concerns, the proposal was changed to delete muzzleloading rifles and restrict hunting to archery and shotguns/slugs only. See Appendix H, Final CCP/EIS, for full comments and responses.

At public hearings, concerns were expressed that: the hunting program proposed was excessively expensive; the definition of "refuge" was a "place of safety"; ungulate populations should be controlled, if necessary, by agency sharpshooters; and that it would be inappropriate to protect animals all year, and then shoot at them two weekends per year – implying a "fair-chase" issue.

In the professional judgment of the undersigned, none of the issues raised at the hearings warrants changing the proposal. Hunting is clearly an appropriate use of NWRS – by law. The costs of the program are mostly salaries of personnel expended over the course of a fiscal year and are not excessive compared to many Refuge programs. Hunting can be an effective tool for ungulate population management that provides a wholesome outdoor recreation experience that is absent in culling programs. Many state-wide and Refuge deer herds are hunted a few days per year without fair chase concerns. The Rocky Flats herd is not fenced, and is currently subject to some hunting pressure on adjacent private, and nearby public lands.

Compatibility Determination: Using sound professional judgment (603 FW 2.6U and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

__ Use is Not Compatible

X Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility: The use (hunting) will not begin until a step-down hunting plan, ensuring biological integrity, and safety of the program, has been approved under provisions of 8RM5, and the Refuge has been formally opened to hunting through publication of a rule in the Federal Register and inclusion of Rocky Flats among refuges open to big game hunting in 50 CFR 32.7.

Justification: Hunting is a form of wildlife-dependent recreation and is a priority use of the NWRS. Hunting will help control ungulate populations and distribution on the Refuge, with a net benefit to the conservation of rare botanical communities and conservation of habitat for the threatened Preble's meadow jumping mouse. Hunting will provide scientific data for surveillance of Refuge deer and elk populations for Chronic Wasting Disease.

Mandatory Re-evaluation Date: As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the anniversary of final Compatibility Determination in 2019.

NEPA Compliance: This use is addressed in an Environmental Impact Statement and Record of Decision.

Approval/Concurrence:

Prepared/Approved: W. Dean Gerald 9/8/04
Refuge Manager:
Signature Date

Concurrence: Richard A Coleman 9/15/04
Regional Chief
Signature Date

References:

Colorado Division of Wildlife. 2002. Boulder Deer Herd Management Plan. Denver, CO.

Department of Energy. 1997. Rocky Flats Cumulative Impacts Document. Rocky Flats Field Office, Rocky Flats Environmental Technology Site. Golden, CO.

COMPATIBILITY DETERMINATION

Use: Interpretation and Environmental Education

Refuge Name: Rocky Flats National Wildlife Refuge
Jefferson and Boulder Counties, Colorado

Establishing Authority: Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)

Refuge Purposes:

1. Restoring and preserving native ecosystems.

2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife.

3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)).

4. Providing opportunities for compatible scientific research.

NWRS Mission: "... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans." (16 U.S.C. 668dd(a)(2)).

Description of Use:
Interpretation: This is a priority public use of the National Wildlife Refuge System per the National Wildlife Refuge System Improvement Act of 1997. It is proposed to continue delivery of Interpretation programs to accomplish the goals and objectives of the Refuge as established in the CCP.

Interpretation programs and facilities are proposed along designated trails and at the Visitor Contact Station on the west side of the Refuge. Facilities and programs would be mostly passive, consisting of interpretive panels on kiosks at trailhead access points and overlooks along trails. Signage would interpret the native prairie ecosystem, rare plant communities, wetlands, endangered species, invasive weeds, and the social significance and cultural resources of Rocky Flats NWR.

Guided tours, led by Service personnel or volunteers, provide a similar but more detailed experience than the self-guided Refuge visit. Tours and nature programs will be developed for delivery to the public on a scheduled basis, and by reservation for groups with special interests and needs. Tours will generally be conducted on the established trail system, but when guided by staff, may access all upland portions of the Refuge, depending on visitor interests, and the subject matter of the interpretive program.

A variety of interpretive programs may also be delivered off-site.

Environmental Education: Environmental education at Rocky Flats NWR will emphasize teacher-led programs and be targeted to high school and college level students. No formal outdoor classroom facilities are planned, but the Refuge will provide sites for student field trips on an "as-arranged" basis. Temporary and impromptu outdoor classrooms will not be established or used in wetland, riparian and other sensitive communities during the growing season, and will be scheduled seasonally to avoid impacts to threatened and endangered species. Rocky Flats NWR will become a venue for implementation of environmental education curricula developed at Rocky Mountain Arsenal NWR

Availability of Resources: It is anticipated that initial development of interpretive facilities designated in the Comprehensive Conservation Plan for Rocky Flats NWR will cost approximately $76,000. It is also anticipated that appropriated NWRS Operations and Maintenance funds for development of interpretive facilities will be leveraged through partnership arrangements with non-profit organizations and with local units of government and state agencies. Once developed, the annual maintenance costs for interpretive facilities is anticipated to be approximately $5,000 per year.

No development of specialized facilities is anticipated to facilitate teacher-led environmental education programs at Rocky Flats NWR. It is estimated that development of special curricula and lesson plans for Rocky Flats will require approximately 0.5 FTE of labor and $30,000 over the course of the first five years following Refuge establishment. The required level of staffing and funding to produce those materials is within the current operating budget and staffing pattern of the Rocky Mountain Arsenal NWR Complex.

This is a "pre-acquisition" compatibility determination, prepared to accompany the Comprehensive Conservation Plan (CCP) for the future Rocky Flats NWR. Funds are anticipated to be available for the operation of this program based on the Refuge staffing levels and budget proposed in the CCP.

Anticipated Impacts: Development and implementation of interpretive and education programs at Rocky Flats NWR will have minimal and biologically insignificant impacts on Refuge resources. Less than 0.25 acres of habitat will need to be disturbed or converted for development of all planned interpretive facilities (not including parking facilities).

Human presence and movement on the Refuge for participation in Interpretive and Environmental Education programs will result in some wildlife disturbance. The level of disturbance will be minimal and will not be additive to disturbances attributed to other public uses such as wildlife observation and trail use.

Public Review and Comment: This Compatibility Determination was presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

Many public comments were received at four public hearings held in March 2004, and throughout the public comment period on the Draft CCP/EIS. Comments related to public use were received both from those in opposition and in favor of public access for interpretation and environmental education.

Many people were opposed to any form of public use at Rocky Flats NWR based on their belief that site cleanup is inadequate and that public access would result in health and safety risks to visitors. Those comments did not address whether wildlife observation and photography were compatible with Refuge purposes or the mission of NWRS.

Comments were received from several organizations, including the Colorado Wildlife Federation that supported the proposed action (Alternative B), including interpretation and environmental education. The Rocky Flats Citizen's Advisory Board supported environmental education, but was not in agreement about whether those activities should take place on-site. The Rocky Flats Cold War Museum expressed a desire to partner with the Service in development of interpretive and education programs. Other groups, including the Prairie Preservation Alliance recommended no wildlife-dependent recreation, based on concerns of wildlife disturbance, exacerbating invasive weed problems and causing erosion.

Comments from local units of government also varied, with several cities and counties favoring public access for interpretation and environmental education, and others recommending no public use of the Refuge. Similarly, written comments received from individuals ran the gamut from advocating more extensive public use programs, to the 815 copies of a form letter expressing opposition to any recreational access to the Rocky Flats NWR. For the complete record of public comment received on this issue, including responses to written comments and testimony received at the public hearings, please see Appendix H to the Final Comprehensive Conservation Plan and Environmental Impact Statement for Rocky Flats NWR.

Several of the comments received were germane to the issue of compatibility. Those comments raised concerns mostly related to wildlife disturbance. There were also several general comments opposing public use on the basis that a "refuge" should be free of disturbance and a place of inviolate sanctuary for wildlife.

The undersigned acknowledge that this use is likely to result in some disturbance of wildlife. However, in the professional judgment of the undersigned, we do not believe that the level of disturbance that may result from this use will materially detract from or prevent the achievement of the Refuge establishment purposes or mission of the NWRS. Wildlife interpretation and environmental education are clearly appropriate uses of the NWRS, and are among the priority public uses of the Refuge System, as established in law. The areas necessary to be disturbed for development of the proposed facilities to support interpretation and environmental education are very small. The conversion of those small areas to non-habitat uses will not materially detract from the ability of the Refuge to achieve its establishment purposes or its contribution to accomplishing the NWRS mission.

Compatibility Determination: Using sound professional judgment (603 FW 2.6U and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

__ Use is Not Compatible

X Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
1. Development and implementation of Interpretation and Environmental Education programs in the first five years following Refuge establishment will be limited to one short trail from the Visitor Contact Station on the west side of the Refuge to the Lindsay Ranch site, and one guided interpretive tour per month that will follow existing Department of Energy service roads.

2. A self-study training program will be prepared for use by educators. Teachers will be required to participate in that training, or in Service-sponsored teacher workshops prior to leading teacher-lead environmental education programs on the Refuge. The training will include information on site history, safety, residual contamination, closed areas, endangered species and wetland conservation, and preservation of rare habitats.

Justification: Interpretation and environmental education are forms of wildlife-dependent recreation and are priority public uses of the NWRS. Interpretation and Environmental Education will increase public awareness and appreciation of the significant wildlife and habitat values of Rocky Flats NWR, and the National Wildlife Refuge System. It is anticipated that such appreciation and understanding will foster increased public support for the Refuge System and conservation of America's wildlife resources.

Mandatory Re-evaluation Date: As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the anniversary of final Compatibility Determination in 2019.

NEPA Compliance: This use is addressed in an Environmental Impact Statement and Record of Decision.

Approval/Concurrence:

Prepared/Approved: W. Dean Gerald 9/8/04
Refuge Manager:
Signature Date

Concurrence: Richard A Coleman 9/15/04
Regional Chief:
Signature Date

COMPATIBILITY DETERMINATION

Use: Multi-Use (Equestrian, Bicycle and Foot access) Trails

Refuge Name: Rocky Flats National Wildlife Refuge
Jefferson and Boulder Counties, Colorado

Establishing Authority: Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)

Refuge Purposes:

1. Restoring and preserving native ecosystems.

2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife.

3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)).

4. Providing opportunities for compatible scientific research.

NWRS Mission: "... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans." (16 U.S.C. 668dd(a)(2)).

Description of Use: To provide access for compatible wildlife-dependent recreational activities of wildlife observation, wildlife photography and interpretation, a 16-mile system of trails will be developed at Rocky Flats NWR.

In order to provide connectivity with regional trail systems and complement public uses of adjacent public lands (municipal and county open space), some portions of the Rocky Flats National Wildlife Refuge (NWR) trail system will accommodate horseback riding and bicycles as modes of transportation for wildlife-dependent recreation.

Within the total anticipated trail system of 16.5 miles, approximately 3.8 miles of trail will be open to foot traffic only, and portions of those foot trails will be closed seasonally to reduce disturbance of wetland/riparian habitats during the months of May through September when the threatened Preble's meadow jumping mouse is active above ground.

In the northern portion of the Refuge, a multi-use trail approximately 4 miles long will follow the top of the mesa on the southern boundary of the Rock Creek drainage. This trail will connect a parking lot on State Highway 128, with open space parks managed by the City of Boulder, Boulder County, City and County of Broomfield, and Town of Superior with the proposed Visitor Contact Station on the west side of the Refuge and ultimately with regional trails to be located off-Refuge in the State Highway 93 corridor west of the Refuge. This trail will be open for foot and bicycle traffic only.

In the southern portion of the Refuge, a multi-use trail, approximately 8 miles long will follow portions of the Refuge south boundary, and mesa tops south of the main stem of Woman Creek, connecting City of Westminster and City of Arvada Open Space with the Visitor Contact Station and eventually with other public lands and regional trails west of Rocky Flats. This southern multi-use trail will be open for equestrian, bicycle and foot traffic.

Availability of Resources: It is anticipated that initial development of interpretive facilities designated in the Comprehensive Conservation Plan for Rocky Flats NWR will cost approximately $76,000. It is also anticipated that appropriated NWRS Operations and Maintenance funds for development of interpretive facilities will be leveraged through partnership arrangements with non-profit organizations and with local units of government and state agencies. Once developed, the annual maintenance costs for interpretive facilities is anticipated to be approximately $5,000 per year.

No development of specialized facilities is anticipated to facilitate teacher-led environmental education programs at Rocky Flats NWR. It is estimated that development of special curricula and lesson plans for Rocky Flats will require approximately 0.5 FTE of labor and $30,000 over the course of the first five years following Refuge establishment. The required level of staffing and funding to produce those materials is within the current operating budget and staffing pattern of the Rocky Mountain Arsenal NWR Complex.

This is a "pre-acquisition" compatibility determination, prepared to accompany the Comprehensive Conservation Plan (CCP) for the future Rocky Flats NWR. Funds are anticipated to be available for the operation of this program based on the Refuge staffing levels and budget proposed in the CCP.

Anticipated Impacts: Development and implementation of interpretive and education programs at Rocky Flats NWR will have minimal and biologically insignificant impacts on Refuge resources. Less than 0.25 acres of habitat will need to be disturbed or converted for development of all planned interpretive facilities (not including parking facilities).

Human presence and movement on the Refuge for participation in Interpretive and Environmental Education programs will result in some wildlife disturbance. The level of disturbance will be minimal and will not be additive to disturbances attributed to other public uses such as wildlife observation and trail use.

Public Review and Comment: This Compatibility Determination was presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

Many public comments were received at four public hearings held in March 2004, and throughout the public comment period on the Draft CCP/EIS. Comments related to public use were received both from those in opposition and in favor of public access for interpretation and environmental education.

Many people were opposed to any form of public use at Rocky Flats NWR based on their belief that site cleanup is inadequate and that public access would result in health and safety risks to visitors. Those comments did not address whether wildlife observation and photography were compatible with Refuge purposes or the mission of NWRS.

Comments were received from several organizations, including the Colorado Wildlife Federation that supported the proposed action (Alternative B), including interpretation and environmental education. The Rocky Flats Citizen's Advisory Board supported environmental education, but was not in agreement about whether those activities should take place on-site. The Rocky Flats Cold War Museum expressed a desire to partner with the Service in development of interpretive and education programs. Other groups, including the Prairie Preservation Alliance recommended no wildlife-dependent recreation, based on concerns of wildlife disturbance, exacerbating invasive weed problems and causing erosion.

Comments from local units of government also varied, with several cities and counties favoring public access for interpretation and environmental education, and others recommending no public use of the Refuge. Similarly, written comments received from individuals ran the gamut from advocating more extensive public use programs, to the 815 copies of a form letter expressing opposition to any recreational access to the Rocky Flats NWR. For the complete record of public comment received on this issue, including responses to written comments and testimony received at the public hearings, please see Appendix H to the Final Comprehensive Conservation Plan and Environmental Impact Statement for Rocky Flats NWR.

The greatest anticipated impact associated with multi-use trails is the potential for erosion and damage to trail surfaces caused by horses and bicycles. Permitting those modes of transportation is likely to increase maintenance costs and if not managed, could eventually lead to soil loss and reduced surface water quality.

It is noted that equestrian use is authorized in most units of the National Wilderness System, and is deemed appropriate with preservation of wilderness values, and that bicycle use on trails has proven to be a compatible mode of transportation on other urban units of the NWRS, including Minnesota Valley NWR and refuges of the San Diego NWR Complex.

Public Review and Comment: This Compatibility Determination was presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

Many public comments were received at four public hearings held in March 2004, and throughout the public comment period on the Draft CCP/EIS. Comments related to trails were received both from those in opposition and in favor of multi-use trails.

Many people were opposed to any form of public use at Rocky Flats NWR based on their belief that site cleanup is inadequate and that public access would result in health and safety risks to visitors. Those comments did not address whether trails were compatible with Refuge purposes or the mission of NWRS.

Comments were also received from several organizations, including the Boulder Area Trails Coalition and Boulder County Horse Association, which supported multi-use trails and other groups, including Plan Jeffco and the Prairie Preservation Alliance, which recommended very limited trails or no trails at all due to concerns about trail users causing wildlife disturbance, exacerbating invasive weed problems and causing erosion. The National Wildlife Federation and others specifically opposed equestrian access based on the weed issue. Comments from local units of government also varied, with several cities and counties favoring establishment of multi-use trails and others recommending no public use of the Refuge.

Similarly, written comments received from individuals ran the gamut from advocating more extensive trails with greater access for equestrians to 815 copies of a form letter expressing opposition to any recreational access to the Rocky Flats NWR. For the complete record of public comment received on this issue, including responses to written comments and testimony received at the public hearings, please see Appendix H to the Final Comprehensive Conservation Plan and Environmental Impact Statement for Rocky Flats NWR.

Several of the comments received were germane to the issue of compatibility. Those comments raised concerns mostly related to wildlife disturbance, habitat fragmentation, weed seed importation and erosion that might result from trail use. There were also several general comments opposing public use on the basis that a “refuge” should be free of disturbance and a place of inviolate sanctuary for wildlife.

The undersigned acknowledge that this use is likely to result in some disturbance of wildlife, and that active management of this use will be required to mitigate potential for this use to exacerbate weed problems and cause erosion. However, in the professional judgment of the undersigned, we do not believe that the level of disturbance that may result from this use will materially detract from or prevent the achievement of the Refuge establishment purposes or mission of the NWRS. Trails will occupy a very small portion of Rocky Flats NWR. Implementation of the Final CCP will result in less habitat fragmentation, fewer roads and point sources of soil erosion, and enhanced weed control efforts. If implemented with the stipulations listed below, this use will facilitate achievement of Refuge goals for wildlife-dependent recreation, and will not significantly interfere with preservation and restoration of native habitats, or conservation of native wildlife.

Compatibility Determination: Using sound professional judgment (603 FW 2.6U and 2.11A), place an “X” in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

__ Use is Not Compatible

X Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Multi-use trails with equestrian and bicycle access are limited to those trail segments designated in the Comprehensive Conservation Plan for Rocky Flats NWR. Development or opening of additional areas for these uses will require additional evaluation under the National Environmental Policy Act, a new Compatibility Determination, and a new Intra-Service Section 7 Consultation.

2. No dogs or other pets will be allowed on any trails or other areas of Rocky Flats NWR.

3. Equestrian use is contingent on development and implementation of volunteer service agreements with equestrian user groups who will agree to pick up and remove horse manure from Refuge trails at least twice a month to reduce the potential for horses to become a source of weed seed.

4. Trails will be posted with "yield" signs indicating that pedestrians must yield to equestrian users and bicycles must yield to both equestrians and pedestrians.

5. Trails open to bicycle use will be located on level ground to the maximum extent possible to discourage use by recreational mountain bikers for "thrill riding."

Justification: Multi-use trails accommodating equestrian and bicycle use are not a form of wildlife dependent recreation. However, they are modes of access and transportation that facilitate public participation in wildlife observation, wildlife photography and interpretation. Within the context of an urban NWR, surrounded on three sides by public lands administered by local units of government, these trails provide needed connectivity among public lands to facilitate the public's appreciation of open space and habitat conservation at the edge of a rapidly urbanizing metropolitan area.

It is noted that equestrian use is authorized in almost all units of the National Wilderness System, and is deemed appropriate with preservation of wilderness values. Bicycle use on trails has proven to be a compatible mode of transportation on other urban units of the NWRS, including Minnesota Valley NWR and refuges of the San Diego NWR Complex that support far more sensitive habitats and far more significant migratory bird and endangered species resources than does Rocky Flats.

Mandatory Re-evaluation Date: This is not a priority public use. The Compatibility Determination for this use is subject to mandatory re-evaluation in 10 years, on the anniversary of final Compatibility Determination in 2014.

NEPA Compliance: This use is addressed in an Environmental Impact Statement and Record of Decision.

Approval/Concurrence:

Prepared/Approved:
Refuge Manager: W. Stan Grenoble 9/8/04
Signature Date

Concurrence:
Regional Chief: Richard A Coleman 9/15/04
Signature Date

COMPATIBILITY DETERMINATION

Use: Wildlife Observation and Photography, Including Public Use Facility Development to support those uses.

Refuge Name: Rocky Flats National Wildlife Refuge
Jefferson and Boulder Counties, Colorado

Establishing Authority: Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)

Refuge Purposes:

1. Restoring and preserving native ecosystems.

2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife.

3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)).

4. Providing opportunities for compatible scientific research.

NWRS Mission: "…to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans." (16 U.S.C. 668dd(a)(2)).

Description of Use: Wildlife Observation and Wildlife Photography programs are provided to the general public, during daylight hours, along an established and well delineated system of authorized trails designated in the Comprehensive Conservation Plan for Rocky Flats National Wildlife Refuge. A total of 16.5 miles of trail will be developed and open. Most of the trail system will be open year-round, however trails that enter the Rock Creek drainage and cross sensitive habitats of the Preble's meadow jumping mouse will be closed seasonally during May through September.

Off-trail access for wildlife observation and photography will also be provided seasonally, on the southern third of the Refuge, during the Preble's hibernation season from September through May, outside the bird-nesting season.

Most areas of the Refuge are closed to general public access due to the sensitivity of habitats. Despite highly restricted access that prohibits visitor traffic in the Refuge's sensitive endangered species habitats, excellent opportunities are available for observing deer, coyotes, raptors, song birds other species from the approved trail system. Opportunities for wildlife observation and photography may also be available in conjunction with staff or volunteer-led interpretive tours and programs.

The CCP calls for access to public use trails for wildlife observation and photography. The CCP also calls for enhanced programs including the addition of one wildlife observation and photography blind, and three enhanced overlook facilities for observation and photography, a Visitor Contact Station, and trailhead parking areas. The Visitor Contact Station would be a small (700 - 1000 square foot) building with associated restroom facilities. Parking facilities would include three lots, to accommodate a total of 70 cars and 1 bus. Parking lots would be gravel surfaced, and enclosed with post and beam type fencing. Over 72% of the planned trail system will be located on existing roads. About 2 miles of new foot trail will be constructed in the northwest corner of the Refuge. Approximately 0.6 miles of existing roads would have to be improved to provide for accessibility for mobility impaired visitors.

Availability of Resources: Most of the planned trail system will be located on existing roads, so wildlife observation and photography could be initiated without additional facility development, and with minimum costs for posting and staffing.

Construction of two new trail segments (4.6 miles), overlook facilities, viewing/ photography blinds, trailhead parking lots and Visitor Contact Station represent one-time construction costs of about $390,000.

Resources necessary to open and operate wildlife observation and photography programs, using the existing trail system are estimated to be 0.5 FTE and $42,000 annually. Those resources are available within the existing staffing and budget allocations of the Rocky Mountain Arsenal NWR Complex. They will be well within the resources available under the proposed staffing and O&M budget proposed in the CCP for Rocky Flats NWR.

Resources are not currently available for development of new facilities to support the objective level of wildlife observation and photography programs for Rocky Flats NWR. Once approved, all facilities called for in the CCP will be incorporated in funding packages in the Refuge Operating Needs System (RONS), and will be developed as funds become available over the life of the CCP. Development of additional facilities are not required to open the Refuge for limited wildlife observation and photography.

Anticipated Impacts: Continuation of the existing programs for interpretation, wildlife observation and wildlife photography will have a negligible impact on habitats. Development of facilities to support these uses will result in a loss of 1.9 acres or xeric tallgrass prairie and 2.9 acres of mixed grass prairie, mostly for parking lot development. Those acreages represent 0.12% and 0.13% of those habitat types at Rocky Flats, respectively. Facility development would result in no loss of upland shrub, riparian, or other wetland habitats.

Some wildlife disturbance will result from these programs. Some birds will be flushed from foraging or resting habitats by the approach of people on trails. However, the area impacted by these disturbances is small compared to the overall habitat area available. Approximately 200 acres of habitat will be within 100 feet on either side of the proposed trail system. That amounts to 4% of the total acreage at Rocky Flats. It is also possible that some particularly sensitive bird species will avoid areas adjacent to trails for nesting purposes. However, under the CCP approved trail plan, over 80% of Refuge habitats will be greater than 100 yards from any trail.

Off-trail access during the period of October – April in the southern portion of the Refuge is provided to give bird watchers and photographers an opportunity for viewing and photographing wildlife that may not be available on designated trails. This area avoids occupied Preble's habitat and the use will occur during seasons when there will be no impact to ground-nesting birds. Some trampling of vegetation will occur, but most plants will be senescent during those seasons. It is not anticipated that off-trail traffic will be intense enough to create social trails or damage habitat.

Disturbance caused by these uses is not anticipated to cause wildlife to leave or abandon the Refuge, and all areas are available to wildlife for undisturbed use during closed hours. Disturbance resulting from wildlife observation, and photography programs is deemed to be biologically insignificant.

Additionally, the CCP calls for continued closure and restoration of many roads and trails that will exist at the time of Refuge establishment. Fencing, other barriers, signs and revegetation efforts will restore many acres and result in a net habitat gain. All stream crossings will be on existing roads, and no new disturbance of riparian habitats will be required for these uses. Numerous existing stream crossings will be restored and revegetated. Trails that occur in riparian areas in the Rock Creek drainage will be closed seasonally to prevent wildlife observation and photography activities from impacting Preble's during the May through September active period.

The proposed uses, including development of facilities to support those uses, will foster public appreciation and understanding of the prairie ecosystem and the importance of Refuge habitats for wildlife conservation.

The proposed uses are also priority wildlife-dependent uses of the National Wildlife Refuge System and promote fulfillment of the intent of the National Wildlife Refuge System Improvement Act of 1997.

Public Review and Comment: This Compatibility Determination was presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

Many public comments were received at four public hearings held in March 2004, and throughout the public comment period on the Draft CCP/EIS. Comments related to public use were received both from those in opposition, and in favor of public access for wildlife observation and photography.

Many people were opposed to any form of public use at Rocky Flats NWR based on their belief that site cleanup is inadequate and that public access would result in health and safety risks to visitors. Those comments did not address whether wildlife observation and photography were compatible with Refuge purposes or the mission of NWRS.

Comments were received from several organizations that supported the proposed action (Alternative B), including wildlife observation and photography. Other groups, including the Prairie Preservation Alliance recommended no trails or wildlife-dependent recreation based on concerns of wildlife disturbance, exacerbating invasive weed problems and causing erosion.

Comments from local units of government also varied, with several cities and counties favoring public access for wildlife observation and photography, and others recommending no public use of the Refuge. Similarly, written comments received from individuals ran the gamut from advocating more extensive public use programs, to the 815 copies of a form letter expressing opposition to any recreational access to the Rocky Flats NWR. For the complete record of public comment received on this issue, including responses to written comments and testimony received at the public hearings, please see Appendix H to the Final Comprehensive Conservation Plan and Environmental Impact Statement for Rocky Flats NWR.

Several of the comments received were germane to the issue of compatibility. Those comments raised concerns mostly related to wildlife disturbance. There were also several general comments opposing public use on the basis that a “refuge” should be free of disturbance and a place of inviolate sanctuary for wildlife.

The undersigned acknowledge that this use is likely to result in some disturbance of wildlife. However, in the professional judgment of the undersigned, we do not believe that the level of disturbance that may result from this use will materially detract from or prevent the achievement of the Refuge establishment purposes or mission of the NWRS. Wildlife observation and photography are clearly appropriate uses of the NWRS, and are among the priority public uses of the Refuge System, as established in law. The areas necessary to be disturbed for development of the proposed facilities to support wildlife observation and photography are very small. The conversion of those small areas to non-habitat uses will not materially detract from the ability of the Refuge to achieve its establishment purposes or its contribution to accomplishing the NWRS mission.

Compatibility Determination: Using sound professional judgment (603 FW 2.6U., and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

__ Use is Not Compatible

X Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:
1. Wildlife observation and photography programs must be conducted in accordance with the Comprehensive Conservation Plan. Any new programs or facilities not prescribed in the CCP must be approved through an additional public planning process, in compliance with NEPA, Section 7 of the Endangered Species Act, and other environmental compliance requirements, prior to implementation.

2. Areas open for off-trail use in the southern third of the Refuge will be closely monitored by Refuge staff. If off-trail use exceeds the capacity of the habitat (e.g., to a point where trampling results in loss of vegetative cover), the off-trail portion of the program will be curtailed or reduced to preserve habitat integrity.

Justification: Wildlife observation, and wildlife photography are priority wildlife-dependent public uses of the National Wildlife Refuge System. These uses, including existing and future enhanced programs as prescribed in the Comprehensive Conservation Plan for Rocky Flats NWR are compatible with the Refuge's establishment purposes, and with the mission of the National Wildlife Refuge System. These uses are not only justified but are encouraged by the National Wildlife Refuge Improvement Act of 1997. The Rocky Flats NWR Act of 2001 states that wildlife-dependent recreation is a priority public use of Rocky Flats NWR.

Mandatory Re-evaluation Date: As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the anniversary of final Compatibility Determination in 2019.

NEPA Compliance: This use is addressed in an Environmental Impact Statement and Record of Decision.

Approval/Concurrence:

Prepared/Approved: W. Dean Gerald 9/8/04
Refuge Manager:
Signature Date

Concurrence: Richard A Coleman 9/15/04
Regional Chief:
Signature Date

appendix c

Laws and Executive Orders

LAWS AND REGULATIONS AFFECTING ROCKY FLATS NWR

Many procedural and substantive requirements of Federal and applicable State and local laws and regulations affect Refuge establishment, management, and development. The following list identifies the key federal laws and policies that were considered during the planning process or that could affect future Refuge management.

American Indian Religious Freedom Act (1978): Directs agencies to consult with native traditional religious leaders to determine appropriate policy changes necessary to protect and preserve Native American religious cultural rights and practices.

Americans With Disabilities Act (1992): Prohibits discrimination in public accommodations and services.

Antiquities Act (1906): Authorizes the scientific investigation of antiquities on Federal land and provides penalties for unauthorized removal of objects taken or collected without a permit.

Archaeological and Historic Preservation Act (1974): Directs the preservation of historic and archaeological data in Federal construction projects.

Archaeological Resources Protection Act (1979) as amended: Protects materials of archaeological interest from unauthorized removal or destruction and requires Federal managers to develop plans and schedules to locate archaeological resources.

Architectural Barriers Act (1968): Requires federally owned, leased, or funded buildings and facilities to be accessible to persons with disabilities.

Bald and Golden Eagle Protection Act (1940): The Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions.

Clean Air Act of 1977, as amended: The primary objective of this Act is to establish Federal standards for various pollutants from both stationary and mobile sources and to provide for the regulation of polluting emissions via state implementation plants. In addition, and of special interest for National Wildlife Refuges, some amendments are designed to prevent significant deterioration in certain areas where air quality exceeds national standards, and to provide for improved air quality in areas which do not meet Federal standards ("non-attainment" areas). Federal facilities are required to comply with air quality standards to the same extent as nongovernmental entities (42 U.S.C. 7418).

Clean Water Act (1977): Requires consultation with the Corps of Engineers (404 permits) for major wetland modifications.

Emergency Wetlands Resources Act (1986): The purpose of the Act is "To promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat, and for other purposes."

Endangered Species Act (1973): Requires all Federal agencies to carry out programs for the conservation of endangered and threatened species.

Executive Order No. 11593, Protection and Enhancement of the Cultural Environment (1971): If the Service proposes any development activities that would affect the archaeological or historical sites, the Service will consult with Federal and State Historic Preservation Officers to comply with Section 106 of the National Historic Preservation Act of 1966, as amended.

Executive Order 11987, Exotic Organisms (1977): This Executive Order requires Federal agencies, to the extent permitted by law, to: restrict the introduction of exotic species into the natural ecosystems on lands and waters owned or leased by the United States; encourage States, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S.; restrict the importation and introduction of exotic species into any natural U.S. ecosystems as a result of activities they undertake, fund, or authorize; and restrict the use of Federal funds, programs, or authorities to export native species for introduction into ecosystems outside the U.S. where they do not occur naturally.

Executive Order 11988, Floodplain Management (1977): Each Federal agency shall provide leadership and take action to reduce the risk of flood loss and minimize the impact of floods on human safety, and preserve the natural and beneficial values served by the floodplains.

Executive Order 11990, Protection of Wetlands (1977): This order directs all Federal agencies to avoid, if possible, adverse impacts to wetlands and to preserve and enhance the natural and beneficial values of wetlands. Each agency shall avoid undertaking or assisting in wetland construction projects unless the head of the agency determines that there is no practicable

alternative to such construction and that the proposed action includes measures to minimize harm. Also, agencies shall provide opportunity for early public review of proposals for construction in wetlands, including those projects not requiring an EIS.

Executive Order 12898, Environmental Justice (1994): This order provides minority and low-income populations an opportunity to comment on the development and design of Reclamation activities. Federal agencies shall make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

Executive Order 12996 Management and General Public Use of the National Wildlife Refuge System (1996): Defines the mission, purpose, and priority public uses of the National Wildlife Refuge System. It also presents four principles to guide management of the System.

Executive Order 13007 Indian Sacred Sites (1996): Directs Federal land management agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, avoid adversely affecting the physical integrity of such sacred sites, and where appropriate, maintain the confidentiality of sacred sites.

Executive Order 13084, Consultation and Coordination With Indian Tribal Governments (1998): The United States has a unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive orders, and court decisions. Since the formation of the Union, the United States has recognized Indian tribes as domestic dependent nations under its protection. In treaties, our Nation has guaranteed the right of Indian tribes to self-government. As domestic dependent nations, Indian tribes exercise inherent sovereign powers over their members and territory. The United States continues to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, trust resources, and Indian tribal treaty and other rights.

Executive Order 13112, Invasive Species(1999): Directs federal agencies to prevent the introduction of invasive species, control and monitor invasive species, and restore native species and habitats that have been invaded.

Federal Aid in Wildlife Restoration Act of September 2, 1937 16 U.S.C.669-669i), as amended: This Act, commonly referred to as the "Pittman-Robertson Act", provides to States for game and non-game wildlife restoration work. Funds from an excise tax on sporting arms and ammunition are appropriated to the Secretary of the Interior annually and apportioned to States on a formula basis for approved land acquisition, research, development and management projects and hunter safety programs.

Federal Noxious Weed Act (1990): Requires the use of integrated management systems to control or contain undesirable plant species; and an interdisciplinary approach with the cooperation of other Federal and State agencies.

Fish and Wildlife Coordination Act of March 10, 1934 (16 U.S.C. 661-66c), as amended: This Act authorizes the Secretary of the Interior to assist Federal, State and other agencies in development, protection, rearing and stocking fish and wildlife on Federal lands, and to study effects of pollution on fish and wildlife. The Act also requires consultation with the Fish and Wildlife Service and the wildlife agency of any State wherein the waters of any stream or other water body are proposed to be impounded, diverted, channelized or otherwise controlled or modified by any Federal agency, or any private agency under Federal permit or license, with a view to preventing loss of, or damage to, wildlife resources in connection with such water resource projects. The Act further authorizes Federal water resource agencies to acquire lands or interests in connection with water use projects specifically for mitigation and enhancement of fish and wildlife.

Fish and Wildlife Act (1956): Established a comprehensive national fish and wildlife policy and broadened the authority for acquisition and development of refuges.

Fish and Wildlife Coordination Act (1958): Allows the Fish and Wildlife Service to enter into agreements with private landowners for wildlife management purposes.

Food Security Act of 1985 (Title XII, Public Law 99-198, 99 Stat. 1354; December 23, 1985), as amended: Authorizes acquisition of easements in real property for a term of not less than 50 years for conservation, recreation, and wildlife purposes.

Land and Water Conservation Fund Act (1965): Uses the receipts from the sale of surplus Federal land, outer continental shelf oil and gas sales, and other sources for land acquisition under several authorities.

Migratory Bird Conservation Act (1929): Establishes procedures for acquisition by purchase, rental, or gift

of areas approved by the Migratory Bird Conservation Commission.

Migratory Bird Treaty Act (1918): Designates the protection of migratory birds as a Federal responsibility. This Act enables the setting of seasons, and other regulations including the closing of areas, Federal or nonfederal, to the hunting of migratory birds.

National Environmental Policy Act (1969): Requires all Federal agencies to examine the impacts upon the environment that their actions might have, to incorporate the best available environmental information, and the use of public participation in the planning and implementation of all actions. All Federal agencies must integrate NEPA with other planning requirements, and prepare appropriate NEPA documentation to facilitate sound environmental decision making. NEPA requires the disclosure of the environmental impacts of any major Federal action that affects in a significant way the quality of the human environment.

National Historic Preservation Act (1966) as amended: Establishes as policy that the Federal Government is to provide leadership in the preservation of the nation's prehistoric and historic resources.

National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C. 668dd-668ee. (Refuge Administration Act): Defines the National Wildlife Refuge System and authorizes the Secretary to permit any use of a refuge provided such use is compatible with the major purposes for which the refuge was established. The Refuge Improvement Act clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation and photography, or environmental education and interpretation); establishes a formal process for determining compatibility; established the responsibilities of the Secretary of Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

National Wildlife Refuge System Improvement Act of 1997: Sets the mission and administrative policy for all refuges in the National Wildlife Refuge System. Clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation and photography, or environmental education and interpretation); establishes a formal process for determining compatibility; establishes the responsibilities of the Secretary of the Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

Native American Graves Protection and Repatriation Act (1990): Requires Federal agencies and museums to inventory, determine ownership of, and repatriate cultural items under their control or possession.

Refuge Recreation Act (1962): Allows the use of refuges for recreation when such uses are compatible with the refuge's primary purposes and when sufficient funds are available to manage the uses.

Rehabilitation Act (1973): Requires programmatic accessibility in addition to physical accessibility for all facilities and programs funded by the Federal government to ensure that anybody can participate in any program.

Refuge Revenue Sharing Act of 1935, as amended: Provides for payments to counties in lieu of taxes, using revenues derived from the sale of products from refuges. Public Law 88-523 (1964) revised this Act and required that all revenues received from refuge products, such as animals, timber and minerals, or from leases or other privileges, be deposited in a special Treasury account and net receipts distributed to counties for public schools and roads. Payments to counties were established as: 1) on acquired land, the greatest amount calculated on the basis of 75 cents per acre, three-fourths of one percent of the appraised value, or 25 percent of the net receipts produced from the land; and 2) on land withdrawn from the public domain, 25 percent of net receipts and basic payments under Public Law 94-565 (31 U.S.C. 1601- 1607, 90 Stat. 2662), payment in lieu of taxes on public lands.

Rocky Flats National Wildlife Refuge Act of 2001: Establishes Rocky Flats National Wildlife Refuge following cleanup and closure of the site, directs the development of a Comprehensive Conservation Plan for the Refuge, and other details.

appendix d

Regulatory Letters about Future Refuge Management

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

Ref: 8EPR-F

Mr. Mark Sattelberg
Senior Contaminant Biologist
US Fish and Wildlife Service
Rocky Mountain Arsenal National Wildlife Refuge
Building 111
Commerce City, CO 80222-1748

Re: USFWS Future Activities at Rocky Flats

Dear Mr. Sattelberg:

This is in response to your letter dated August 20, 2003, in which you asked whether EPA anticipated placing restrictions on activities the US Fish and Wildlife Service (Service) may wish to conduct at the future Rocky Flats National Wildlife Refuge. Specifically the Service asked about the following activities: prescribed fire, grazing, plowing, and ripping up old roads.

Once EPA certifies the remedy to be complete and jurisdiction of property has been transferred to the Service, does EPA foresee any restrictions on the use of prescribed fire? Similarly, does the EPA envision restrictions on ripping up roads?

As you are aware, the widespread contaminants of most concern at Rocky Flats are plutonium and americium. Consequently, areas at the site where these contaminants remain at closure would have the most use restrictions. In June 2003, CDPHE and EPA approved modifications to the Rocky Flats Cleanup Agreement, including revised contaminant soil action levels. EPA expects that at the completion of the remedy no significant contamination will be left in the surface soils at concentrations greater than outlined in the Attachment 5 of the modified agreement. For plutonium, the expectation is that surface soils contaminated at concentrations greater than 50 picocuries/gram (pCi/g) will have been removed. Surface soils are defined as those less than three feet in depth. EPA anticipates there will be restrictions on areas of the Site with residual contamination less than 50 pCi/g but greater than 9 pCi/g – a concentration representing lifetime excess cancer risk of one in 1,000,000 to a wildlife refuge worker. This is not to say that prescribed fire or ripping up roads would be precluded in areas with residual contamination in the 9-50 pCi/g range. Rather, the Service would need to take extra precautions in those areas to minimize soil disturbances. The primary concern being that major soil disturbances could result in elevated levels of contaminants to migrate to surface water.

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The use of prescribed fire at Rocky Flats is of special interest to citizens and public officials in the surrounding communities. EPA believes that the use of prescribed fire at the site will not pose significant risk to firefighters, Service personnel or the general public. This belief is based upon data gathered during and after the 2000 test burn and for accidental burns at the site, as well as risk assessment work documented in the Task 3 Report (Assessing Risks of Exposure to Plutonium, February 2000) on the effects of prescribed fire at Rocky Flats. However, relatively large areas of Rocky Flats have not been characterized to date. These areas are often referred to as "white spaces." EPA does not believe there is great potential to find contamination in these areas because they are removed from areas of known contamination and are not associated with past practices at the site that resulted in releases of contamination. Nevertheless, unexpected discoveries have occurred at Rocky Flats (e.g., the incinerator near the ash pits), and EPA believes that samples should be collected from white spaces before closure and analyzed prior to the application of prescribed fire in those areas.

Does EPA foresee any restrictions on the consumption of edible tissues from the grazing animals used for weed control at Rocky Flats?

Animal studies to date, and studies conducted by the actinide migration panel, indicate that there is no significant uptake of contaminants by grazing animals at Rocky Flats. Therefore, EPA does not anticipate restrictions on consumption of animals that graze at Rocky Flats. However, overgrazing in the areas in the 9 to 50 pCi/g range could result in water quality issues as discussed above. Therefore, EPA would expect to see measures put in place that would prevent overgrazing.

Do you foresee any restrictions on the plowing of areas in the southeast portion of the site for the purpose of reestablishing native vegetation?

Plowing will in all likelihood be prohibited in any areas of the site where contamination concentrations are greater than 9 pCi/g plutonium.

EPA looks forward to working with the Service in identifying and implementing the necessary restrictions for assuring that residual contamination at the future Rocky Flats National Wildlife Refuge poses a negligible risk to workers and members of the public. Please contact me at (303) 312-6246 if you have any questions regarding these matters.

Sincerely,

Gary Kleeman
Acting Rocky Flats Team Leader

cc: Dean Rundle, FWS
Steve Gunderson, CDPHE
Joe Legare, DOE
Dave Shelton, KH
Administrative Records, T130G

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
TDD Line (303) 691-7700
Located in Glendale, Colorado

http://www.cdphe.state.co.us

Laboratory Services Division
8100 Lowry Blvd.
Denver, Colorado 80230-6928
(303) 692-3090

Colorado Department
of Public Health
and Environment

September 23, 2003

Mr. Mark Sattelberg
Senior Contaminant Biologist
US Fish and Wildlife Service
Rocky Mountain Arsenal National Wildlife Refuge
Building 111
Commerce City, CO 80222-1748

Dear Mr. Sattelberg:

The Colorado Department of Public Health and Environment has received your letter dated August 20, 2003 in which you asked the department's position concerning potential activities being considered by the US Fish and Wildlife Service (Service) for use at the future Rocky Flats National Wildlife Refuge. The Department's responses to each potential activity follow:

1. *Does CDPHE foresee any restrictions on the use of prescribed fire?*

As you know, in June 2003 CDPHE and the Environmental Protection Agency approved modifications to the Rocky Flats Cleanup Agreement, which included substantially revised contaminant soil action levels. The surface soil action level for plutonium was established at a very conservative 50 picocuries per gram of soil. Most surface soil plutonium contamination at Rocky Flats is related to airborne releases of plutonium contamination in the late 1960s that were related to the 903 Pad. The highest concentrations of plutonium contamination in surface soils found to date are at the 903 Pad itself. An accelerated action at the Pad to remove this contaminated soil is nearing completion. Lower levels of plutonium contamination in surface soil are present east of the 903 Pad. Surface soils with levels greater than 50 picocuries per gram will be removed in accordance with RFCA. Surface soils with plutonium levels lower than 50 picocuries per gram will likely be left in place.

The modified RFCA includes a site map that shows an area of land that is anticipated to be retained by DOE after site closure. This area includes the Industrial Area, the Buffer Zone retention ponds, ground water treatment systems, the two existing landfills, and the area of surface plutonium contamination located east of the 903 Pad with contamination levels above approximately 7 picocuries per gram. CDPHE does not believe that the resulting smoke and dust from a prairie fire in the area of surface soil contamination between 7 and 50 picocuries per gram would pose a human health risk. Nonetheless, the department would likely place restrictions on burning in these areas in order to minimize soil disturbance and potentially adversely impact the plutonium surface water standard.

Current data indicate that most of the land that is anticipated to be turned over to the Service after site cleanup is completed has little or no plutonium contamination, and CDPHE does not anticipate placing restrictions on prescribed burning in these areas. Final delineation of areas of the site with restrictions, including those areas that will be retained by DOE and not transferred to the Service, will be determined after completion of the Comprehensive Risk Assessment (CRA). The CRA will not be completed until 2005 at the earliest. Additional soil sampling will likely be conducted in areas of the Buffer Zone where sampling data are limited.

2. *Assuming that the deer tissue results agree with the CSU data, do you foresee any restrictions on the use of grazing as a weed management tool? Do you foresee any restrictions on the consumption of edible tissues from the grazing animals used for weed control at Rocky Flats?*

Based on historical animal studies, the actinide migration panel results, and the low levels of residual contamination that will be present at Rocky Flats after cleanup, there is little evidence to indicate that grazing will present a risk to livestock or the consumer. CDPHE would not expect to place restrictions on grazing except to minimize surface soil disturbance in those areas with residual plutonium contamination levels between approximately 7 and 50 picocuries per gram.

3. *Do you foresee any restrictions on the plowing or ripping of these types of areas for the purposed or reestablishing native vegetation?*

The plowing or ripping of surface soils would likely be prohibited in those areas with contamination between approximately 7 and 50 picocuries per gram. As stated in the answer to question number 1 above, RFCA anticipates that DOE would retain the area of the site with those levels of contamination. Any roadways that cross this area could be disturbed for the purpose of revegetation and road removal, provided that adequate precautions are taken for dust and runoff control, and that any worker safety issues are addressed.

If you have any questions, please contact me at 303-692-3367.

Sincerely,

Steven H. Gunderson
Rocky Flats Project Coordinator

cc: Dean Rundle, FWS
Tim Rehder, EPA
Joe Legare, DOE
Dave Shelton, KH
Administrative Records, T130G

appendix e

Letter to RFCA Parties

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rocky Mountain Arsenal National Wildlife Refuge
Building 111
Commerce City, Colorado 80022-1748
Telephone (303) 289-0232 Fax (303) 289-0579

TAKE PRIDE IN AMERICA

File Code: RF

June 7, 2004

Mr. Joe Legare
U.S. Department of Energy
Rocky Flats Project Office
10808 Hwy. 93, Unit A
Building MV-72
Golden, CO 80403

Mr. Steve Gunderson
Colorado Department of Public Health and Environment
4300 Cherry Creek Dr., South
Denver, CO 80246-1530

Mr. Mark Aguilar
U. S. Environmental Protection Agency, Region VIII
999 18th St., Ste. 500, FPR-FT
Denver, CO 80202-2466

Subject: U. S. Fish and Wildlife Service Recommendations on Demarcation of DOE Retained Lands at Rocky Flats

Gentlemen:

Earlier this spring, during our public hearings on the draft Comprehensive Conservation Plan/Environment Impact Statement (CCP/EIS) for the future Rocky Flats National Wildlife Refuge (RF NWR), the U.S. Fish and Wildlife Service (Service) received numerous public comments regarding the boundary between future Service and Department of Energy (DOE) retained lands at RF NWR. Both the Service and DOE had made previous public statements about agency desires for a "seamless" property. During several public meetings, I personally responded to the public that our definition of "seamless" included: 1) a boundary that was clearly marked, so that any member of the public or future Service or DOE employee would know where the boundary was; 2) a boundary that to the extent possible, did not preclude the free movement of wildlife between refuge and DOE retained lands; and 3) a boundary that did not unnecessarily detract from the visual aesthetics of the landscape.

I also told the public that the Service was not a decision-maker on demarcation of the DOE retained lands, but that we would provide recommendations to the Rocky Flats Clean-up Agreement (RFCA) parties, to assist you in your decision making process. This letter is to provide those recommendations.

The Service recommends that, following a cadastral survey, the DOE retained lands and the boundary between future refuge and those lands be marked in the following manner:

1 The entire boundary of the DOE lands should be fenced with a minimum four-strand barb wire stock fence, similar in design to the current DOE-maintained perimeter fence at Rocky Flats. This fencing will not prevent wildlife movement on the landscape, but will be a clear barrier to inadvertent human trespass from refuge to DOE lands. Stock fences are a normal part of the western landscape and we do not believe such a fence will materially

detract from the visual aesthetics of the landscape. Also, if a grazing management option is selected in the final CCP for RF NWR, a stock fence will be required to prevent livestock trespass onto DOE lands.

2. The perimeter stock fence should be posted at intervals of not less than every 300 feet, at all corners, and at all access gates with signs stating: "U.S. Department of Energy Property – No Digging – Unauthorized Access Prohibited", or words to that effect. We suggest this language, but other similar language determined by the RFCA parties is acceptable and we welcome the opportunity for input, if other language is proposed. The signs should be approximately 11" x 14" in size. We recommend baked enamel on steel signs. These will cost more initially, but enamel on steel will last almost indefinitely in the environment, and given the long-term nature of the site, quality signs will reduce maintenance costs.

3. The Service acknowledges and accepts any requirements the RFCA parties determine necessary to protect specific remedy monitoring sites within the DOE retained lands. If chain link fences are deemed necessary to prevent vandalism of monitoring equipment, we have no objection to such fencing.

4. The Service recommends that "special areas", where wastes or residual contaminants are left below the surface, be identified and have additional markers. This would apply to the Present Landfill, the Original Landfill, and that portion of the Industrial Area where original process waste lines, building foundations and subsurface contaminants remain. The boundaries of these areas should be marked with granite or cast concrete monuments of a permanent nature. We recommend monuments be configured and placed as follows.

a. Perimeter monuments should be placed at the corners and not less than every 500' along the boundary of each Special Area

b. Perimeter monuments should be rectangular in shape, with a beveled top, set two feet below grade, with above grade dimensions of : 2.5' tall in front, 3' tall in back, and 3' wide and 2.5' deep on top.

c. On top, the perimeter monuments should have baked enamel on steel sign stating: "Warning" Residual Contamination Area. Unauthorized Access Prohibited. U.S. Department of Energy Property."

d. Each perimeter monument should also be marked with an individual number.

e. At the center of each "special area", place a larger monument, 4' above grade and 4' wide and 3' deep on top.

f. These central monuments should be marked with baked enamel on steel signs that provide a map of the special area, orient a viewer to the direction and distances to perimeter monuments, and carry the same warning sign language as the perimeter monuments.

5. Boundaries of the Special Areas should also be surveyed. All fences and monuments should be located with GPS/GIS technology and that data should be retained as part of the Administrative Record, and Long-Term Stewardship records of the Site.

Thank you for this opportunity to provide recommendations on an important long-term stewardship issue. We believe that demarcation of DOE retained lands, as recommended above, will our meet goals of a "seamless" property, while also providing very clear and long-term notice to people on the site. We acknowledge that your agencies may have better ideas for configuration and language of signs and monuments, and will be happy to discuss those issues with the RFCA Parties.

Sincerely,

W. Dean Rundle

W. Dean Rundle
Refuge Manager

Cc: RFCLOG, RFCAB, RFCLOG Member Governments

appendix f

Cost Details

Cost Request Details
Rocky Flats National Wildlife Refuge

	Alternative			
Refuge Operations Needs System (RONS)	**A**	**B**	**C**	**D**
Staff*	$ 121,384	$ 431,265	$ 499,448	$ 702,711
Facility Lease*			210,000	
Maintenance (Weed Management)*	25,000	50,000	75,000	50,000
Utilities*	6,160	20,020	12,520	68,000
Restoration	16,859	93,736	113,534	53,792
Trails		140,395	41,501	216,850
Visitor Facilities		249,269	30,563	457,228
Interpretation		81,000	7,000	149,000
Storage/Maintenance Building	15,000	225,000	225,000	350,000
Cistern		8,000	8,000	18,000
Septic System		12,000	12,000	25,000
Burglar Alarm		2,000	2,000	3,000
Fencing		46,613	38,063	66,720
Signs	4,905	7,405	7,405	9,405
Utility Line Installation		15,000	15,000	25,000
Computers/Fax/Office Equipment	4,400	8,800	11,000	17,600
Mountain Bike (for Patrol)		1,600	800	1,600
All Terrain Vehicle (ATV)	13,000	13,000	13,000	13,000
Spray-Rig for ATV	3,000	3,000	3,000	3,000
Maintenance Truck	35,000	35,000	35,000	35,000
Pickup Truck		44,000	44,000	44,000
Slip-On Spray-Rig for Truck	12,000	12,000	12,000	12,000
Mower	9,500	9,500	9,500	9,500
Maintenance Tools	10,000	10,000	10,000	10,000
Generator	5,000			
Biological Monitoring/Restoration Tools		15,000	15,000	15,000
Water Storage - 50K Gallon Bladder	15,000	15,000	15,000	15,000
Water Storage - Pumpkin	7,000	7,000	7,000	7,000
500 Gallon Fuel Tank/Pump	20,000	20,000	20,000	20,000
Shared Equipment Budget	100,000	100,000	150,000	100,000
Planning and Design		78,169	38,504	431,221
Sub-Total - RONS	$ 423,208	$ 1,753,772	$ 1,680,838	$ 2,928,627
Maintenance Management System (MMS)				
Renovate 1/2 Shed for Office	$ 15,000			
Both RONS and MMS				
Visitor Center				$ 3,000,000
Maintenance Funds (Annual)				
Facility/Equipment Maintenance	$ 21,283	$ 55,779	$ 36,517	$ 232,745
Fire Funding:				
Fire Cache (One-Time)	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Fire Engine (One-Time)	75,000	75,000	75,000	75,000
Staff (Ongoing)	133,007	133,007	133,007	83,724
Sub-Total - Fire Funding	$ 258,007	$ 258,007	$ 258,007	$ 208,724
Total Cost Requests	**$ 717,498**	**$ 2,067,558**	**$ 1,975,362**	**$ 6,370,096**

* Classified as RONS for the first year of Refuge operations, then as annual operating funds.

Alternative A Estimated Costs
Rocky Flats National Wildlife Refuge

Operations (Ongoing)								
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 168,827
Staff	*Cost reflects cost/*					$ 121,384	
Refuge Operations Specialist (GS-9)	*unit increased by 45%*	1.0	FTE	$ 48,230	$ 69,934		
Seasonal Range Technician (GS-6)	*to reflect training,*	1.0	FTE	$ 35,483	$ 51,450		
	supplies and benefits.						
Maintenance						$ 41,283	
Weed Management	Staff Est. of Supplies				$ 25,000		
Lindsay Barn	Staff Estimate				$ 2,000		
Facility/Equipment Maintenance	5% of Equip. + .005% of Fence				$ 14,283		
Utilities						$ 6,160	
Electricity					$ -		
Gas					$ -		
Phone	Over 12 months	2	lines	$ 50	$ 1,200		
Cleaning/Trash Pickup	Clean 1x/week				$ 4,960		
Existing Base Funding:							$ 5,000
Maintenance						$ 5,000	
Shared Equipment Maintenance	5% of Shared Equip.				$ 5,000		
Total: Operations							$ 173,827
Net Present Value of Operations over 15 Year Period							$ 1,932,677

Restoration and Implementation (One-Time)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 185,664
Restoration						$ 16,859	
Seed for Eliminating Roads	11.88 miles @ 20 feet	28.8	ac.	$ 134	$ 3,859		
Stream Crossing Restoration		13	ea.	$ 1,000	$ 13,000		
Facilities						$ 34,905	
Administrative							
Renovate 1/2 Shed for Office		1	lump	$ 15,000	$ 15,000		
Storage/Maintenance Building	Pull Shed for Tractor	1	lump	$ 15,000	$ 15,000		
Signs							
Roadside		6	ea.	$ 650	$ 3,900		
Boundary	Every 1,000 Feet	67	ea.	$ 15	$ 1,005		
Equipment						$ 133,900	
Computers/Fax/Office Equipment		2	emp.	$ 2,200	$ 4,400		
All Terrain Vehicle (ATV)		2	ea.	$ 6,500	$ 13,000		
Spray-Rig for ATV		2	ea.	$ 1,500	$ 3,000		
Maintenance Truck		1	ea.	$ 35,000	$ 35,000		
Slip-On Spray-Rig for Truck		1	ea.	$ 12,000	$ 12,000		
Mower		1	ea.	$ 9,500	$ 9,500		
Maintenance Tools		1	lump	$ 10,000	$ 10,000		
Generator		1	ea.	$ 5,000	$ 5,000		
Water Storage - 50K Gallon Bladder		1	ea.	$ 15,000	$ 15,000		
Water Storage - Pumpkin		2	ea.	$ 3,500	$ 7,000		
500 Gallon Fuel Tank/Pump		2	ea.	$ 10,000	$ 20,000		
Existing Base Funding:							$ 100,000
Shared Equipment Budget		1	lump	$ 100,000	$ 100,000	$ 100,000	
Total: Restoration and Implementation							$ 285,664
Net Present Value of Restoration and Implementation over 15 Year Period							$ 274,677

Fire Management							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 258,007
Equipment						$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				$ 50,000		
Fire Engine (One Time)					$ 75,000		
Staff (Ongoing)	*Cost reflects cost/*					$ 133,007	
Fire Program Technician (GS-6/9)	*unit increased by 45%*	1	FTE	$ 49,283	$ 49,283		
Fire Engine Foreman (GS-5/6)	*to reflect training,*	1	FTE	$ 44,211	$ 44,211		
Fire Fighters (Seasonal) (GS-4/5)	*supplies and benefits.*	1	FTE	$ 39,514	$ 39,514		
Total: Fire Management							$ 258,007
Net Present Value of Fire Managment over 15 Year Period							$ 1,599,016

Alternative B Estimated Costs
Rocky Flats National Wildlife Refuge

Operations (Ongoing)	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:					*(see notes)*		$ 427,914
Staff						$ 302,115	
Refuge Manager (GS-12)	*Cost reflects cost/*	1.0	FTE	$ 69,939	$ 101,412		
Biologist (GS-11)	*unit increased by 45%*	1.0	FTE	$ 58,353	$ 84,612		
Public Use (GS-9)	*to reflect training,*	1.0	FTE	$ 48,230	$ 69,934		
Range Biotech (GS-5)	*supplies and benefits.*	1.0	FTE	$ 31,833	$ 46,158		
Maintenance						$ 100,779	
Weed Management	Staff Est. of Supplies				$ 50,000		
Lindsay Barn	Staff Estimate				$ 2,000		
Facility/Equipment Maintenance	5% of Facilities/Equip.				$ 48,779		
Utilities						$ 20,020	
Electricity		12	months	$ 250	$ 3,000		
Gas		12	months	$ 250	$ 3,000		
Phone	Over 12 months	5	lines	$ 50	$ 3,000		
Burglar Alarm		12	months	$ 100	$ 1,200		
Cleaning/Trash Pickup	Clean 2x/week				$ 9,820		
Interpretive Materials		1	lump	$ 5,000	$ 5,000	$ 5,000	
Existing Base Funding:							$ 134,150
Staff						$ 129,150	
Public Use Assistance (GS-11)	*Cost reflects cost/*	0.25	FTE	$ 58,353	$ 21,153		
Public Use Assistance (GS-5)	*unit increased by 45%*	0.50	FTE	$ 31,833	$ 23,079		
Administrative Assistance (GS-9)	*to reflect training,*	0.15	FTE	$ 48,230	$ 10,490		
Maintenance (WG-7)	*supplies and benefits.*	0.25	FTE	$ 43,666	$ 15,829		
Law Enforcement (GS-9)		0.50	FTE	$ 48,230	$ 58,599		
Maintenance						$ 5,000	
Shared Equipment Maintenance	5% of Shared Equip.				$ 5,000		
Total: Operations							$ 562,064
Net Present Value of Operations over 15 Year Period							$ 6,249,247

Restoration and Implementation (One-Time)	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 1,537,151
Restoration						$ 93,736	
Seeding							
Restoration Seeding	Disturbed/Non-Native	417	ac.	$ 134	$ 55,878		
Seed for Eliminating Roads	27.8 miles @ 20 feet	67	ac.	$ 134	$ 9,031		
Seed for Road Narrowing		21	ac.	$ 134	$ 2,827		
Stream Crossing Restoration		26	ea.	$ 1,000	$ 26,000		
Facilities							
Public Use						$ 465,664	
Trails							
New Trails - Natural Surface	3.7 Miles	19,536	l.f.	$ 4	$ 78,144	$ 389,664	
ADA Accessible (Reused Ro	.9 Miles						
Prep		23,760	s.f.	$ 0.12	$ 2,851		
Surfacing		23,760	s.f.	$ 2.50	$ 59,400		
Visitor Facilities							
Restroom		1	ea.	$ 26,000	$ 26,000		
Viewing Blind		1	ea.	$ 15,000	$ 15,000		
Seasonal Contact Station		1,200	s.f.	$ 150	$ 180,000		
Benches		4	ea.	$ 1,500	$ 6,000		
Parking Lots	3 Lots/70 Cars/1 Bus						
Site Preparation		26,830	s.f.	$ 0.38	$ 10,195		
Surfacing		26,830	s.f.	$ 0.45	$ 12,074		
Interpretation							
Interpretive Sign Panels (Porcelain)		4	ea.	$ 5,500	$ 22,000		
Interpretive Signs (Porcelain	Trails, Sm. Entrances	6	ea	$ 4,000	$ 24,000		
Kiosk		1	ea.	$ 10,000	$ 10,000		
Interior Display		1	lump	$ 20,000	$ 20,000		

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
Administrative						$ 316,018	
Administrative Offices	Incl. in Contact Sta.				$ -		
Storage/Maintenance Building	30'x75'	1	lump	$ 225,000	$ 225,000		
Cistern		1	ea.	$ 8,000	$ 8,000		
Septic System		1	lump	$ 12,000	$ 12,000		
Burglar Alarm		1	lump	$ 2,000	$ 2,000		
Fencing							
Remove Interior Stock Fenc	Approx. 8 Miles	42,240	l.f.	$ 0.50	$ 21,120		
Weed Control Fencing	Approx. 3 Miles	15,840	l.f.	$ 0.17	$ 2,693		
Security Fencing around Facilities		400	l.f.	$ 57	$ 22,800		
Signs							
Roadside		6	ea.	$ 650	$ 3,900		
Boundary	Every 1,000 Feet	67	ea.	$ 15	$ 1,005		
Trail Directional		5	ea.	$ 500	$ 2,500		
Utilities							
Power		1	lump	$ 15,000	$ 15,000		
Equipment						$ 193,900	
Computers/Fax/Office Equipment		4	emp.	$ 2,200	$ 8,800		
Mountain Bike (for Patrol)		2	ea.	$ 800	$ 1,600		
All Terrain Vehicle (ATV)		2	ea.	$ 6,500	$ 13,000		
Spray-Rig for ATV		2	ea.	$ 1,500	$ 3,000		
Maintenance Truck		1	ea.	$ 35,000	$ 35,000		
Pickup Truck		2	ea.	$ 22,000	$ 44,000		
Slip-On Spray-Rig for Truck		1	ea.	$ 12,000	$ 12,000		
Mower		1	ea.	$ 9,500	$ 9,500		
Maintenance Tools		1	lump	$ 10,000	$ 10,000		
Biological Monitoring/Restoration Tools		1	lump	$ 15,000	$ 15,000		
Water Storage - 50K Gallon Bladder		1	ea.	$ 15,000	$ 15,000		
Water Storage - Pumpkin		2	ea.	$ 3,500	$ 7,000		
500 Gallon Fuel Tank/Pump		2	ea.	$ 10,000	$ 20,000		
Planning and Design						$ 78,169	
Site Layout and Design	10% of Construction	1	lump	$ 78,169	$ 78,169		
Existing Base Funding:							$ 100,000
Shared Equipment Budget		1	lump	$ 100,000	$ 100,000	$ 100,000	
Total: Restoration and Implementation							$ 1,637,151
Net Present Value of Restoration and Implementation over 15 Year Period							$ 1,159,182

Fire Management

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 258,007
Equipment						$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				$ 50,000		
Fire Engine (One Time)					$ 75,000		
Staff (Ongoing)	*Cost reflects cost/*					$ 133,007	
Fire Program Technician (GS-6/9)	*unit increased by 45%*	1	FTE	$ 49,283	$ 49,283		
Fire Engine Foreman (GS-5/6)	*to reflect training,*	1	FTE	$ 44,211	$ 44,211		
Fire Fighters (Seasonal) (GS-4/5)	*supplies and benefits.*	1	FTE	$ 39,514	$ 39,514		
Total: Fire Management							$ 258,007
Net Present Value of Fire Managment over 15 Year Period							$ 1,599,016

Alternative C Estimated Costs
Rocky Flats National Wildlife Refuge

Operations (Ongoing)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:					*(see notes)*		$ 698,335
Staff						$ 370,298	
Refuge Manager (GS-12)	*Cost reflects cost/*	1.0	FTE	$ 69,939	$ 101,412		
Biologist (GS-11)	*unit increased by 45%*	1.0	FTE	$ 58,353	$ 84,612		
Biologist (GS-9)	*to reflect training,*	1.0	FTE	$ 48,230	$ 69,934		
Range Biotech (GS-7) (2)	*supplies and benefits.*	2.0	FTE	$ 39,428	$ 114,341		
Maintenance							
Weed Management	Staff Est. of Supplies				$ 75,000	$ 104,017	
Facility/Equipment Maintenance	5% of Facilities/Equip.				$ 29,017		
Facilities						$ 210,000	
Office Lease	Over 12 months	1,000	s.f.	$ 17.50	$ 210,000		
**Based on Average May, 2003 Office Lease Rate for Westminster*							
Utilities						$ 12,520	
Phone	Over 12 months	5	lines	$ 50	$ 3,000		
Burglar Alarm (Maintenance Building)		12	months	$ 100	$ 1,200		
Cleaning	Clean 2x/week				$ 8,320		
Interpretive Materials		1	lump	$ 1,500	$ 1,500	$ 1,500	
Existing Base Funding:							$ 136,650
Staff						$ 129,150	
Public Use Assistance (GS-11)	*Cost reflects cost/*	0.25	FTE	$ 58,353	$ 21,153		
Public Use Assistance (GS-5)	*unit increased by 45%*	0.50	FTE	$ 31,833	$ 23,079		
Administrative Assistance (GS-9)	*to reflect training,*	0.15	FTE	$ 48,230	$ 10,490		
Maintenance (WG-7)	*supplies and benefits.*	0.25	FTE	$ 43,666	$ 15,829		
Law Enforcement (GS-9)		0.50	FTE	$ 48,230	$ 58,599		
Maintenance						$ 7,500	
Shared Equipment Maintenance	5% of Shared Equip.				$ 7,500		
Total: Operations							$ 834,985
Net Present Value of Operations over 15 Year Period							$ 9,283,686

Restoration and Implementation (One-Time)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							
Restoration							$ 732,369
Seeding						$ 113,534	
Restoration Seeding	Disturbed/Non-Native	419	ac.	$ 134	$ 56,146		
Seed for Eliminating Roads	28.9 miles @ 20 feet	70	ac.	$ 134	$ 9,388		
Remove Lindsay Ranch Buildings		1	lump	$ 30,000	$ 30,000		
Stream Crossing Restoration		18	ea.	$ 1,000	$ 18,000		
Facilities							
Public Use						$ 77,564	
Trails							
ADA Accessible (Reused Road)	.6 Miles						
Prep		15,840	s.f.	$ 0.12	$ 1,901		
Surfacing		15,840	s.f.	$ 2.50	$ 39,600		
Visitor Facilities							
Restroom		1	ea.	$ 26,000	$ 26,000		
Benches	Overlook	1	ea.	$ 1,500	$ 1,500		
Parking Lots	1 Lot/10 Cars						
Site Preparation		3,690	s.f.	$ 0.38	$ 1,402		
Surfacing		3,690	s.f.	$ 0.45	$ 1,661		
Interpretation							
Interpretive Sign Panels (Porcelain)	Overlook	1	ea.	$ 5,500	$ 5,500		
Administrative						$ 307,468	
Storage/Maintenance Building	30'x75'	1	lump	$ 225,000	$ 225,000		
Cistern		1	ea.	$ 8,000	$ 8,000		
Septic System		1	lump	$ 12,000	$ 12,000		
Burglar Alarm		1	lump	$ 2,000	$ 2,000		
Fencing							
Remove Interior Stock Fence	Approx. 8 Miles	42,240	l.f.	$ 0.50	$ 21,120		
Weed Control Fencing	Approx. 3 Miles	15,840	l.f.	$ 0.17	$ 2,693		
Security Fencing around Facilities		250	l.f.	$ 57	$ 14,250		

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
Signs							
Roadside		6	ea.	$ 650	$ 3,900		
Boundary	Every 1,000 Feet	67	ea.	$ 15	$ 1,005		
Trail Directional		5	ea.	$ 500	$ 2,500		
Utilities							
Power		1	lump	$ 15,000	$ 15,000		
Equipment						$ 195,300	
Computers/Fax/Office Equipment		5	emp.	$ 2,200	$ 11,000		
Mountain Bike (for Patrol)		1	ea.	$ 800	$ 800		
All Terrain Vehicle (ATV)		2	ea.	$ 6,500	$ 13,000		
Spray-Rig for ATV		2	ea.	$ 1,500	$ 3,000		
Maintenance Truck		1	ea.	$ 35,000	$ 35,000		
Pickup Truck		2	ea.	$ 22,000	$ 44,000		
Slip-On Spray-Rig for Truck		1	ea.	$ 12,000	$ 12,000		
Mower		1	ea.	$ 9,500	$ 9,500		
Maintenance Tools		1	lump	$ 10,000	$ 10,000		
Biological Monitoring/Restoration Tools		1	lump	$ 15,000	$ 15,000		
Water Storage - 50K Gallon Bladder		1	ea.	$ 15,000	$ 15,000		
Water Storage - Pumpkin		2	ea.	$ 3,500	$ 7,000		
500 Gallon Fuel Tank/Pump		2	ea.	$ 10,000	$ 20,000		
Planning and Design							
Site Layout and Design	10% of Construction	1	lump	$ 38,504	$ 38,504	$ 38,504	
Existing Base Funding:							$ 150,000
Shared Equipment Budget		1	lump	$ 150,000	$ 150,000	$ 150,000	
Total: Restoration and Implementation							$ 882,369
Net Present Value of Restoration and Implementation over 15 Year Period							$ 834,657

Fire Management

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 258,007
Equipment						$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				$ 50,000		
Fire Engine (One Time)					$ 75,000		
Staff (Ongoing)	*Cost reflects cost/*					$ 133,007	
Fire Program Technician (GS-6/9)	*unit increased by 45%*	1	FTE	$ 49,283	$ 49,283		
Fire Engine Foreman (GS-5/6)	*to reflect training,*	1	FTE	$ 44,211	$ 44,211		
Fire Fighters (Seasonal) (GS-4/5)	*supplies and benefits.*	1	FTE	$ 39,514	$ 39,514		
Total: Fire Management							$ 258,007
Net Present Value of Fire Managment over 15 Year Period							$ 1,599,016

Alternative D Estimated Costs
Rocky Flats National Wildlife Refuge

Operations (Ongoing)	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:					*(see notes)*		$ 1,001,734
Staff						$ 647,989	
Refuge Manager (GS-12)	*Cost reflects cost/*	1.0	FTE	$ 69,939	$ 101,412		
Biologist (GS-11)	*unit increased by 45%*	1.0	FTE	$ 58,353	$ 84,612		
Refuge Operations Specialist (GS-9)	*to reflect training,*	1.0	FTE	$ 48,230	$ 69,934		
Public Use (GS-11)	*supplies and benefits.*	1.0	FTE	$ 58,353	$ 84,612		
Public Use (GS-9)		1.0	FTE	$ 48,230	$ 69,934		
Public Use (GS-7)		1.0	FTE	$ 39,428	$ 57,171		
Maintenance/Biotech (WG-7)		1.0	FTE	$ 43,666	$ 63,316		
Law Enforcement (GS-9)	*Cost reflects law enforcement training, supplies and benefits*	1.0	FTE	$ 48,230	$ 117,000		
Maintenance						$ 277,745	
Weed Management	Staff Est. of Supplies				$ 50,000		
Lindsay Barn	Staff Estimate				$ 2,000		
Facility/Equipment Maintenance	5% of Facilities/Equip.				$ 225,745		
Utilities						$ 68,000	
Electricity		12	months	$ 1,200	$ 14,400		
Gas		12	months	$ 1,000	$ 12,000		
Phone	Over 12 months	10	lines	$ 50	$ 6,000		
Burglar Alarm		12	months	$ 200	$ 2,400		
Cleaning/Trash Pickup	Clean 3x/week				$ 33,200		
Interpretive Materials		1	lump	$ 8,000	$ 8,000	$ 8,000	
Existing Base Funding:							$ 59,722
Staff						$ 54,722	
Public Use Assistance (GS-11)	*Cost reflects cost/*	0.25	FTE	$ 58,353	$ 21,153		
Public Use Assistance (GS-5)	*unit increased by 45%*	0.50	FTE	$ 31,833	$ 23,079		
Administrative Assistance (GS-9)	*to reflect training,*	0.15	FTE	$ 48,230	$ 10,490		
	supplies and benefits.						
Maintenance						$ 5,000	
Shared Equipment Maintenance	5% of Shared Equip.				$ 5,000		
Total: Operations							$ 1,061,456
Net Present Value of Operations over 15 Year Period							$ 11,801,675

Restoration and Implementation (One-Time)	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 4,999,915
Restoration						$ 53,792	
Seeding							
Restoration Seeding	Disturbed/Non-Native	119	ac.	$ 134	$ 15,946		
Seed for Eliminating Roads	26.4 miles @ 20 feet	64	ac.	$ 134	$ 8,576		
Seed for Road Narrowing		24	ac.	$ 134	$ 3,270		
Stream Crossing Restoration		26	ea.	$ 1,000	$ 26,000		
Facilities							
Public Use						$ 3,815,078	
Trails							
New Trails - Natural Surface	4.7 Miles	24,816	l.f.	$ 4	$ 99,264		
ADA Accessible (Reused Road)	1.7 Miles						
Prep		44,880	s.f.	$ 0.12	$ 5,386		
Surfacing		44,880	s.f.	$ 2.50	$ 112,200		
Visitor Facilities							
Restroom		2	ea.	$ 26,000	$ 52,000		
Viewing Blind		2	ea.	$ 15,000	$ 30,000		
Visitor Center	Staff Estimate	1	lump	$ 3,000,000	$ 3,000,000		
Outdoor Education Center	Arsenal Estimate	1	ea.	$ 321,753	$ 321,753		
Benches		8	ea.	$ 1,500	$ 12,000		
Parking Lots	6 Lots/140 Cars/2 Bus						
Site Preparation		49,970	s.f.	$ 0.38	$ 18,989		
Surfacing		49,970	s.f.	$ 0.45	$ 22,487		
Interpretation							
Interpretive Sign Panels (Porcelain)		6	ea.	$ 5,500	$ 33,000		
Interpretive Signs (Porcelain)	Trails, Sm. Entrances	12	ea	$ 4,000	$ 48,000		
Kiosk		1	ea.	$ 10,000	$ 10,000		
Interior Display		1	lump	$ 50,000	$ 50,000		

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
Administrative						$ 497,125	
Administrative Offices	Incl. In Visitor Ctr.						
Storage/Maintenance Building	30'x100'	1	lump	$ 350,000	$ 350,000		
Cistern		1	ea.	$ 18,000	$ 18,000		
Septic System		1	lump	$ 25,000	$ 25,000		
Burglar Alarm		1	lump	$ 3,000	$ 3,000		
Fencing							
Remove Interior Stock Fence	Approx. 8 Miles	42,240	l.f.	$ 0.50	$ 21,120		
Security Fencing around Facilities		800	l.f.	$ 57	$ 45,600		
Signs							
Roadside		6	ea.	$ 650	$ 3,900		
Boundary	Every 1,000 Feet	67	ea.	$ 15	$ 1,005		
Trail Directional		9	ea.	$ 500	$ 4,500		
Utilities							
Power		1	lump	$ 25,000	$ 25,000		
Equipment						$ 202,700	
Computers/Fax/Office Equipment		8	emp.	$ 2,200	$ 17,600		
Mountain Bike (for Patrol)		2	ea.	$ 800	$ 1,600		
All Terrain Vehicle (ATV)		2	ea.	$ 6,500	$ 13,000		
Spray-Rig for ATV		2	ea.	$ 1,500	$ 3,000		
Maintenance Truck		1	ea.	$ 35,000	$ 35,000		
Pickup Truck		2	ea.	$ 22,000	$ 44,000		
Slip-On Spray-Rig for Truck		1	ea.	$ 12,000	$ 12,000		
Mower		1	ea.	$ 9,500	$ 9,500		
Maintenance Tools		1	lump	$ 10,000	$ 10,000		
Biological Monitoring/Restoration Tools		1	lump	$ 15,000	$ 15,000		
Water Storage - 50K Gallon Bladder		1	ea.	$ 15,000	$ 15,000		
Water Storage - Pumpkin		2	ea.	$ 3,500	$ 7,000		
500 Gallon Fuel Tank/Pump		2	ea.	$ 10,000	$ 20,000		
Planning and Design						$ 431,221	
Site Layout and Design	10% of Construction			$ 431,221	$ 431,221		
Existing Base Funding:							$ 100,000
Shared Equipment Budget		1	lump	$ 100,000	$ 100,000	$ 100,000	
Total: Restoration and Implementation							$ 5,099,915
Net Present Value of Restoration and Implementation over 15 Year Period							$ 4,624,873

Fire Management

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							$ 208,724
Equipment						$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				$ 50,000		
Fire Engine (One Time)					$ 75,000		
Staff (Ongoing)	*Cost reflects cost/*					$ 83,724	
Fire Engine Foreman (GS-5/6)	*to reflect training,*	1	FTE	$ 44,211	$ 44,211		
Fire Fighters (Seasonal) (GS-4/5)	*supplies and benefits.*	1	FTE	$ 39,514	$ 39,514		
Total: Fire Management							$ 208,724
Net Present Value of Fire Managment over 15 Year Period							$ 1,051,073

appendix g

Species Lists

ROCKY FLATS NWR WILDLIFE SPECIES LIST

BIRDS

Raptors

American kestrel	*Falco sparverius*
Bald eagle	*Haliaeetus leucocephalus*
Barn owl	*Tyto alba*
Black vulture	*Coragyps atratus*
Broad-winged hawk	*Buteo platypterus*
Burrowing owl	*Athene cunicularia*
Cooper's hawk	*Accipiter cooperii*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*
Great horned owl	*Bubo virginianus*
Long-eared owl	*Asio otus*
Merlin	*Falco columbarius*
Northern goshawk	*Accipiter gentilis*
Northern harrier	*Circus cyaneus*
Osprey	*Pandion haliaetus*
Peregrine falcon	*Falco peregrinus*
Prairie falcon	*Falco mexicanus*
Red-tailed hawk	*Buteo jamaicensis*
Rough-legged hawk	*Buteo lagopus*
Sharp-shinned hawk	*Accipiter striatus*
Short-eared owl	*Asio flammeus*
Swainson's hawk	*Buteo swainsoni*
Turkey vulture	*Cathartes aura*

Songbirds

American crow	*Corvus brachyrhynchos*
American goldfinch	*Carduelis tristis*
American pipit	*Anthus rubescens*
American redstart	*Setophaga ruticilla*
American robin	*Turdus migratorius*
American tree sparrow	*Spizella arborea*
Ash-throated flycatcher	*Myiarchus cinerascens*
Barn swallow	*Hirundo rustica*
Belted kingfisher	*Ceryle alcyon*
Black swift	*Cypseloides niger*
Black-billed cuckoo	*Coccyzus erythropthalmus*
Black-billed magpie	*Pica hudsonia*
Black-capped chickadee	*Poecile atricapilla*
Black-headed grosbeak	*Pheucticus elanocephalus*
Black-throated gray warbler	*Dendroica nigrescens*
Blue grosbeak	*Guiraca caerulea*
Blue jay	*Cyanocitta cristata*
Blue-gray gnatcatcher	*Polioptila caerulea*
Blue-headed vireo	*Vireo solitarius*
Bohemian waxwing	*Bombycilla garrulus*
Brewer's blackbird	*Euphagus cyanocephalus*
Brewer's sparrow	*Spizella breweri*
Broad-tailed hummingbird	*Selasphorus platycercus*
Brown thrasher	*Toxostoma rufum*
Brown-headed cowbird	*Molothrus ater*
Bullock's oriole	*Icterus bullockii*
Cassin's finch	*Carpodacus cassinii*
Cassin's sparrow	*Aimophila cassinii*
Chestnut-collaredlongspur	*Calcarius ornatus*
Chestnut-sided warbler	*Dendroica pensylvanica*
Chipping sparrow	*Spizella passerina*
Clay-colored sparrow	*Spizella pallida*
Cliff swallow	*Petrochelidon pyrrhonota*
Common grackle	*Quiscalus quiscula*
Common nighthawk	*Chordeiles minor*
Common poorwill	*Phalaenoptilus nuttallii*
Common raven	*Corvus corax*
Common yellowthroat	*Geothlypis trichas*
Cordilleran flycatcher	*Empidonax occidentalis*
Dark-eyed junco	*Junco hyemalis canice*
Downy woodpecker	*Picoides pubescens*
Eastern kingbird	*Tyrannus tyrannus*
Eastern phoebe	*Sayornis phoebe*
European starling	*Sturnus vulgaris*
Field sparrow	*Spizella pusilla*
Fox sparrow	*Passerella illiaca*
Golden-crowned kinglet	*Regulus satrapa*
Grasshopper sparrow	*Ammodramus savannarum*
Gray catbird	*Dumetella carolinensis*
Green-tailed towhee	*Pipilo chlorurus*
Hairy woodpecker	*Picoides villosus*
Hermit thrush	*Catharus guttatus*
Horned lark	*Eremophila alpestris*
House finch	*Carpodacus mexicanus*
House sparrow	*Passer domesticus*
House wren	*Troglodytes aedon*
Lapland longspur	*Calcarius lapponicus*
Lark bunting	*Calamospiza melanocorys*
Lark sparrow	*Chondestes grammacus*
Lazuli bunting	*Passerina amoena*
Lesser goldfinch	*Carduelis psaltria*
Lincoln's sparrow	*Melospiza lincolnii*
Loggerhead shrike	*Lanius ludovicianus*
MacGillivray's warbler	*Opornis tolmiei*
Marsh wren	*Cistothorus palustris*
Mountain bluebird	*Sialia currucoides*
Mountain chickadee	*Parus gambeii*
Mourning dove	*Zenaida macroura*
Northern flicker	*Colaptes auratus*
Northern mockingbird	*Mimus polyglottus*
Northern shrike	*Lanius excubitor*
Orange-crowned warbler	*Vermivora celata*
Ovenbird	*Seiurus aurocapillus*
Palm warbler	*Dendroica palmarum*
Pine siskin	*Carduelis pinus*
Red-breasted nuthatch	*Sitta canadensis*
Red-naped sapsucker	*Sphyrapicus nuchalis*
Red-winged blackbird	*Agelaius phoeniceus*
Rock sove	*Columba livia*
Rock wren	*Salpinctes obsoletus*
Ruby-crowned kinglet	*Regulus calendula*

Rufous hummingbird	*Selasphorus rufus*
Sage thrasher	*Oreoscoptes montanus*
Savannah sparrow	*Passerculus sandwichensis*
Say's phoebe	*Sayornis saya*
Snow bunting	*Plectrophenax nivalis*
Song sparrow	*Melospiza melodia*
Spotted towhee	*Pipilo maculatus*
Swainson's thrush	*Catharus ustulatus*
Townsend's solitaire	*Myadestes townsendi*
Tree swallow	*Tachycineta bicolor*
Vesper sparrow	*Pooecetes gramineus*
Violet-green swallow	*Tachycineta thalassina*
Virginia's warbler	*Vermivora virginiae*
Warbling vireo	*Vireo gilvus*
Western bluebird	*Sialia mexicana*
Western kingbird	*Tyrannus verticalis*
Western meadowlark	*Sturnella neglecta*
Western tanager	*Piranga ludoviciana*
Western wood-pewee	*Contopus sordidulus*
White-breasted nuthatch	*Sitta carolinensis*
White-crowned sparrow	*Zonotrichia leucophrys*
Willow flycatcher	*Empidonax trailii*
Wilson's warbler	*Wilsonia pusilla*
Yellow warbler	*Dendroica petechia*
Yellow-breasted chat	*Icteria virens*
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*
Yellow-rumped warbler	*Dendroica coronata*

Upland Game

Ring-necked pheasant	*Phasianus colchicus*
Sharp-tailed grouse	*Tympanuchus phasianellus*

Waterfowl and Shorebirds

American bittern	*Botaurus lentiginosus*
American coot	*Fulica americana*
American white pelican	*Pelecanus erythrorhynchos*
American wigeon	*Anas americana*
Black-crowned night-heron	*Nycticorax nycticorax*
Blue-winged teal	*Anas discors*
Bufflehead	*Bucephala albeola*
Canada goose	*Branta canadensis*
Canvasback	*Aythya valisineria*
Cinnamon teal	*Anas cyanoptera*
Common goldeneye	*Bucephala clangula*
Common merganser	*Mergus merganser*
Common snipe	*Gallinago gallinago*
Double-crested cormorant	*Phalacrocorax auritus*
Eared grebe	*Podiceps nigricollis*
Franklin's gull	*Larus pipixcan*
Gadwall	*Anas strepera*
Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Greater scaup	*Aythya marila*
Greater yellowlegs	*Tringa melanoleuca*
Green-winged teal	*Anas crecca*
Hooded merganser	*Lophodytes cucullatus*
Killdeer	*Charadrius vociferus*
Lesser scaup	*Aythya affinis*
Lesser yellowlegs	*Tringa flavipes*
Long-billed curlew	*Numenius americanus*
Mallard	*Anas platyrhynchos*
Northern pintail	*Anas acuta*
Northern shoveler	*Anas clypeata*
Pectoral sandpiper	*Calidris melanotos*
Pied-billed grebe	*Podilymbus podiceps*
Redhead	*Aythya americana*
Ring-billed gull	*Larus delawarensis*
Ring-necked duck	*Aythya collaris*
Ruddy duck	*Oxyura jamaicensis*
Semipalmated plover	*Charadrius semipalmatus*
Semipalmated sandpiper	*Calidris pusilla*
Snow goose	*Chen caerulescens*
Snowy egret	*Egretta thula*
Solitary sandpiper	*Tringa solitaria*
Sora	*Porzana carolina*
Spotted sandpiper	*Actitis macularia*
Virginia rail	*Rallus limicola*
Western grebe	*Aechmophorus occidentalis*
White-faced Ibis	*Plegadis chihi*
Willet	*Catoptrophorus semipalmatus*
Wilson's phalarope	*Phalaropus tricolor*
Wood duck	*Aix sponsa*

MAMMALS

American black bear	*Ursus americanus*
Big brown bat	*Eptesicus fuscus*
Black-tailed prairie dog	*Cynomys ludovicianus*
Bobcat	*Lynx rufus*
Common gray fox	*Urocyon cinereoargenteus*
Common porcupine	*Erethizon dorsatum*
Coyote	*Canis latrans*
Deer mouse	*Peromyscus maniculatus*
Desert cottontail	*Sylvilagus audubonii*
Eastern fox squirrel	*Sciurus niger*
Elk (Wapiti)	*Cervus elaphus*
Hispid pocket mouse	*Chaetodipus hispidus*
House mouse	*Mus musculus*
Long-tailed vole	*Microtus longicaudus*
Masked shrew	*Sorex cinereus*
Meadow vole	*Microtus pennsylvanicus*
Merriam's shrew	*Sorex merriami*
Mexican woodrat	*Neotoma mexicana*
Mountain lion	*Felis concolor*
Mule deer	*Odocoileus hemionus*
Mule x White-tailed deer	*Odocoileus hemionus x virginianus*
Muskrat	*Ondatra zibethicus*
Northern pocket gopher	*Thomomys talpoides*
Olive-backed pocket mouse	*Perognathus fasciatus*
Plains harvest mouse	*Reithrodontomys montanus*
Plains pocket mouse	*Perognathus flavescens*
Prairie vole	*Microtus ochrogaster*

Preble's meadow jumping mouse	*Zapus hudsonius preblei*
Raccoon	*Procyon lotor*
Silky pocket mouse	*Perognathus flavus*
Striped skunk	*Mephitis mephitis*
Thirteen-lined ground squirrel	*Spermophilus tridecemlineatus*
Chipmunk	*Eutamias spp.*
Western harvest mouse	*Reithrodontomys megalotis*
Western jumping mouse	*Zapus princeps*
White-tailed deer	*Odocoileus virginianus*
White-tailed jackrabbit	*Lepus townsendii*

Reptiles and Amphibians

Boreal chorus frog	*Pseudacris triseriatus maculata*
Bullfrog	*Rana catesbeiana*
Bullsnake	*Pituophis melanoleucus*
Eastern yellowbelly racer	*Coluber constrictor*
Great Plains toad	*Bufo cognatus*
Northern leopard frog	*Rana pipiens*
Prairie rattlesnake	*Crotalus viridis*
Red-sided garter snake	*Thamnophis sirtalis*
Short-horned lizard	*Phynosoma douglassi*
Snapping turtle	*Chelydra serpentian*
Tiger salamander	*Ambystoma tigrinum*
Unidentified lizard	
Western painted turtle	*Chrysemys picta*
Western plains garter snake	*Thamnophis radix*

Fish

Bluegill	*Lepomis macrochirus*
Creek chub	*Semotilus atromaculatus*
Common shiner	*Luxilus cornutus*
Fathead minnow	*Pimephales promelas*
Green sunfish	*Lepomis cyanellus*
Northern redbelly dace	*Phoxinus eos*
Largemouth bass	*Micropterus salmoides*
Longnose dace	*Rhinichthys cataractae*
Smallmouth bass	*Micropterus dolomieui*
Stoneroller	*Campostoma anomalum*
White sucker	*Catostomus commersoni*

Others

The following types invertebrate species have also been identified at Rocky Flats:

- 63 species of phytoplankton
- 63 species of zooplankton
- 197 macrobiotic invertebrates
- 72 emergent insects
- 688 terrestrial invertebrates

ROCKY FLATS NWR PLANT SPECIES LIST

Listed in alphabetical order by scientific name.
State listed noxious weeds are marked with an *.

GRASSES

Jointed Goatgrass*	*Aegilops cylindrica X Agrohordeum macounii*
Slender Wheatgrass	*Agropyron caninum*
Crested Wheatgrass	*Agropyron cristatum*
Thickspike Wheatgrass	*Agropyron dasystachyum*
Crested Wheatgrass	*Agropyron desertorum*
Tall Wheatgrass	*Agropyron elongatum*
Griffin's Wheatgrass	*Agropyron griffithsii*
Intermediate Wheatgrass	*Agropyron intermedium*
Quackgrass *	*Agropyron repens*
Western Wheatgrass	*Agropyron smithii*
Bluebunch Wheatgrass	*Agropyron spicatum*
Ticklegrass	*Agrostis scabra*
Redtop	*Agrostis stolonifera*
Marsh Foxtail	*Alopecurus geniculatus*
Big Bluestem	*Andropogon gerardii*
Silver Bluestem	*Andropogon saccharoides*
Little Bluestem	*Andropogon scoparius.*
Italian Windgrass	*Apera interrupta*
Forktip Threeawn	*Aristida basiramea*
Fendler Threeawn	*Aristida purpurea*
Red Threeawn	*Aristida purpurea*
Cultivated Oats	*Avena fatua var. sativa*
Side-oats Grama	*Bouteloua curtipendula*
Blue Grama	*Bouteloua gracilis*
Hairy Grama	*Bouteloua hirsuta*
Rattlesnake Grass	*Bromus briziformis*
Smooth Brome	*Bromus inermis*
Japanese Brome	*Bromus japonicus*
Downy Brome *	*Bromus tectorum*
Buffalo-grass	*Buchloe dactyloides*
Northern Reedgrass	*Calamagrostis stricta*
Field Sandbur	*Cenchrus longispinus*
Rescuegrass	*Ceratochloa marginata*
Bermuda Grass	*Cynodon dactylon*
Orchardgrass	*Dactylis glomerata*
Poverty Oatgrass	*Danthonia spicata*
Slimleaf Dichanthelium	*Dichanthelium linearifolium*
Scribner Dichanthelium	*Dichanthelium oligosanthes*
Hairy Crabgrass	*Digitaria sanguinalis*
Inland Salt Grass	*Distichlis spicata*
Barnyard Grass	*Echinochloa crusgallii.*
Canada Wild Rye	*Elymus canadensis*
Russian Wild Rye	*Elymus juncea*
Stinkgrass	*Eragrostis cilianensis*
Weeping Lovegrass	*Eragrostis curvula*
Little Lovegrass	*Eragrostis minor*
India Lovegrass	*Eragrostis pilosa*
Sand Lovegrass	*Eragrostis trichodes*
Six-weeks Fescue	*Festuca octoflora*
Sheep's Fescue	*Festuca ovina*
Meadow Fescue	*Festuca pratensis*
Tall Mannagrass	*Glyceria grandis*
Fowl Mannagrass	*Glyceria striata*
Meadow Barley	*Hordeum brachyantherum*
Foxtail Barley	*Hordeum jubatum*
Little Barley	*Hordeum pusillum*
Junegrass	*Koeleria pyramidata*
Rice Cutgrass	*Leersia oryzoides*
Italian Ryegrass	*Lolium perenne*
Perennial Ryegrass	*Lolium perenne*
Wolftail	*Lycurus phleoides*
Scratchgrass	*Muhlenbergia asperifolia*
Muhly	*Muhlenbergia filiformis*
Mountain Muhly	*Muhlenbergia montana*
Marsh Muhly	*Muhlenbergia racemosa*
Spike Muhly	*Muhlenbergia wrightii*
Indian Ricegrass	*Oryzopsis hymenoides*
Witchgrass	*Panicum capillare*
Fall Panicum	*Panicum dichotomiflorum*
Switchgrass	*Panicum virgatum*
Reed Canarygrass	*Phalaris arundinacea*
Timothy	*Phleum pratense*
Common Reed	*Phragmites australis*
Bulbous Bluegrass	*Poa bulbosa*
Canby's Bluegrass	*Poa canbyi*
Canada Bluegrass	*Poa compress*
Muttongrass	*Poa fendleriana*
Alkali Bluegrass	*Poa juncifolia*
Fowl Bluegrass	*Poa palustris*
Kentucky Bluegrass	*Poa pratensis*
Rabbitfoot Grass	*Polypogon monspeliensis*
Tumblegrass	*Schedonnardus paniculatus.*
Rye	*Secale cereale*
Green Foxtail	*Setaria viridis*
Squirreltail	*Sitanion hystrix*
Indian-grass	*Sorghastrum nutans*
Prairie Cordgrass	*Spartina pectinata*
Prairie Wedgegrass	*Sphenopholis obtusata.*
Rough Dropseed	*Sporobolus asper*
Sand Dropseed	*Sporobolus cryptandrus*
Prairie Dropseed	*Sporobolus heterolepis*
Poverty Grass	*Sporobolus neglectus*
Needle-and-thread	*Stipa comata*
New Mexico Feather Grass	*Stipa neomexicana*
Sleepy Grass	*Stipa robusta*
Porcupine-grass	*Stipa spartea*
Green Needlegrass	*Stipa viridula*
Wheat	*Triticum aestivum*
Narrow-leaved Cattail	*Typha angustifolia*
Common Cattail	*Typha latifolia*
Blue-eyed Grass	*Sisyrinchium montanum*
Articulate Rush	*Juncus articulatus*
Baltic Rush	*Juncus balticus*

Toad Rush	*Juncus bufonius*
Dudley Rush	*Juncus dudleyi*
Swordleaf rush	*Juncus ensifolius*
Inland Rush	*Juncus interior*
Longstyle rush	*Juncus longistylis*
Knotted Rush	*Juncus nodosus*
Torrey's Rush	*Juncus torreyi*
Tracy Rush	*Juncus tracyi*
Spikerush	*Eleocharis acicularis*
Spikerush	*Eleocharis compressa*
Spikerush	*Eleocharis macrostachya*
Blunt Spikerush	*Eleocharis obtusa*
Spikerush	*Eleocharis parvula*
Bulrush	*Scirpus acutus*
Bulrush	*Scirpus pallidus*
Pungent Bulrush	*Scirpus pungens*
Bulrush	*Scirpus validus*
Slenderbeak sedge	*Carex athrostachya*
Golden sedge	*Carex aurea*
Bebs sedge	*Carex bebbii*
Short-beaked sedge	*Carex brevior*
Douglas sedge	*Carex douglasii*
Narrowleaf sedge	*Carex eleocharis*
Emory's sedge	*Carex emoryi*
Threadleaf sedge	*Carex filifolia*
Bottlebrush sedge	*Carex hystericina*
Inland sedge	*Carex interior*
Sun sedge	*Carex inops ssp. heliophila*
Woolly sedge	*Carex lanuginosa*
Nebraska sedge	*Carex nebrascensis*
Grassyslope sedge	*Carex oreocharis*
Clustered field sedge	*Carex praegracilis*
Beaked sedge	*Carex rostrata*
Broom sedge	*Carex scoparia*
Analogue sedge	*Carex simulata*
Prickly sedge	*Carex stipata*
Fox Sedge	*Carex vulpinoidea*
Field Horsetail	*Equisetum arvense*
Smooth Horsetail	*Equisetum laevigatum*
Variegated Scouring Rush	*Equisetum variegatum*

Forbs

Yarrow	*Achillea millefolium*
False Dandelion	*Agoseris glauca*
Striate Agrimony	*Agrimonia striata*
American Water Plantain	*Alisma trivale*
Wild Onion	*Allium cernuum*
Geyer's Onion	*Allium geyeri*
Wild White Onion	*Allium textile*
Alder	*Alnus incana*
Pale Alyssum	*Alyssum alyssoides*
Alyssum	*Alyssum minus*
Tumbleweed	*Amaranthus albus*
Prostrate Pigweed	*Amaranthus graecizans*
Rough Pigweed	*Amaranthus retroflexus*
Common Ragweed	*Ambrosia artemisiifolia*
Western Ragweed	*Ambrosiapsilostachya*
Giant Ragweed	*Ambrosia trifida*
Robust Toothcup	*Ammania robusta*
False Indigo	*Amorpha fruticosa*
Western Rock Jasmine	*Androsace occidentalis*
Candle Anemone	*Anemone cylindrica*
Pasque-flower	*Anemone patens*
Pink Pussytoes	*Antennaria microphylla*
Pussytoes	*Antennaria parvifolia*
Dog Fennel	*Anthemis cotula*
Spreading Dogbane	*Apocynum androsaemifolium*
Hemp Dogbane	*Apocynum cannabinum*
Rock Cress	*Arabis fendleri*
Tower Mustard	*Arabis glabra*
Rock Cress	*Arabis hirsuta*
Burdock *	*Arctium minus*
Fendler's Sandwort	*Arenaria fendleri*
Prickly Poppy	*Argemone polyanthemos*
Arnica	*Arnica fulgens*
Swamp Milkweed	*Asclepias incarnata*
Plains Milkweed	*Asclepias pumila*
Showy Milkweed	*Asclepias speciosa*
Narrow-leaved Milkweed	*Asclepias stenophylla*
Green Milkweed	*Asclepias viridiflora*
Asparagus	*Asparagus officinalis*
Madwort	*Asperugo procumbens*
Meadow Aster	*Aster campestris*
Aster	*Aster falcatus*
Fendler's Aster	*Aster fendleri*
Panicled Aster	*Aster hesperius*
Smooth Blue Aster	*Aster laevis*
Aster	*Aster porteri*
Standing Milkvetch	*Astragalus adsurgens*
Field Milkvetch	*Astragalus agrestis*
Two-grooved Vetch	*Astragalus bisulcatus*
Canada Milk-vetch	*Astragalus canadensis*
Ground-plum	*Astragalus crassicarpus*
Drummond Milkvetch	*Astragalus drummondii*
Pliant Milkvetch	*Astragalus flexuosus*
Lotus Milk-Vetch	*Astragalus lotiflorus*
Parry's Milkvetch	*Astragalus parryi*
Short's Milkvetch	*Astragalus shortianus*
Draba Milk-Vetch	*Astragalus spathulatus*
Foothill Milkvetch	*Astragalus tridactylicus*
Yellowrocket Wintercress	*Barbarea vulgaris*
Water Parsnip	*Berula erecta*
Nodding Beggarticks	*Bidens cernua*
Beggar-ticks	*Bidens frondosa*
Water Starwort	*Callitriche verna*
Sego Lily	*Calochortus gunnisonii*
Plains Yellow Primrose	*Calylophus serrulatus*
Small-seeded False Flax	*Camelina microcarpa*
Harebell	*Campanularotundifolia*
Shepherd's Purse	*Capsella bursa-pastoris*
Lens-padded Hoary Cress	*Cardaria chalepensis*
Hoary Cress *	*Cardaria draba*
Musk Thistle *	*Carduus nutans*

Orange Paintbrush	*Castilleja integra*
Downy Paintbrush	*Castilleja sessiliflora.*
Diffuse Knapweed *	*Centaurea diffusa*
Russian Knapweed *	*Centaurea repens*
Yellow Star Thistle	*Centaurea solstitialis*
Prairie Chickweed	*Cerastium arvense*
Short-stalked Chickweed	*Cerastiumbrachypodum*
Common Mouse-Ear	*Cerastium vulgatum*
Coontail	*Ceratophyllum demersum*
Lamb's Quarters	*Chenopodium album*
Dark Goosefoot	*Chenopodium atrovirens*
Pitseed Goosefoot	*Chenopodium berlandieri*
Jerusalem Oak	*Chenopodium botrys*
Desert goosefoot	*Chenopodium dessicatum*
Fremont Goosefoot	*Chenopodium fremontii*
Goosefoot	*Chenopodium leptophyllum*
Overi's Goosefoot	*Chenopodium overi*
Blue Mustard	*Chorispora tenella*
Ox-eye Daisy	*Chrysanthemum leucanthemum*
Golden Aster	*Chrysopsis fulcrata*
Golden Aster	*Chrysopsis villosa*
Common Chicory *	*Cichorium intybus*
Water Hemlock	*Cicuta maculata*
Canada Thistle *	*Cirsium arvense*
Flodman's Thistle	*Cirsium flodmanni*
Yellow Spine Thistle	*Cirsium ochrocentrum*
Wavyleaf Thistle	*Cirsium undulatum*
Bull Thistle *	*Cirsium vulgare*
Spring Beauty	*Claytonia rosea*
Rocky Mountain Beeplant	*Cleome serrulata*
Blue Lips	*Collinsia parviflora*
Collomia	*Collomia linearis*
Bastard Toadflax	*Comandra umbellata*
Poison Hemlock *	*Conium maculatum*
Community Campion	*Conosilene conica*
Hare's-ear Mustard	*Conringia orientalis*
Horseweed	*Conyza canadensis*
Crown Vetch	*Coronilla varia*
Nipple Cactus	*Coryphantha missouriensis*
Hawksbeard	*Crepis occidentalis*
Hawksbeard	*Crepis runcinata*
Miners Candle	*Cryptantha virgata*
Dodder	*Cuscuta approximata*
Hound's Tongue	*Cynoglossum officinale*
Taperleaf Flatsedge	*Cyperus acuminatus*
Fragile Fern	*Cystopteris fragilis*
White Prairie Clover	*Dalea candida*
Purple Prairie Clover	*Dalea purpurea*
Wild Carrot	*Daucus carota*
Blue Larkspur	*Delphinium nuttalianum*
Prairie Larkspur	*Delphinium virescens*
Tansy Mustard	*Descurainia pinnata*
Tansy Mustard	*Descurainia richardsonii*
Flixweed	*Descurainia sophia*
Shooting Star	*Dodecatheon pulchellum*
Yellow Whitlowort	*Draba nemorosa*
White Whitlowort	*Draba reptans*
Dragonhead	*Dracocephalum parviflorum*
Fetid Marigold	*Dyssodia papposa*
Hedgehog Cactus	*Echinocereus viridiflorus*
Willow Herb	*Epilobium ciliatum*
Willow Herb	*Epilobium paniculatum*
Fleabane	*Erigeron canus*
Fleabane	*Erigeron compositus*
Fleabane	*Erigeron divergens*
Fleabane	*Erigeron flagellaris*
Fleabane	*Erigeron pumilus*
Oregon Fleabane	*Erigeron speciosa*
Daisy Fleabane	*Erigeron strigosus*
LaVeta Fleabane	*Erigeron vetensis*
Winged Eriogonum	*Eriogonum alatum*
Spreading Wild Buckwheat	*Eriogonum effusum*
James' Wild Buckwheat	*Eriogonum jamesii*
Sulphur Flower	*Eriogonum umbellatum*
Filaria	*Erodium cicutarium*
Western Wallflower	*Erysimum capitatum*
Bushy Wallflower	*Erysimum repandum*
Toothed Spurge	*Euphorbia dentata*
Fendler's Euphorbia	*Euphorbia fendleri*
Snow-on-the-Mountain	*Euphorbia marginata*
Spurge	*Euphorbia robusta*
Thyme-leaved Spurge	*Euphorbia serpyllifolia*
Spurge	*Euphorbia spathulata*
Fumitory	*Fumaria vaillentii*
Blanket Flower	*Gaillardia aristata*
Catchweed Bedstraw	*Galium aparine*
Northern Bedstraw	*Galium septentrionale*
Scarlet Gaura	*Gaura coccinea*
Velvety Gaura	*Gaura parviflora*
Yellow Avens	*Geum aleppicum*
Large-leaved Avens	*Geum macrophyllum*
Northern Gentian	*Gentiana affinis*
Common Wild Geranium	*Geranium caespitosum*
Gilia	*Gilia opthalmoides*
Wild Licorice	*Glycyrrhiza lepidota*
Cotton-batting	*Gnapthalium chilense*
Hedge Hyssop	*Gratiola neglecta*
Curly-top Gumweed	*Grindelia squarrosa*
Northern Green Orchid	*Habenaria hyperborea*
Large-flowered Stickseed	*Hackelia floribunda*
Cutleaf Ironplant	*Happlopappus spinulosus*
Whiskbroom Parsley	*Harbouria trachypleura*
Rough False Pennyroyal	*Hedeoma hispidum*
Common Sunflower	*Helianthus annuus*
Texas Blue Weed	*Helianthus ciliaris*
Maximilian Sunflower	*Helianthus maximilianii*
Nuttall's Sunflower	*Helianthus nuttallii*
Plains Sunflower	*Helianthus petiolaris*
Sunflower	*Helianthus pumilus*
Stiff Sunflower	*Helianthus rigidus*
Showy Goldeneye	*Heliomeris multiflora*

Cow Parsnip	*Heracleum sphondylium*
Dame's Rocket *	*Hesperis matronalis*
Alumroot	*Heuchera parvifolia*
Nodding Green Violet	*Hybanthus verticillatus*
Waterleaf	*Hydrophyllum fendleri*
Hymenopappus	*Hymenopappus filifolius*
Greater St. John's-wort	*Hypericum majus*
Common St. John's-wort *	*Hypericum perforatum*
Spike Gilia	*Ipomopsis spicata*
Western Blue Flag	*Iris missouriensis*
Poverty Weed	*Iva axillaris*
Marsh Elder	*Iva xanthifolia*
Kochia	*Kochia scoparia*
False Boneset	*Kuhnia chlorolepis*
False Boneset	*Kuhnia eupatorioides*
Blue Lettuce	*Lactuca oblongifolia.*
Prickly Lettuce	*Lactuca serriola*
Stickseed	*Lappula redowskii*
Purple Peavine	*Lathyrus eucosmus*
Duckweed	*Lemna minor*
Field Peppergrass	*Lepidium campestre*
Peppergrass	*Lepidium densiflorum*
Bladderpod	*Lesquerella montana*
White Aster	*Leucelene ericoides*
Mountain Lily	*Leucocrinum montanum*
Blazing Star	*Liatris punctata*
Porter's Lovage	*Ligusticum porteri*
Mudwort	*Limosella aquatica*
Texas Toadflax	*Linaria canadensis.*
Dalmatian Toadflax *	*Linaria dalmatica*
Butter-and-eggs*	*Linaria vulgaris*
Blue Flax	*Linum perenne*
Norton's Flax	*Linum pratense*
Plains Flax	*Linum puberulum*
Fog-fruit	*Lippia cuneifolia*
Puccoon	*Lithospermum incisum*
Puccoon	*Lithospermum multiflorum*
Great Lobelia	*Lobelia siphilitica*
Wild Parsley	*Lomatium orientale*
Birdfoot Trefoil	*Lotus corniculatus*
Silvery Lupine	*Lupinus argenteus*
American Bugleweed	*Lycopus americanus*
Rough Bugleweed	*Lycopus asper*
Skeleton-weed	*Lygodesmia juncea*
Fringed Loostrife	*Lysimachia ciliata*
Winged Loosestrife	*Lythrum alatum*
Bigelovi's Tansy Aster	*Machaeranthera bigelovii*
Hoary Aster	*Machaeranthera canescens*
Tarweed	*Madia glomerata*
Common Mallow	*Malva neglecta*
Common Horehound	*Marrubium vulgare*
Black Medick	*Medicago lupulina*
Alfalfa	*Medicago sativa*
White Sweetclover	*Melilotus alba*
Yellow Sweetclover	*Melilotus officinalis*
Field Mint	*Mentha arvensis*
Bluebells	*Mertensia lanceolata*
False Dandelion	*Microseris cuspidata*
Monkey Flower	*Mimulus floribundus*
Roundleaf Monkey-flower	*Mimulus glabratus*
Hairy Four-O'Clock	*Mirabilis hirsuta*
Narrowleaf Four O'Clock	*Mirabilis linearis*
Wild Four-O'Clock	*Mirabilis nyctaginea*
Wild Bergamot	*Monarda fistulosa*
Spotted Bee-Balm	*Monarda pectinata*
Musineon	*Musineon divaricatum*
Mousetail	*Myosurus minimus*
American Milfoil	*Myriophyllum exalbescens.*
Watercress	*Nasturtium officinale*
Navarretia	*Navarretia minima*
Catnip	*Nepeta cataria*
Evening Primrose	*Oenothera flava*
Yellow Stemless Evening Primrose	*Oenothera howardii*
Common Evening Primrose	*Oenothera villosa*
Scotch Thistle *	*Onopordum acanthium*
False Gromwell	*Onosmodium molle*
Pale Evening Primrose	*Onothera albicaulis*
Little Prickly Pear	*Opuntia fragilis*
Twistspine Prickly Pear	*Opuntia macrorhiza*
Plains Prickly Pear	*Opuntia polyacantha*
Broomrape	*Orobanche fasciculata*
Sweet Cicely	*Osmorhiza chiliensis*
Anise Root	*Osmorhiza longistylis*
Gray-Green Wood Sorrel	*Oxalis dillenii.*
Purple Locoweed	*Oxytropis lambertii*
Pennsylvania Pellitory	*Parietaria pensylvanica*
James' Nailwort	*Paronychia jamesii*
Nipple Cactus	*Pediocactus simpsonii*
White Beardtongue	*Penstemon albidus*
Penstemon	*Penstemon secundiflorus*
Rocky Mountain Penstemon	*Penstemon strictus*
Slender Penstemon	*Penstemon virens*
Penstemon	*Penstemon virgatus*
Scorpionweed	*Phacelia heterophylla*
Clammy Ground cherry	*Physalis heterophylla*
Prairie Ground Cherry	*Physalis pumila*
Virginia Ground Cherry	*Physalis virginiana*
Double Bladder-pod	*Physaria vitulifera*
Picradeniopsis	*Picradeniopsis oppositifolia*
Popcorn Flower	*Plagiobothrys scouleri*
English Plantain	*Plantago lanceolata*
Common Plantain	*Plantago major*
Patagonian Plantain	*Plantago patagonica.*
Clammy-weed	*Polansia dodecandra*
Knotweed	*Polygonum arenastrum.*
Wild Buckwheat	*Polygonum convolvulus.*
Knotweed	*Polygonum douglasii*
Water Pepper	*Polygonum hydropiper*
Pale Smartweed	*Polygonum lapathifolium*
Pennsylvania Smartweed	*Polygonum pensylvanicum*
Lady's Thumb	*Polygonum persicaria*

Knotweed	*Polygonum ramosissimum*
Knotweed	*Polygonum sawatchense*
Common Purslane	*Portulaca oleracea*
Leafy Pondweed	*Potamogeton foliosus*
Floatingleaf Pondweed	*Potamogeton natans*
Tall Cinquefoil	*Potentilla arguta*
Cinquefoil	*Potentilla fissa*
Cinquefoil	*Potentilla gracilis*
Wooly Cinquefoil	*Potentilla hippiana*
Norwegian Cinquefoil	*Potentilla norvegica*
Bushy Cinquefoil	*Potentilla paradoxa*
Cinquefoil	*Potentilla pensylvanica*
Hybrid Cinquefoil	*Potentilla pulcherrima x hippiana*
Cinquefoil	*Potentilla rivalis*
Selfheal	*Prunella vulgaris*
Wild Alfala	*Psoralea tenuiflora*
Purple Ground Cherry	*Quincula lobata*
Macoun's Buttercup	*Ranunculus macounii*
Cursed Crowfoot	*Ranunculus scleratus*
Hairy Leaf Buttercup	*Ranunculus trichophyllus*
Prairie Coneflower	*Ratibida columnifera*
Bog Yellow Cress	*Rorippa palustris*
Goldenglow	*Rudbeckia ampla*
Sheep Sorrel	*Rumex acetosella*
Curly Dock	*Rumex crispus*
Golden Dock	*Rumex maritimus*
Bitter Dock	*Rumex obtusifolius*
Willow Dock	*Rumex salicifolius.*
Common Arrowhead	*Sagittaria latifolia*
Russian-Thistle	*Salsola iberica*
Lance-leaved Sage	*Salvia reflexa*
Bouncing Bet	*Saponaria officinalis*
Diamondleaf Saxifrage	*Saxifraga rhomoidea*
False Salsify	*Scorzonera laciniata*
Figwort	*Scrophularia lanceolata*
Britton's Skullcap	*Scutellaria brittonii*
Stonecrop	*Sedum lanceolatum*
Spikemoss	*Selaginella densa*
Groundsel	*Senecio fendleri*
Groundsel	*Senecio integerrimus*
Prairie Ragwort	*Senecio plattensis*
Groundsel	*Senecio spartioides*
Groundsel	*Senecio tridenticulatus*
White Checkermallow	*Sidalcea candida*
New Mexico Checkmallow	*Sidalcea neomexicana*
Sleepy Catchfly	*Silene antirrhina*
Campion	*Silene drummondii*
White Campion	*Silene pratensis*
Tumbling Mustard	*Sisymbrium altissimum*
Spikenard	*Smilacina stellata (L.)*
Carrion Flower	*Smilax herbacea*
Buffalo Bur	*Solanum rostratum*
Cut-leaved Nightshade	*Solanum triflorum*
Canada Goldenrod	*Solidago canadensis*
Late Goldenrod	*Solidago gigantea*
Prairie Goldenrod	*Solidago missouriensis*
Soft Goldenrod	*Solidago mollis*
Low Goldenrod	*Solidago nana*
Rigid Goldenrod	*Solidago rigida*
Field Sow Thistle	*Sonchus arvensis*
Prickly Sow Thistle	*Sonchus asper*
Sand Spurry	*Spergularia rubra*
Red False Mallow	*Sphaeralcea coccinea*
Hedge Nettle	*Stachys palustris*
Long-leaved Stitchwort	*Stellaria longifolia*
Wire Lettuce	*Stephanomeria pauciflora*
Green Gentian	*Swertia radiata*
Prairie Fameflower	*Talinum parviflorum*
Red Seeded Dandelion	*Taraxacum laevigatum*
Dandelion	*Taraxacum officinale*
Purple Meadow Rue	*Thalictrum dasycarpum*
Greenthread	*Thelesperma megapotanicum*
Golden Banner	*Thermopsis rhombifolia var. divaricarpa*
Field Penny Cress	*Thlaspi arvense*
Easter Daisy	*Townsendia grandiflora*
Easter Daisy	*Townsendia hookeri*
Spiderwort	*Tradescantia occidentalis*
Noseburn	*Tragia ramosa*
Goat's Beard	*Tragopogon dubius*
Salsify	*Tragopogon porrifolius*
Alsike Clover	*Trifolium hybridum*
Red Clover	*Trifolium pratense*
White Clover	*Trifolium repens*
Venus' Looking Glass	*Triodanis leptocarpa*
Venus Looking Glass	*Triodanis perfoliata*
Stinging Nettle	*Urtica dioica*
Cow Cockle	*Vaccaria pyramidata*
Moth Mullein *	*Verbascum blattaria*
Common Mullein *	*Verbascum thapsus*
Prostrate Vervain	*Verbena bracteata*
Blue Vervain	*Verbena hastata*
Golden Crownbeard	*Verbesina encelioides*
Brooklime Speedwell	*Veronica americana*
Water Speedwell	*Veronica anagallis-aquatica*
Catenate Ironweed	*Veronica catentata*
Purslane Speedwell	*Veronica peregrina*
American Vetch	*Vicia americana*
Yellow Prairie Violet	*Viola nuttallii*
Rydberg's Violet	*Viola rydbergii*
Colorado Violet	*Viola scopulorum*
Northern Bog Violet	*Viola sororia*
Cocklebur	*Xanthium strumarium*
Death Camass	*Zigadenus venenosus*

SHRUBS

Saskatoon Service-berry	*Amelanchier alnifolia*
Dwarf Wild Indigo	*Amorpha nana*
Western Sagewort	*Artemisia campestris*
Silky Wormwood	*Artemisia dracunculus*
Silver Sage	*Artemisia frigida*
White Sage	*Artemisia ludoviciana*
Four-winged Saltbush	*Atriplex canescens*
Oregon Grape	*Berberis repens*
Buckbrush	*Ceanothus fendleri*

New Jersey Tea	*Ceanothus herbaceus*
Greenplume Rabbitbrush	*Chrysothamnus nauseosus*
Rubber Rabbitbrush	*Chrysothamnus nauseosus*
Hawthorne	*Crataegus erythropoda*
Hawthorn	*Crataegus succulenta*
Snakeweed	*Gutierrezia sarothrae*
Common Juniper	*Juniperus communis*
Mountain Ninebark	*Physocarpus monogynus*
Ninebark	*Physocarpus opulifolius*
Wild Plum	*Prunus americana*
Sand Cherry	*Prunus pumila*
Chokecherry	*Prunus virginiana*
Apple	*Pyrus malus*
Fragrant Sumac	*Rhus aromatica*
Golden Currant	*Ribes aureum*
Western Red Currant	*Ribes cereum*
Common Gooseberry	*Ribes inerme*
Prickly Wild Rose	*Rosa acicularis*
Prairie Wild Rose	*Rosa arkansana*
Western Wild Rose	*Rosa woodsii*
Boulder Raspberry	*Rubus deliciosus*
Raspberry	*Rubus idaeus*
Coyote Willow	*Salix exigua*
Sandbar Willow	*Salix exigua*
Bluestem willow	*Salix irrorata*
Yellow Willow	*Salix lutea*
Burnet	*Sanguisorba minor*
Mountain Ash	*Sorbus scopulina*
Western Snowberry	*Symphoricarpos occidentalis*
Snowberry	*Symphoricarpos oreophilus*
Salt Cedar *	*Tamarix ramosissima*
Highbush Cranberry	*Viburnum opulus*
Yucca	*Yucca glauca*

TREES

Mountain Maple	*Acer glabrum*
Box-elder	*Acer negundo*
Norway Maple	*Acer platanoides*
Water Birch	*Betula occidentalis*
Russian Olive *	*Elaeagnus angustifolia*
Green Ash	*Fraxinus pennsylvania*
Rocky Mountain Juniper	*Juniperus scopulorum*
Blue Spruce	*Picea pungens*
Ponderosa Pine	*Pinus ponderosa*
Silver Poplar	*Populus alba*
Narrow-leaved Cottonwood	*Populus angustifolia*
Plains Cottonwood	*Populus deltoides*
Lanceleaf Cottonwood	*Populus x acuminata*
Douglas-Fir	*Pseudotsuga menziesii*
Black Locust	*Robinia pseudo-acacia*
Peach-leaf Willow	*Salix amygdaloides*
Crack Willow	*Salix fragilis*
Siberian Elm	*Ulmus pumila*

VINES

Hedge Bindweed	*Calystegia macouni*
Hedge Bindweed	*Calystegia sepium*
Hairy Clematis	*Clematis hirsutissima*
Western Clematis	*Clematis ligusticifolia*
Field Bindweed *	*Convolvulus arvensis*
Evolvulus	*Evolvulus nuttallianus*
Common Hops	*Humulus lupulus*
Poison Ivy	*Toxicodendron rydbergii*
Puncture Vine	*Tribulus terrestris*
River-bank Grape	*Vitis riparia*

OTHERS

The following types plants have also been identified at Rocky Flats:

- 15 mosses
- 24 lichens

Rocky Flats
National Wildlife Refuge

Comments and Responses on the Draft Environmental Impact Statement

Appendix H
to the
Final Comprehensive Conservation Plan and Environmental Impact Statement

September 2004

Prepared for:

U.S. Fish and Wildlife Service
Rocky Flats National Wildlife Refuge
Rocky Mountain Arsenal – Building 121
Commerce City, CO 80022

Prepared by:

ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218

and

Shapins Associates
1738 Pearl Street, Ste. 220
Boulder, CO 80302

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1. Introduction

This document is Appendix H to the Final Rocky Flats National Wildlife Refuge Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS). This document includes the following components:

- Copies of written comments from agencies, businesses, and organizations, with responses to those comments
- A summary of comments from individuals, and responses to individual comments
- A summary of petitions and form letters received
- Transcripts of the public hearing testimony

The Draft Rocky Flats National Wildlife Refuge CCP/EIS was released to the public for a 45-day comment period on February 19, 2004. In addition, the U.S. Fish and Wildlife Service (Service) held a series of four public hearings in Westminster, Boulder, Arvada, and Broomfield to allow public input on the proposed rehabilitation plan and alternatives. The Service received over 5,000 comments through public hearing testimony, letters, emails. Comments came from 251 individuals and 34 agencies or organizations. The Service also heard from 933 people through form letters and petitions. This Appendix addresses the substantive comments. Comments, as defined by NEPA compliance guidelines, are considered substantive if they:

- Question, with reasonable basis, the accuracy of the information in the document
- Question, with reasonable basis, the adequacy of the environmental analysis
- Present reasonable alternatives other than those presented in the environmental impact statement
- Cause changes or revisions in the proposal

Comments and responses are divided into two sections. The first section includes copies of the substantive comments made by government agencies, organizations, and businesses. Beside each reproduced letter is the numbered response of the U.S. Fish and Wildlife Service (Service) corresponding to each specific comment.

The second part of the response to comments includes a summary of the comments made by the general public or other entities. Many of the comments made by the public were similar to the range of issues and concerns that are addressed in the first section. Rather than print every letter from individuals, the Service has summarized the main topics of the comments received and has responded to the comment topics that are substantive. All public comments and hearing testimony will be available for review at the Front Range Community College Library, Rocky Flats Reading Room or at the Rocky Mountain Arsenal National Wildlife Refuge Visitor Center on weekends . Where appropriate, the text of the Final CCP/EIS has been revised to address comments.

2. Agency, Business, and Organization Comments

1. U.S. Department of Energy
2. U.S. Environmental Protection Agency
3. Colorado Department of Public Health and Environment
4. Colorado Division of Wildlife
5. Colorado Department of Transportation
6. Colorado Department of Agriculture - State Weed Program
7. Rocky Flats Coalition of Local Governments
8. City of Arvada
9. City of Boulder – City Council
10. City of Boulder – Open Space and Mountain Parks
11. City and County of Broomfield
12. City of Westminster
13. Town of Superior
14. Boulder County Commissioners
15. Boulder County Parks and Open Space
16. Jefferson County
17. City of Golden – Mayor's office
18. City of Golden – City Manager
19. Woman Creek Reservoir Authority
20. Alliance for Nuclear Accountability
21. Boulder Area Trails Coalition
22. Boulder County Horse Association
23. Church Ranch
24. Colorado Wildlife Federation
25. League of Women Voters – Jefferson County
26. National Wildlife Federation
27. Plan Jeffco
28. Prairie Preservation Alliance
29. Rocky Flats Citizen Advisory Board
30. Rocky Flats Cold War Museum
31. Rocky Mountain Peace and Justice Center
32. Sierra Club
33. Wheelin' Sportsmen
34. Wildlife Management Institute

Comment #	Letter #1	Response
	Department of Energy ROCKY FLATS PROJECT OFFICE 10808 HIGHWAY 93, UNIT A GOLDEN, COLORADO 80403-8200 APR 21 2004 RECEIVED APR 27 2004 04-DOE-00274 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Mr. Ralph Morganweck Regional Administrator Rocky Flats National Wildlife Refuge Building 111 Commerce City, CO 80022 Dear Mr. Morganweck:	
1-1	The Rocky Flats Project Office has reviewed the Comprehensive Conservation Plan (CCP)/Environmental Impact Statement describing management alternatives for the Rocky Flats National Wildlife Refuge. Additionally, I have received considerable positive feedback regarding the public process implemented by you and your staff. Let me compliment you on both an excellent document and an open process that presented many opportunities for local governments, special interest groups, and the general public to fully participate.	**1-1.** Thank you for your comments.
1-2	The U.S. Department of Energy (DOE) is not recommending any particular use options identified in the CCP, and DOE does not believe any of the use options will impact completed or contemplated response actions. Also, let me assure you that the site will be safe for any of the use options you have identified. In fact, cleanup will be well beyond that required to be protective of the future refuge worker and refuge visitor. As you know, the Environmental Protection Agency (EPA) must certify completion of cleanup and closure of the site before administrative jurisdiction of any land can be transferred to the Department of Interior for use as a National Wildlife Refuge. The DOE intends to seek this certification from EPA as soon as practicable following cleanup and closure of Rocky Flats. Given the conservative nature of the cleanup, I am optimistic that this certification can be obtained quickly, and am confident that the management alternative you select will make Rocky Flats a valuable addition to the National Wildlife Refuge System. Sincerely, Frazer R. Lockhart Manager cc: R. Roberts, EPA D. Benevento, CDPHE D. Rundle, USFWS C. Franklin, RFPO L. Shannon, USFWS	**1-2.** Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies that DOE has completed cleanup and closure.

Comment #	Letter #2	Response
	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 8 999 18TH STREET - SUITE 300 DENVER, CO 80202-2466 Phone 800-227-8917 http://www.epa.gov/region08 APR 23 2004 RECEIVED APR 27 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Ref: EPR-N Laurie Shannon Planning Team Leader Rocky Flats National Wildlife Refuge Comprehensive Conservation Plan U.S. Fish and Wildlife Service Rocky Mountain Arsenal- Building 121 Commerce City, Colorado 80022 RE: Rocky Flats National Wildlife Refuge DEIS and CCP Dear Ms. Shannon; 2-1 In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the U.S. Fish and Wildlife Service's (FWS) *Rocky Flats National Wildlife Refuge (NWR), Environmental Impact Statement and Comprehensive Conservation Plan Draft Environmental Impact Statement* (DEIS), dated February 2004. We appreciate the time and effort that went into the productive April 21, 2004 meeting between EPA and FWS. The following letter is based on our review of the DEIS and is also intended to reflect the discussion at the April meeting. 2-2 At the conclusion of the Department of Energy (DOE)/ Colorado Department of Public Health and the Environment (CDPHE)/ EPA Rocky Flats cleanup and closure process, EPA will certify that cleanup and closure have been completed, except for operation and maintenance concerned with response actions, and that all response actions are operating properly and successfully. Administrative jurisdiction over the property that is to comprise the refuge will be transferred to the Department of the Interior, the refuge will be established, and FWS will commence administration of this property in accordance with the Rocky Flats National Wildlife Refuge Act of 2001 (the Act). In order to fulfil the intent of the Act and to ensure the long-term integrity of the cleanup, recreational access to some areas of the DOE parcel may be restricted as delineated through the cleanup process. EPA is confident that all DEIS action alternatives will ensure that Refuge staff, recreationists and animal inhabitants will not experience harmful levels of exposure through their experience at the NWR. Printed on Recycled Paper	**2-1.** Thank you for your comments. **2-2.** Thank you for your comments.

Comment #	Letter #2 continued	Response
2-3	For future administration of the NWR, the FWS proposes to govern recreation and ecological restoration activities while promoting and preserving wildlife habitat. The action alternatives each uphold the principles of the Refuge Act while allowing for varying intensities of potentially compatible recreation activities. Alternative A is the "no action" alternative and includes only the continued implementation of the Rock Creek Reserve Integrated Natural Resource Management Plan. Alternative B is the proposed action and analyzes the activities that balance wildlife habitat effectiveness with public use. Alternative C emphasizes ecological restoration and includes only limited public access, and Alternative D focuses on a greater intensity of wildlife-dependent public activities. The DEIS adequately analyzes many of the multi-use pressures and management actions within the jurisdictional boundaries of the Refuge that could threaten or enhance the Refuge's "wildlife-first" mission. The DEIS considers recreation and resource management that would not contribute to the degradation of ecosystem processes, including efforts to minimize the risk of noxious and invasive weed establishment and spread. The DEIS also clearly identifies most potential impacts from the proposed gravel mining operations within the Rocky Flats DOE boundary and identifies the incompatibility of these operations with successful FWS Refuge management.	**2-3.** Thank you for your comments. **2-4.** The appropriate sections have been revised in the FEIS to better describe the DOE retained area, issues related to an adjacent transportation corridor, regional population growth, and gravel mining. Responses to comments 2-7 through 2-15 discuss these issues in greater detail.
2-4	While the DEIS does an excellent job analyzing the possible management actions on the lands that will be directly under FWS jurisdiction, the DEIS does not adequately discuss the cumulative analysis area and the potential pressures that may be outside of FWS jurisdiction but may significantly affect the ability to attain Refuge ecological goals. Specifically, these activities include restoration and maintenance of the DOE retained lands, transportation corridor development, population growth in the area and gravel mining. While we recognize that FWS may have little control in decisions that are made regarding adjacent activities, the use and management of adjacent lands can adversely effect the NWR's mission and should be disclosed in the context of the resources the Refuge intends to protect. This analysis is important to inform citizens, local governments, and government agencies of general Refuge needs and help each party to integrate their planning processes where possible. These suggestions are further described in the enclosed Detailed Comments and largely parallel the main topics of discussion at the April 21 meeting.	**2-5.** See response to comment 2-4.
5	Based on the procedures EPA uses to evaluate the potential effects of proposed actions and the adequacy of the information in the DEIS, the Proposed Actions identified by the DEIS for the *Rocky Flats NWR CCP* analysis will be listed in the Federal Register in the category EC-2, "Environmental Concerns- Needs Information." This rating means that, without additional discussion of environmental impacts from adjacent land uses, the potentially large impacts to the Refuge will be difficult to control, avoid or mitigate. The DEIS should include additional information regarding potential indirect impacts of the proposed development of the transportation corridor, identify feasible mitigation measures to offset those impacts, and include further discussion of the DOE retained area in terms of weed dispersal and projected final contamination levels. We have enclosed a summary of EPA's rating criteria and definitions. 2	

Comment #	Letter #2 continued	Response
2-6	We have found that NEPA can be a powerful tool to connect and inform local processes and decisions. The DEIS often refers to FWS's desire to engage in partnerships with adjacent land users, and we earnestly support these efforts. As a composite analysis of the proposed project in the landscape, this DEIS should disclose all available information and anticipated requirements to facilitate such discussions and to guide future decisions toward protection of Refuge functions. We would be happy to participate and assist with these efforts. We appreciate that the FWS has taken the time to discuss these concerns with us. If there are any additional questions about these issues or you would like further assistance incorporating this information into the project, please call me at 303-312-6004 or Amy Bergstedt at 303-312-6647. Sincerely, Larry Svoboda Director, NEPA Program Office of Ecosystems Protection and Remediation cc: Daniel Miller, State of Colorado Steven Gunderson, CDPHE Representative Mark Udall Joe Legare, DOE Steven Sherman, CDOT Region 6 3	**2-6.** The FEIS discloses the cumulative effects of all reasonably foreseeable activities on the Refuge.

Comment #	Letter #2 continued	Response
	EPA'S DETAILED COMMENTS FOR THE FWS'S ROCKY FLATS NWR, DRAFT ENVIRONMENTAL IMPACT STATEMENT AND COMPREHENSIVE CONSERVATION PLAN	
2-7	As stated in EPA's scoping comments (June 10, 2003), "in order for the FWS to protect the vision of the NWR, it will be essential to carefully manage any activities that could contribute to the degradation of internal and external wildlife corridors, ecosystem processes (including important natural disturbances such as fire), and increased risk of noxious and invasive weed establishment and spread." Because ecosystem processes occur over landscapes irrespective of jurisdictional boundaries, it will be impossible to manage such processes in isolation. Attempting to do so could result in rendering efforts to establish a functional ecosystem expensive and potentially futile.	**2-7.** Specific responses to these concerns are addressed in response to comments 2-8 through 2-15.
	EPA's review of the DEIS found the primary weakness is the lack of analysis and discussion of the potential for adjacent actions and land uses to adversely affect the ability of the Refuge to meet its ecological goals and objectives. The most significant adjacent activities include the DOE-retained land following cleanup, gravel mining operations, the likely transportation infrastructure development (i.e. Northwest Corridor or Indiana Street expansion), and the population growth expected in the surrounding area. Our concerns are similar with each of these activities.	
	Non-Native Vegetation	
2-8	• Due to the suburban atmosphere, anticipated recreation and adjacent land use, weed migration is likely to become a significant management issue. The DEIS should recommend weed mitigation measures (i.e. prevention, control, and native species guidance) specific to adjacent lands that could increase the chance the Refuge will maintain low weed populations and desired ecological functions.	**2-8.** Adjacent properties are subject to state and county weed laws. The Service will continue to work with adjacent property owners and local governments to minimize the establishment and spread of noxious weeds.
2-9	• The DEIS should also discuss the risk that adjacent properties, including the DOE-retained lands and disturbed soil therein, could become an epicenter for weed migration. The DEIS should disclose the potentially significant economic and ecological impact to the Refuge from having weed hot spots on DOE or other adjacent lands. For adjacent properties, the DEIS should also recommend vegetation and soil management practices, including suggested quantitative standards for native vegetation and limits for noxious species that could reduce the likelihood of impacts to the Refuge if implemented.	**2-9.** DOE has had an on-going weed management program to control noxious weeds. Weed management in the DOE retained area will be addressed in the final cleanup plans. The Service will continue to work with the DOE, EPA and CDPHE (RFCA parties) to ensure post-cleanup revegetation plans will minimize the establishment and spread of noxious weeds. The potential cumulative effects of weeds from DOE retained land on the Refuge are discussed in the *Cumulative Impacts* section of Chapter 4.
	DOE-Retained Lands	
2-10	• Since the Refuge will fully surround the DOE-retained cleanup lands, the DEIS should include environmental information associated with the DOE parcel. EPA is ultimately responsible for certifying cleanup and closure that will insure acceptable levels of risk associated with hazardous materials and establish performance criteria to insure successful revegetation of the DOE-retained parcel. However, the projected guidelines (e.g., acceptable risk to Refuge workers, visitors and ecological populations, establishment of native vegetation, prohibition of noxious	**2-10.** The FEIS was revised to include a discussion about issues related to residual contamination and the DOE retained area (Section 1.8). In the DEIS, the Service and DOE indicated their goal was that the demarcation between the Refuge and the DOE retained area be "seamless" with few obvious visual differences. Section 1.8 of the FEIS was revised to indicate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks with appropriate signage would best demarcate the DOE retained area, keep any livestock out of the DOE retained area, and indicate the DOE lands would be closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties. With regard to specific habitat and weed management recommendations, see response to comment 2-9.

Comment #	Letter #2 continued	Response
	weeds) and expected institutional controls (e.g., unobtrusive fencing design) associated with closure of the contaminated area should be discussed to clearly establish how potential impacts from the lands adjacent to the Refuge are expected to be managed. Please disclose the expected guidelines that have been established in order to meet the objectives of the Refuge and to meet the goals for establishing a "seamless property" (DEIS p.1; s.4).	
	Potential Transportation Corridor Development	
2-11	• The DEIS should describe the likely direct, indirect, and cumulative effects of building transportation infrastructure in the area surrounding Rocky Flats, specifically including the development of the easement corridor along the East edge of the Refuge, which is a reasonably foreseeable action. Impacts to the Refuge could include habitat loss, loss of habitat connectivity, direct or indirect mortality, avoidance behavior, competition with increased non-native plant and animals, noise, and loss of night security to street lighting. It is therefore important the FEIS recommend mitigation measures that would prevent or reduce likely adverse impacts from highway or road development to the Refuge and its ecological function. This EIS is an opportunity to discuss the standards and practices that would assure the Refuge could continue to function optimally as the surrounding area develops. Such practices could include: development alterations such as restricted or angled lighting, noise walls, creating or obstructing wildlife migration corridors across roadways, under- or overpasses, interchange placement, and storm water best management practices, *etc.*.	**2-11.** The Service believes under NEPA that the cumulative effects of reasonably foreseeable activities when combined with the proposed action must be disclosed. The Service believes some transportation improvements in the area surrounding Rocky Flats is a reasonably foreseeable activity, but the location of any particular transportation improvement, such as along the east edge of the Refuge, is speculative and not reasonably foreseeable. The Refuge Act directs the Service to address and make recommendations for the identification of any land that DOE could make available for transportation improvements. The FEIS was revised to include a new Section 4.16 that discusses potential Refuge lands within a corridor immediately west of Indiana Street up to 300 feet wide. The new section also describes recommended mitigation measures that would minimize adverse impacts to the Refuge related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.
2-12	• Similarly, EPA did not find an analysis in the DEIS of the potential effects to refuge ecological function from existing, adjacent transportation corridors (Hwy 93, 128, 72 and Indiana St.). If there are actions or management practices – such as those suggested in our previous comment – that could reduce the impact of these roads to Refuge functions and values, they should be identified in the FEIS to inform future decisions regarding the maintenance and enhancement of these routes.	**2-12.** The effects of existing adjacent transportation corridors surrounding Rocky Flats are disclosed as part of the affected environment.
	Area Growth Projections/ Cumulative Effects	
2-13	• Since substantial population growth and development is projected for the area neighboring the Refuge (see DRCOG projections), we recommend the DEIS disclose potential impacts of these changes to maintaining wildlife and other Refuge functions. Such impacts could include: unfavorable interactions between resident predators and domestic animals; increased popularity and associated degradation of the NWR; increased wildlife isolation, decreased mobility to adjacent open space, changes to water quality and air quality. We suggest these impacts be addressed in the urban development discussions. Again, participating in open discussions with neighboring partners during local planning processes will help these impacts to be universally understood and potentially offset.	**2-13.** Urban growth and development was identified in the DEIS and FEIS as a reasonably foreseeable activity. Much of the land surrounding the Refuge is open space and will not host any urban growth and development (see Figure 11). The FEIS was revised to include additional projections of regional urban growth near the Refuge, based on DRCOG projections. Additional analysis of the potential impacts of regional urban growth is included in the cumulative impact sections of Chapter 4.
	2	

Comment #	Letter #4	Response
2-14	*Gravel Mining Operations* • Please disclose to what extent the existing and permitted mining operations could adversely affect the hydrology at the NWR. If the hydrology in connected aquatic systems is subsequently altered through vegetated but persistent 30-40 feet deep mining depressions, this would adversely affect FWS's restoration of portions of the watershed and associated Endangered Species habitat.	**2-14.** Section 2.10 – *Reasonably Foreseeable Activities* has been revised to include a discussion of mining impacts to groundwater based on information in the existing mining permits. The cumulative effects discussions in Chapter 4 for water resources, vegetation communities, wildlife, and threatened and endangered species have also been revised to include an additional discussion of the potential impacts of gravel mining on these resources.
2-15	Seamless Property • The EIS (p.1; s.4) refers to the concept of "seamless property" as being important to the function of the Refuge. EPA strongly supports the concept of seamless property management, a goal which is also reflected in the Rocky Flats National Wildlife Refuge Act of 2001, Section 3172 (a) (4): "The national interest requires that the ongoing cleanup and closure of the ***entire site*** be completed safely, effectively, and without unnecessary delay and that the site thereafter be retained by the United States and ***managed so as to preserve the value of the site for open space and wildlife habitat*** (***emphasis added***). The EIS should clearly identify the intention to establish a seamless property, and indicate that FWS will work with DOE to create property boundaries that meet the management goals (when feasible), as intended by the Act. 3	**2-15.** See response to comment 2-10.

Comment #	Letter #3	Response
	STATE OF COLORADO Bill Owens, Governor Douglas H. Benevento, Executive Director Dedicated to protecting and improving the health and environment of the people of Colorado 4300 Cherry Creek Dr. S. Denver, Colorado 80246-1530 Phone (303) 692-2000 TDD Line (303) 691-7700 Located in Glendale, Colorado http://www.cdphe.state.co.us Laboratory Services Division 8100 Lowry Blvd. Denver, Colorado 80230-6928 (303) 692-3090 Colorado Department of Public Health and Environment RECEIVED APR 27 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 23, 2004 Ms. Laurie Shannon U.S. Fish and Wildlife Service Rocky Flats National Wildlife Refuge Comprehensive Conservation Plan Building 121 Commerce City, CO 80022 RE: Rocky Flats National Wildlife Refuge Draft Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) Dear Ms. Shannon: 3-1 The Colorado Department of Public Health and Environment (CDPHE) has reviewed the Draft Rocky Flats CCP and EIS. Department representatives have also attended CCP/EIS public agency scoping meetings and workshops that were hosted by FWS, and have participated in discussions along with FWS concerning the CCP/EIS process and Draft with the Rocky Flats Citizens Advisory Board and Rocky Flats Coalition of Local Governments. 3-2 Final cleanup decisions related to Rocky Flats will be determined after completion of the Comprehensive Risk Assessment, which will lead to the Remedial Investigation/Feasibility Study (RI/FS) and ultimately the Corrective Action Decision/Record of Decision (CAD/ROD). The ultimate determination on the precise boundaries between lands transferred to FWS to become part of the Refuge and lands retained by DOE, and the physical and institutional controls required to protect the cleanup remedy (including any needed fencing) will be made at the time of the CAD/ROD. DOE will retain under their jurisdiction the current Industrial Area, the Buffer Zone retention ponds, ground water treatment systems, the two existing landfills, and the area of surface plutonium contamination located east of the 903 Pad with contamination levels above approximately 7 picocuries per gram. These lands will not become part of the Refuge, and will not be available for public access. The soil and water action levels that are being used to conduct the cleanup work currently underway at the site are deemed to be protective to the maximum exposed individual who is anticipated to be present	**3-1.** Thank you for your participation in the CCP process. **3-2.** The Service acknowledges that final cleanup decisions have not yet been determined, and that prior to Refuge establishment, remaining contaminant concentrations will be protective of Refuge visitors, workers, the general public, and wildlife.

Comment #	Letter #3 continued	Response
	on site, the wildlife refuge worker. Accordingly, CDPHE anticipates that the final remedy for Rocky Flats will be protective to both refuge workers and members of the public for all four refuge alternatives as described in the Draft CCP/EIS. Sincerely, Steven H. Gunderson Rocky Flats Project Coordinator	

Comment #	Letter #4	Response
	STATE OF COLORADO Bill Owens, Governor DEPARTMENT OF NATURAL RESOURCES **DIVISION OF WILDLIFE** AN EQUAL OPPORTUNITY EMPLOYER Bruce McCloskey, Acting Director 6060 Broadway Denver, Colorado 80216 Telephone: (303) 297-1192 RECEIVED APR 19 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR COLORADO DIVISION OF WILDLIFE *For Wildlife- For People* April 14, 2004 Laurie Shannon U.S. Fish and Wildlife Service Rocky Mountain Arsenal NWR Commerce City, Colorado 80022 Dear Ms. Shannon, 4-1 Thank you for the additional opportunity to review the DRAFT Comprehensive Conservation Plan and Environmental Impact Statement for Rocky Flats National Wildlife Refuge and to submit written comments regarding the proposed management alternatives. As expressed in our first letter, the Colorado Division of Wildlife supports the U.S. Fish and Wildlife Service (USFWS) in their selection of "Alternative B" - as described in the as the preferred management alternative. 4-2 In addition, we want to articulate our support for the language in the most recent DRAFT in which the USFWS recognizes the potential to expand hunting opportunities beyond the initial youth and disabled hunt program. Minimizing the restrictions on wildlife management tools will allow our agencies the flexibility needed to respond to future resource conditions and to wildlife recreation demands. 4-3 As previously expressed in our first comment letter and also in public meetings, we believe the management strategy described in "Alternative B" promotes wildlife and habitat conservation while allowing compatible wildlife related recreation and educational uses. Specific aspects of "Alternative B" in which CDOW maintains particular interest include, but are not limited to: conservation and restoration of native plant communities and wildlife habitat; continued management of noxious weeds; evaluation of the suitability of native wildlife species re-introduction; and plans to provide opportunities for hunting, wildlife viewing recreation, education and wildlife-related research. The CDOW remains dedicated to working in partnership with the USFWS in planning for the future resource management on the refuge. We also look forward to continuing this cooperative effort once a management alternative is in place. Respectfully yours, John Smeltzer Public Services Administrator cc: Scott Hoover, Jim Guthrie; Eliza Moore; Eric Odell; Aaron Linstrom; Sherri Huwer; Michael Wedermyer DEPARTMENT OF NATURAL RESOURCES, Russell George, Executive Director WILDLIFE COMMISSION, Philip James, Chair • Jeffrey Crawford, Vice-Chair • Brad Phelps, Secretary Members, Bernard Black • Tom Burke • Rick Enstrom • Claire O'Neal • Robert Shoemaker • Ken Torres Ex Officio Members, Russell George and Don Ament	**4-1.** Thank you for your comment. **4-2.** The Service acknowledges the flexibility that would be gained by allowing the expansion of the public hunting program, if it is warranted by future resource conditions. To that end, the Service has added language to Objectives 1.6 (*Deer and Elk Management*) and 2.10 (*Hunting Program*) to better relate the proposed hunting programs to future evaluations of target populations and habitat conditions. **4-3.** Thank you for your comment. The Service appreciates the continued interest and involvement of the Colorado Division of Wildlife in the CCP/EIS process looks forward to a cooperative relationship during the future management of the Refuge.

Comment #	Letter #5	Response

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION
Region 6

2000 South Holly Street
Denver, Colorado 80222
(303) 757-9385

RECEIVED
APR 19 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

DATE: April 12, 2004

TO: Laurie Shannon, USFWS

FROM: Steve Sherman, Northwest Corridor EIS Environmental Manager

SUBJECT: Comments on Rocky Flats National Wildlife Refuge EIS

Dear ~~Ms. Shannon~~, LAURIE

5-1 Thank you for the opportunity to review the EIS for the Rocky Flats Wildlife Refuge and discuss my comments at the agency workshop on March 4. I circulated the EIS to others in CDOT but received no other comments, so the ones I mentioned at the workshop will be the extent of CDOT comments.

5-2 To reiterate the comment most important to us: On page 67-68 and perhaps elsewhere, The Northwest Corridor Transportation Study is mentioned by name and shown on the map on Page 68. It has always been our understanding that transportation-related Reasonably Foreseeable Activities are those that are already included in the DRCOG Regional Transportation Plan. The Northwest Corridor (NWC) EIS is in early stages of development and is not in the Plan; therefore it would be our preference for the specifics of the NWC EIS study to be removed from this Rocky Flats EIS. Impacts that a general transportation facility may have to the ROW on the east side of Rocky Flats does require analysis, as has been done, but it is much too early in the process to assume Northwest Corridor utilization of this ROW. For this reason, please definitely remove any lines on a map or such inferences regarding potential NWC alignments. For example the last sentence of the fourth paragraph stating, "the transfer would be designed to help meet the transportation needs of the northwest corridor," should be stricken.

5-3 My additional comments are related to my experience in expectations of NEPA documentation. Primarily, I was surprised to find very little discussion of hazardous materials/waste in the document. I understand the reluctance to fully address the entire history and all aspects of hazardous materials/waste of the Rocky Flats site within this EIS and I don't think that is necessary, but it is my clear understanding that a NEPA document must address the impacts of the defined action to the existing environment. In other words, Refuge actions to the area under its purview such as mowing, site visits, fires, erosion, and etc. should be addressed in the document. It is my understanding that remediation work is complete in all areas to become part of the Refuge. What does it mean that remediation is complete? What are the residual levels of contamination? Will future Refuge actions cause risk to users or workers of the facility as well as off site receptors? I believe most of these questions have been asked of the regulatory agencies and answered satisfactorily, so why not document these conclusions in the document. As a direct impact to the existing environment, it seems necessary.

5-4 One additional comment is regarding Table 10, Impact threshold definitions. Maybe I missed where these "negligible, minor, moderate, and major" definitions were used, but if they weren't they seem extraneous.

Thank you , and we look forward to continuing discussions.

Sincerely,

Steve Sherman, PE

CC: Project File

5-1. Thank you for your comments.

5-2. The Service believes some transportation improvements in the area surrounding Rocky Flats is a reasonably foreseeable activity, but the location of any particular transportation improvement, such as along the east edge of the Refuge, is speculative and not reasonably foreseeable. In the FEIS, Figure 9 was revised and does not show any particular alignment.

The Refuge Act directs the Service to address and make recommendations for the identification of any land that DOE could make available for transportation improvements. The FEIS was revised to include a new Section 4.16 that discusses potential Refuge lands within a corridor immediately west of Indiana Street up to 300 feet wide. The new section also describes recommended mitigation measures that would minimize adverse impacts to the Refuge related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.

5-3. Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies that DOE has completed cleanup and closure. The FEIS was revised to provide additional information about the steps to becoming a refuge, existing plutonium concentrations, and projected plutonium concentrations after cleanup.

5-4. Descriptions of impact thresholds (negligible, minor, moderate, and major) are used throughout Chapter 4 of the EIS to describe the magnitude of anticipated impacts.

Comment #	Letter #6	Response

STATE OF COLORADO

DEPARTMENT OF AGRICULTURE
Noxious Weed Management Program

700 Kipling Street, Suite 4000
Lakewood, Colorado 80215-8000
(303) 239-4182
FAX (303) 239-4177

Bill Owens
Governor

Don Ament
Commissioner

Greg Yando
Deputy Commissioner

RECEIVED
APR 26 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

April 26, 2004

Rocky Flats NWR CCP
Laurie Shannon, Planning Team Leader
USFWS
Rocky Mountain Arsenal – Bldg 121
Commerce City CO 80022

Dear Ms. Shannon,

6-1 On behalf of the State of Colorado, I am pleased to provide these comments with regard to the noxious weed management issues raised in the Draft CCP/EIS for Rocky Flats National Wildlife Refuge. The Draft adequately addresses the need for noxious weed management in order to protect and maintain the diverse native plant communities and the wildlife that they sustain. However, there are several substantive comments that must be made and I request that they be addressed during the preparation of the Final EIS:

6-2 1. The Colorado Noxious Weed Act (C.R.S. 35-5.5) stresses the application of integrated pest management on all lands of the State to achieve state and local noxious weed management objectives. By this criterion, the State prefers Alternatives B and C because they emphasize the fullest use of a wide range of biological, chemical, cultural, and mechanical techniques to control the spread and impact of noxious weeds. However, since these two alternatives are virtually identical with respect to the use of IPM (pp.74-75) at the refuge, neither one is more preferred than the other.

6-3 2. The Draft devotes little discussion to how weed management priorities will be established. Given the recent changes to the Colorado Noxious Weed Act and the adoption of new permanent rules pertaining to the administration and enforcement of this statute (8 CCR 1203-19), I request that you consider how Rocky Flat's weed management program can explicitly complement the state's recent and future efforts to set regional watershed and statewide management priorities. Colorado's Noxious Weed Act was revised in 2003 by the Colorado General Assembly to provide a legal framework by which the state can implement

6-1. Thank you for your comment.

6-2. The Service's Proposed Action (Alternative B) proposes integrated pest management as the best approach to control the establishment and spread of noxious weeds.

6-3. Objective 1.5 – *Weed Management* has been revised to more specifically identify weed management priorities, and to achieve consistency with recent changes to the Colorado Noxious Weed Act. Weed management would be addressed more specifically in a step-down Integrated Pest Management Plan, which would be provided to the Department of Agriculture for review and comment.

Comment #	Letter #6 continued	Response
	Colorado's strategic plan to stop the spread of noxious weeds, a plan endorsed by USFWS in 2001. New rules (enclosed) require the statewide eradication of a number of rare noxious weeds (List A) and identify a number of more well-established weed species for which the State will develop statewide management plans to stop their continued spread (List B). I hope that the invasive plant management plan ultimately adopted by Rocky Flats will facilitate complementary actions to those of local, regional, and state management efforts. It should specifically include consideration of state weed management priorities when determining how, when, and where to control invasive plants in the Refuge.	
6-4	3. While Alternatives B and C put an extraordinarily high value and allocation of resources to the management of fire on the Refuge (3 FTE), too few resources (particularly staff) are dedicated to the management of noxious weeds and native plant communities. Given the current condition of the native and non-native plant communities at Rocky Flats, only Alternative C approaches an adequate allocation of FTE (pg. 243) to manage noxious weeds and restore native plant communities. While I believe that the Draft does appropriately address the need for noxious weed management and sets out some suitable management objectives, the Service will fall short of attaining its plant community and habitat goals unless vegetation management is staffed more adequately. I strongly recommend increasing the FTE allocation in Alternative B to correspond with that of Alternative C. To achieve basic plant community objectives and manage noxious weeds at an acceptable level, the Refuge will need the attention of a full time biologist (although other duties such as wildlife management will also occupy this person's attention), a full time noxious weed/vegetation management professional, and a six-eight month seasonal. This is all the more important if the Service anticipates fire, natural or prescribed, to occur with any frequency, at the Refuge because fire will stimulate the germination and establishment of noxious weeds already present in the seed bank.	**6-4.** The Service believes that the proposed staffing will be sufficient to comply with weed laws and implement the objectives. Staff from the Rocky Mountain Arsenal NWR can supplement weed management and restoration efforts at Rocky Flats, and fire management staffing at Rocky Flats are funded separately from Refuge management.
	In addition to the substantive comments made above, I submit the following suggestions/corrections:	
6-5	Pg 12, last paragraph – there are opportunities for scientific research regarding native and non-native plant communities and the management of noxious weeds. CU and CSU would welcome the opportunity to collaborate.	**6-5.** The Service welcomes opportunities to partner with CU, CSU and other universities regarding research on noxious weeds or other topics. Such partnerships are envisioned as part of the Proposed Action's "working with others" objective (Objective 5.3).
6-6	Pg 31, Weed Management section – goats and cattle can be used to graze noxious weeds as part of an IPM program. Do not emphasize goats over cattle. The prescription should be site specific, not livestock specific.	**6-6.** The weed management objective has been revised to ensure that there is adequate flexibility in applying managed grazing to site-specific conditions.
6-7	Pg 35, Alternative B first paragraph – relating success to cover is a broad measure at best that is not very helpful in achieving more healthy native plant communities that are resistant to invasion. I recommend setting the following goals: prevent the introduction of new noxious weeds to the Refuge, eradicate weed species with small populations, stop the spread of more well established species within the Refuge, and restore native plant communities of significant environmental value.	**6-7.** The Service believes that the species composition targets for the xeric tallgrass community are appropriate, because they can be based upon existing studies of that community.
6-8	Pg 38, Obj 1.5 first sentence – strike "generally." They are always non-native by definition.	**6-8.** The background for Objective 1.5 was revised to indicate noxious weeds are nonnative plant species.

Comment #	Letter #6 continued	Response
6-9	Pg 39, first paragraph – controlled grazing by either goats or cattle is a biological or cultural tool that can be used for weed management purposes. In the next paragraph, I would strike field bindweed. I don't believe it is a serious threat to the grasslands. However, both species of teasel are threats to wetlands in this area.	**6-9.** The Service has found that field bindweed is encroaching in disturbed areas throughout Rocky Flats, and teasel is currently not a problem.
6-10	Pg 39, Alternative B first paragraph – Change "limit and control" to "prevent." 1.5.6 – take out goats	**6-10.** While the Service agrees with the philosophical goal of preventing any new weed infestations, the current terminology is more achievable, which is one of the criteria for developing objectives.
6-11	Pg 65, table – check the numbers in the Restoration and Implementation column – something is not quite right I suspect.	**6-11.** The cost figures for Restoration and Implementation do not include staff labor, which reduces the overall budget of that program. Staffing costs are included in Annual Operations.
6-12	Pg 103, Noxious Weeds – St. Johnswort is no longer in a position to threaten native plant communities at the Refuge due to the enormous success of biological controls. Instead, cheatgrass and perhaps jointed goatgrass should be added as prime threats to the native plant communities. Also, sulfur cinquefoil is a new invader to the area and may have already built up substantial populations at the Refuge.	**6-12.** The FEIS was revised to reflect these recommendations.
6-13	Pg 199, Organizations – Dr. George Beck should be moved to page 198 under the Federal, State and Local Agencies section. For some reason, you have listed me as Colorado Native Plant Society. When I participated in the October 2002 Focus Group for Vegetation Management I did so as the state weed coordinator. Please list my affiliation as the Colorado Department of Agriculture and move me to page 197. Also, Len Ackland and Tim Seastadt should be moved to the same section as they are affiliated with the University of Colorado, a state agency of higher education.	**6-13.** The FEIS was revised to reflect these recommendations.
6-14	Pg 233 – You are missing Executive Order 13112, Invasive Species (1999).	**6-14.** Executive Order 13112, Invasive Species has been added to the list of relevant laws and executive orders.
6-15	Pg 250 – At the time of printing, this list was incomplete with respect to designations of state noxious weeds. The list has changed more recently (see enclosed). Please recheck any species marked with an "*" to make sure it is still designated a noxious weed. Also, a number of species were not originally marked including oxeye daisy, houndstongue, and bouncingbet.	**6-15.** The FEIS was revised to reflect these recommendations.
6-16	Lastly, you should note that the picture used for the front cover of the Draft has Dalmatian toadflax in the background (it's the yellow stuff – check under the "&").	**6-16.** The Service is aware that the cover to the Draft CCP/EIS shows Dalmatian toadflax, which is found throughout the site. The cover of the Final CCP/EIS has been changed because it is a different document.
6-17	If you have any questions regarding the three substantive comments provided above, please contact me at 303-239-4182 or eric.lane@ag.state.co.us. I appreciate the seriousness with which noxious weeds are recognized as a threat to the native plant communities and wildlife of the Refuge and I appreciate the opportunity to share my concerns with you. Sincerely, Eric M Lane Eric Lane State Weed Coordinator	**6-17.** Thank you for you comments.

Comment #	Letter #7	Response
		7-1. Thank you for your comments. **7-2.** The Service appreciates the RFCLOG's participation in the CCP process. **7-3.** Thank you for your comments.

Rocky Flats Coalition of Local Governments

Boulder County City and County of Broomfield Jefferson County
City of Arvada City of Boulder City of Westminster Town of Superior

8461 Turnpike Drive, Suite 205
Westminster, CO 80031

(303) 412-1200
(303) 412-1211 (f)
www.rfclog.org

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APR 9 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

April 5, 2004

Ms. Laurie Shannon
Planning Team Leader
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal NWR, Building 121
Commerce City, CO 80022

Dear Ms. Shannon,

7-1 On behalf of the Board of Directors of the Rocky Flats Coalition of Local Governments, we are submitting the following comments on the Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) for the Rocky Flats National Wildlife Refuge. Because elements of these comments are beyond the scope of the CCP/EIS, we have copied the Department of Energy, Colorado Department of Public Health and the Environment, and the United States Environmental Protection Agency.

7-2 After months of intensive conversation amongst the Coalition governments and with USFWS, it is clear that the Coalition, as an organization, does not support one alternative over another. Our comments instead focus on overriding principles and values that are central to the management of the refuge. The individual governments will continue to work with the USFWS on the details of the proposed options, including the preferred alternative.

The Coalition thus offers the following comments.

1. *Support for the Refuge*

The Coalition reiterates its support for the Rocky Flats National Wildlife Refuge. As the Coalition stated in an *Arvada Sentinel* op-ed in June 2001:

7-3

> The [refuge] bill would accomplish a number of the Coalition's key cleanup and future use goals. Most importantly, it would protect the land for future generations by mandating the site be managed as a national wildlife refuge, while ensuring that the cleanup protects human health and the environment. Additionally, this designation would prohibit future development of Rocky Flats and annexation of the property by any local government. The legislation would also require on-going federal ownership of the site, an integral component of a comprehensive long-term site stewardship program, and also ensure that cleanup is completed prior to the U.S. Fish and Wildlife Service assuming management of Rocky Flats.

Comment #	Letter #7 continued	Response
	While the seven Coalition governments may disagree on elements of the proposed management plan, this disagreement should not be interpreted as suggesting a lack of support for the refuge. The principles articulated in the op-ed hold true.	
7-4	2. *Limit Access to DOE Retained Lands* The Coalition remains concerned that USFWS is proposing to allow access to the refuge without defining how the federal government (either USFWS or DOE) will restrict access to DOE retained lands. It is our understanding that the vast majority of the groundwater monitoring wells, settling ponds, caps, surface water monitoring stations, and other controls designed to implement and protect the remedies will remain under DOE's jurisdiction. These lands, we understand, will be off-limits to refuge visitors. It remains imperative that USFWS and DOE decide how access to these lands will be restricted prior to opening up the refuge for visitors. We recognize there are various mechanisms that can be employed, and that the respective roles of DOE and USFWS in restricting access to the entire Site and to the DOE retained lands must still be decided. Regardless of the legal mechanism(s) that USFWS and DOE ultimately adopt (including but not limited to the past-due congressionally mandated MOU between DOE and the Department of the Interior), USFWS must clearly acknowledge in the CCP/EIS that implementation of the visitor plan is contingent on resolution of this issue.	**7-4.** The final configuration of the DOE retained area, as well as the nature of any fencing or structures demarcating its boundary within the Refuge, will be decided by the RFCA parties. The Service will continue to provide input to the RFCA parties. Section 1.8 of the FEIS was revised to indicate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks with appropriate signage would best demarcate the DOE retained area, keep any livestock out of the DOE retained area, and indicate the DOE lands would be closed to public access. The Service has provided these recommendations to the RFCA parties.
7-5	3. *Additional Analysis Needs to Be Completed* The Coalition understands that DOE, CDPHE, and EPA believe additional sampling of the buffer zone must be completed prior to the closure of Rocky Flats and transfer of jurisdiction of lands to USFWS. The Coalition believes this sampling is essential for a number of reasons, including but not limited to confirming that residual levels of contamination on the lands to be transferred to USFWS are protective of refuge workers and thus of visitors. Additionally, we believe ongoing post-closure monitoring must be conducted in the buffer zone to verify the ongoing safety of these lands. While we understand this sampling requirement is driven by the Rocky Flats Cleanup Agreement (RFCA) and not the CCP/EIS, we believe that USFWS must take this information into account in the CCP/EIS when finalizing decisions about public access to the refuge. Please note, though, that the Coalition remains steadfastly committed to the provision in "The Rocky Flats National Wildlife Refuge Act of 2001" that vests authority for certifying whether Rocky Flats meets regulatory standards and is thus protective in the EPA and not in the USFWS. We believe, as we posited during the drafting of the refuge bill, that the determination as to what is protective is not, as both a matter of science and public policy, the domain of the USFWS. That said, public policy also suggests that USFWS remain engaged on this certification analysis and the potential impacts on the refuge planning process.	**7-5.** The Service will continue to provide input to the RFCA parties regarding cleanup issues, and support the need for ongoing monitoring of the buffer zone by the DOE to ensure the effectiveness of the cleanup and the safety of Refuge visitors. The additional sampling of the buffer zone is completed. The FEIS was revised to provide additional information about the steps to becoming a refuge, existing plutonium concentrations, and projected plutonium concentrations after cleanup.
7-6	4. *A Protective Cleanup* Recently, a segment of the community has been arguing that any level of radioactive contamination above background is dangerous, and thus USFWS should, from a human health and safety perspective, prohibit all access to the refuge. Provided that the aforementioned additional sampling confirms that the lands transferred to USFWS contain levels of residual contamination that are protective of refuge workers and visitors, we reject this argument. 2	**7-6.** The Service is assured the EPA will require DOE to complete a cleanup that is protective of a Refuge worker and visitors before certifying the site in accordance with the Refuge Act.

Comment #	Letter #7 continued	Response
7-7	The Rocky Flats Soil Action Level Oversight Panel's review of cleanup levels at Rocky Flats concluded that lands contaminated with up to 80pCi/g of plutonium would be protective of a resident rancher that lived on the most contaminated parts of Rocky Flats, grew all their vegetables at the site, received all of their drinking water from the site, and also grazed their livestock at the site. This Panel included, among others, local government representatives and the Rocky Mountain Peace and Justice Center. Following that study, an intensive review of cleanup levels determined that lands contaminated with up to 50pCi/g of plutonium would be protective of a refuge worker. This scenario presumes that the refuge worker spends 50 weeks a year, 40 hours per week at the most contaminated portion of the site. It is our understanding that lands which include contamination >7pCi/g of plutonium will be retained by DOE – and that these lands, as discussed above, will be off limits to refuge visitors. Based on the aforementioned studies, to suggest that the lands to be transferred will be dangerous to the community if the RFCA standard is met belies sound science and sound public policy. The Coalition remains committed to ensuring that the cleanup is protective of human health and the environment. We understand this latter point is well beyond the bounds of the CCP/EIS but, given the nature of the current public dialogue, we felt it important to reiterate our position on this critical cleanup issue. Thank you for your consideration of these issues. We trust that although some of these issues are beyond the bounds of the CCP/EIS, we will continue to dialogue about them with the USFWS in the appropriate forum. Sincerely, Karen Imbierowicz Chair David M. Abelson Executive Director Cc: Frazer Lockhart, DOE Doug Benevento, CDPHE Max Dodson, EPA Senator Wayne Allard Representative Mark Udall Representative Bob Beauprez 3	**7-7.** Thank you for your comments.

Comment #	Letter #8	Response
8-1	CITY OF ARVADA MAYOR AND CITY COUNCIL FACSIMILE: 720-898-7515 ▲ TDD: 720-898-7869 PHONE: 720-898-7500 April 26, 2004 Via Fax: 303-289-0579 RECEIVED APR 27 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Ms. Laurie Shannon Planning Team Leader U.S. Fish and Wildlife Service Rocky Mountain Arsenal NWR, Bldg. 121 Commerce City, CO 80022 **RE: Comments on the Draft CCP EIS for the Rocky Flats National Wildlife Refuge** Dear Ms. Shannon: On behalf of the Arvada City Council, we would like to thank you for this opportunity to comment on the Draft Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) for the Rocky Flats National Wildlife Refuge. Since this process started nearly two years ago, the City has continued to appreciate the hard work of you, Dean Rundle and the entire Fish and Wildlife Service team. We especially appreciate your willingness to openly invite comment and to engage the public on the sometimes contentious subject of the future of Rocky Flats. First, let us state that the City, as stated previously in our June 18, 2003 letter, supports the Proposed Action, Alternative B. Although we support Alternative B, there are a number of issues that we feel compelled to comment on within the Draft. Below please find both general statements regarding the Proposed Action and specific comments about Alternative B and the draft document. **Comments on Alternative B:** With consideration of the Planning Goals of the Refuge, the public input, and the requirements of a National Wildlife Refuge, Alternative B offers the most appropriate balance between the conservation of wildlife and their habitat while allowing some wildlife-dependent public use. **Ecology and Environmental Management:** The ecology and environmental management plans presented in Alternative B implement the extensive habitat and wildlife management that is expected of a refuge. Especially important is the broad range of habitat restoration tools and commitment to a broad range of methods to manage and protect wildlife on the site. It is imperative that the USFWS keep all options available for habitat restoration and wildlife management and implement a full range of strategies throughout the Refuge. P.O. BOX 8101 ▲ 8101 RALSTON ROAD ▲ ARVADA, COLORADO ▲ 80001-8101	**8-1.** Thank you for your comments. The Service believes the Proposed Action would best balance habitat restoration and wildlife management with public use in accordance with the Refuge Act, the National Wildlife Refuge System Improvement Act, and Service's policies.

Comment #	Letter #8 continued	Response
	Although the City supports the ecology and management plan presented in Alternative B, we feel the plan can be strengthened in several areas:	
8-2	1. Weed Management: Additional emphasis should be placed on the aggressive management of noxious, non-native weeds on the site. The plan to use Integrated Pest Management (IPM) practices is crucial. With the proliferation of noxious weeds at the Refuge, it is imperative that all weed removal options be available to USFWS. The City is in agreement that this should include the use of herbicides, biological controls, mechanical removal, prescribed fire, and controlled grazing. As noted in the Draft CCP/EIS, the lack of prescribed fire has resulted in the fact that, *"a fuel load of dead vegetation has been building up in the grasslands of Rocky Flats for at least 30 years. This buildup has contributed to an invasion of noxious weeds on site…"*	**8-2.** Alternative B, the Service's Proposed Action, would provide a full range of weed management tools through an Integrated Pest Management approach. The Service agrees that while highly aggressive weed management is needed, the level of weed management in Alternative B would be reasonable, given funding constraints and other priorities.
8-3	2. Prairie Dogs: The City suggests that USFWS reexamine the 750 acres devoted to prairie dogs in Alternative B. The Alternative C limit of 500 acres appears more sustainable and increases the odds of a healthy population that will continue to contribute to the area ecology. The 500 acres is still an enormous increase of colonization over historic population on the site and will contribute to the Refuge as a whole.	**8-3.** The Service acknowledges that a limit of either 500 or 750 acres of prairie dog colonies would be an increase over the current extent (10 acres) of existing populations. Prairie dogs a native grassland species, and the Service has an obligation to manage the species on the Refuge. The Service believes that a maximum threshold of 750 acres of prairie dog colonies is still within the limits of what the Service could effectively manage and what would be sustainable.
8-4	3. Natural Habitat Management: The City supports USFWS' plan for wildlife habitat management. However, it is important that USFWS acknowledge that when the infrastructure and buildings of the Industrial Area are gone and the area revegetated, there may be significant changes in surface water levels and drainage on various parts of the Refuge. These changes may impact riparian and Preble's areas. The City is not in favor of artificially maintaining these areas through the importation of water and feel that it should be stated in the CCP/EIS that this would not be an option considered by the USFWS.	**8-4.** Future hydrologic conditions are discussed in the DEIS and FEIS under section 3.3, *Water Resources*. DOE has initiated informal consultation with the Service to minimize impacts on the Preble's from hydrologic changes of site closure. The Refuge Act protects existing property rights on the Refuge, including water rights and ditches. The Service does not plan on expanding riparian habitat areas, but will instead focus on protecting what is currently there.
8-5	**Public Use:** Creating an accessible, open wildlife refuge has always been an issue of primary concern to Arvada. The City has continued to advocate for direct access to the Refuge via the Arvada trail system, and the trail systems within the surrounding communities. It is gratifying that the park and open space work of the surrounding communities has been incorporated into the planning of Alternative B to allow these trail connections. The City commends the USFWS commitment to working with the surrounding communities on this issue. The City feels that the overall public use plan is reasonable for Alternative B and within the spirit of the Refuge System. In fact, the public uses proposed in Alternative B are minimal in relation to the over 5,000-acre size of the refuge and the location adjacent to a large urban area. There are three issues that the City would like to see changed in the Public Use portion of Alternative B.	**8-5.** The Service believes the Proposed Action would best balance habitat restoration and wildlife management with public use and future funding.
8-6	1. Trails: Although great strides have been made to improve the proposed trail system from the first draft of the alternative plans, the City still strongly believes that the trail system in the southern portion of the Refuge is inadequate. In our June 18, 2003 letter, we discussed the need for loop trails and additional trails in	**8-6.** The Service believes that the level of public use proposed in Alternative B would be appropriate for the size and purposes of the Refuge. In response to these and other comments, Alternative B has been revised to include another off-site trail connection to the southwest that will enable the City of Arvada to complete a trail loop along Big Dry Creek south of the Refuge. In addition, the alignment of the southern multi-use trail has been changed to diversify and improve the trail experience for visitors and complement future connections to other jurisdictions. The Service believes that any significant additions beyond those just described would no longer strike an appropriate balance between public use and habitat management, and would increase trail maintenance costs.

Comment #	Letter #8 continued	Response
	the southern area abutting Arvada. We proposed that two additional foot trails be added to the area in conjunction with the multi-purpose perimeter trail proposed at the time. However, as currently proposed, Alternative B eliminates the perimeter multi-use trail west of the Arvada trail connection and creates one loop connection to the east. The single loop connection is positive, but it loses much of its appeal without the continuation of the perimeter trail. The City strongly advocates the reintroduction of the perimeter trail as originally shown west of the Arvada trail connection. This trail can follow the existing road along the south and west perimeter of the Refuge. Not only would this trail enhance the experience of users in the southern portion of the Refuge, it would do so with minimal impact and create better connectivity within the Refuge, especially to the Contact Station and Lindsay Ranch. It is reasonable to deduce that, if the planned development immediately to the south of the Refuge occurs, there will be high demand for more than just the trail proposed. The addition of the perimeter trail would spread visitor impact, enhance visitor experience and decrease the potential for creation of informal "social" trails in delicate habitat.	
8-7	2. Equestrian Use: The City of Arvada supports the allowance of equestrian uses within the Refuge. As Alternative B is now written, equestrian uses would only be allowed in the southern portion of the Refuge. The City supports equestrian uses on all multiple use trails within the Refuge, not only the southern portion. Equestrian use is an accepted form of transportation within the Refuge system for the purposes of wildlife observation and, as stated in the Compatibility Determination of the Draft CCP/EIS, *"disturbance resulting from trail use is anticipated to be biologically insignificant."*	**8-7.** Equestrian access was not widely supported by the public comments, and raises issues about potential ecological impacts. For these reasons, the Service's limitation of equestrian access in Alternative B is intended to provide a separation of uses and to be conservative with regard to ecological impacts.
8-8	3. Phasing of Development: The City appreciates the fifteen-year timeline that the USFWS has to implement a management plan for the Refuge. It is, however, important to work with the surrounding communities to most quickly open sections of the Refuge to the public. The Refuge will be a long-anticipated regional asset by the time USFWS takes over and we feel it would be easy and beneficial to open at least a portion of the Refuge almost immediately. We strongly encourage USFWS to open more than just a trail to the Lindsay Ranch within the first five years. Based on the planned use of existing roads and the lack of sound environmental contaminant concerns in the areas slated for public access, there is little reason why access could not be granted very quickly in some areas. At a minimum, USFWS should reduce the timeline from 5-7 years to 3-5 years for the completion of 75% of trails. In addition, if a surrounding community is prepared to create a link to the Refuge within the first five years, USFWS should work with them to create that link and increase access to the Refuge.	**8-8.** Due to the level of disturbance to the site, a limited budget for Refuge management, and public concerns about access to the Refuge, the public use implementation plan of Alternative B was not changed. By focusing staffing and budgetary resources on habitat restoration in the first 5 years, the Service would be able to reduce the severity of noxious weed infestations, and initiate road restoration before public trail use would begin.
	Additional Issues: Below are a number of additional comments related to individual issues raised by the Draft CCP/EIS.	

Comment #	Letter #8 continued	Response
8-9	Environmental Concerns: The City will always have concern regarding environmental issues within the Department of Energy retained lands. At the same time, we feel that the areas proposed for public access in Alternative B are more than protective for the activity of refuge workers and visitors. In fact, it should be noted that the City is aware of no credible data related to contamination that would not support the use of the Refuge in the manner proposed. Based on the standards being implemented in the clean up of Rocky Flats and the lands to be retained by DOE, for any party to suggest that the Refuge will be unsafe is irresponsible and unfounded.	**8-9.** Thank you for your comment. Note that an expanded discussion of cleanup related issues is included in Sections 1.8, 3.2, and 4.2.
8-10	That being said, the City urges USFWS to resolve all outstanding issues related to access to DOE retained lands. It is our understanding that the actual methods of limiting access and instituting controls to restricted areas have not been determined at this time. The City does not support one particular method of control over any other, but rather, believes that a number of controls with varying degrees of restrictiveness will be necessary depending upon the type and location of each area requiring restricted access. However, the City does agree with and support the statement in the Draft CCP/EIS that it is the goal of both the USFWS and DOE, *"that Rocky Flats will be a seamless property, to the extent possible, with no or few obvious visual differences between Refuge and retained lands."*	**8-10.** In the DEIS, the Service recommended that the demarcation of the DOE retained area be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. Section 1.8 of the FEIS was revised to indicate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands would be closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.
8-11	Transportation Right-of-Way: Generally, the City's position as stated in the letter of June 18, 2003, is unchanged with regard to USFWS' inclusion of the potential transportation right-of-way within the Draft CCP/EIS. The City continues to support USFWS studying the transportation corridor as it relates to the management of the Refuge. However, the City is extremely disappointed in the manner in which USFWS has chosen to study the right-of-way. It has always been our position that whatever the impact to the refuge, it will be most notable if the entire 300 feet of right-of-way is used for transportation and therefore, the entire 300 feet of right-of-way should be studied by USFWS. It only makes sense that if the actual roadway width is less, the impact to the operations and management of the Refuge can only be less. Instead of studying the 300 feet of right-of-way as listed in the Rocky Flats Wildlife Refuge Act, USFWS has arbitrarily divided the right-of-way and studied the impacts of various widths. The numbers used and the assumptions made by USFWS in their division of the potential right-of-way are not based on any fact related to the actual transportation corridor. The legislation only says *"up to 300 feet,"* which means any number between 0 and 300, not 50, 125, or 300. The City is aware of no predetermination by the Colorado Department of Transportation that concludes only those three widths are available. Nor is the City aware of a predetermined route that would require the entire length of the Indiana right-of-way to be used for the potential transportation corridor. Yet, throughout the Draft those misleading and incorrect assumptions are made, to the detriment of every member of the public that may read this Draft.	**8-11.** The Refuge Act directed that the land to be made available for transportation improvements should not extend more than 300 feet from the Indiana Street right-of-way. The DEIS identifies those resources that fall within a distance of 50, 125, 300 feet from Indiana. The three different widths (50, 125, and 300 feet) were chosen to provide a range of widths and amount of each resource that would be within each width, up to 300 feet. The selection of three widths is not intended to imply a preference for any particular width that may be transferred, or any implication that only the three widths analyzed would be available. The Service acknowledges that the transfer of land for the purposes of transportation improvements is the responsibility of the DOE. The Refuge Act directs the Service to address and make recommendations for the identification of any land that DOE could make available for transportation improvements. The FEIS was revised to include a new Section 4.16 that discusses potential Refuge lands within a corridor immediately west of Indiana Street up to 300 feet wide. The new section also describes recommended mitigation measures that would minimize adverse impacts to the Refuge related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.

Comment #	Letter #8 continued	Response
	It is not and should not be the function or responsibility, nor is it certainly the expertise, of the USFWS to determine potential widths and lengths of a transportation corridor. This is especially true, and disconcerting, as the Colorado Department of Transportation is just beginning the public Northwest Corridor Transportation Study.	
8-12	In addition to the general methodology, the Draft also contains several statements that, at a minimum need clarification and more support or should not be included in the Draft as written. For example, on page 162, it is stated that, *"Construction of a highway between the refuge and Standley Lake may pose a physical barrier to Preble's movement and psychological barrier to bald eagle movement."* First, there is no indication given that Preble's movement now exists between Rocky Flats and Standley Lake. Second, it seems that Indiana Street already poses a physical barrier to Preble's movement, yet no comparison is given of the impact of Indiana versus a larger roadway. Third, the statement that an enlarged roadway may pose *"a psychological barrier to bald eagle movement"* simply makes no sense. There is an existing population of bald eagles that freely moves throughout the urbanized area. The eagles regularly move between Standley Lake, Barr Lake and all points in between (such as lakes surrounded by houses and roadways like East Lake and Hunter's Glen Lake) and along the South Platte corridor, crossing numerous roadways, including I-25 and I-76.	**8-12.** The FEIS was revised based on this comment.
8-13	Another example of a poorly written statement is found on page 168. It reads: "*The transfer of a right of way and subsequent development of a larger roadway would adversely affect easterly views from portions of the Refuge.*" On its face this might make some intuitive sense, however, there are two issues that need to be considered. First, the existing easterly view is of an urban reservoir surrounded by housing and an urbanized area including downtown Denver, hardly a pristine prairie setting. Second, until a roadway is designed, it is difficult to determine how views will be impacted. By way of example, one should look at the most recently built area highway, the Northwest Parkway. In many places, the Northwest Parkway was intentionally built below grade to minimize impacts on the surrounding land. If the Draft, at a minimum said, *"could"* instead of *"would"* at least some recognition that the outcome and final design of the potential roadway is unknown would be present.	**8-13.** The Service acknowledges that it is impossible to evaluate the visual impacts of future transportation improvements, if any, until a roadway is designed. However, the Refuge Act does direct the Service to make recommendations on land that could be made available for transportation improvements. While the referenced text has been removed from the FEIS, an additional discussion of the potential effects of any transportation improvements near the Refuge been added as Section 4.16, and does include an evaluation of potential visual impacts, recognizing that plans for any transportation improvements do not currently exist.
8-14	Perimeter Fencing: As stated in previous communication with the USFWS, the City advocates minimal perimeter fencing at the Refuge. The City is in no way interested in sacrificing the quality of the Refuge or the safety of the surrounding community through minimizing fencing. However, minimizing fencing should absolutely be a goal of the Refuge. There are several reasons the City feels strongly about this matter. First, the Refuge will abut a prominent entry into our City and the appearance of the Refuge will directly reflect upon Arvada. Second, and closely related, the portion of Arvada that borders the Refuge is privately owned and is zoned and proposed for	**8-14.** The existing barbed-wire fence would remain under the Service's proposed action.

Comment #	Letter #8 continued	Response
	development. Large chain link and barbed wire, or other barrier type fences are not the kind of outward impression that we feel a regional asset such as the Refuge should give to its neighbors. In addition, as stated above, there is no environmental reason to create such a barrier. The City supports the USFWS plan to maintain the traditional three-strand fence around the perimeter of the Refuge.	
8-15	Site Signage: In at least one public forum during this comment period, USFWS has stated that the final CCP/EIS will have specific signage language for the site related to safety and/or contaminant concerns. The City is not comfortable with specific language being set at this stage of the cleanup and closure of Rocky Flats. At this time there are simply too many variables for the USFWS to know what is appropriate language on any signage. With institutional controls not yet determined, cleanup incomplete, and additional buffer zone sampling incomplete, the City questions the logic of developing specific signage language. It may be appropriate to acknowledge within the CCP/EIS the need for some signage, but to determine the language to be used on the signage does not fit within the purpose or scope of the CCP/EIS.	**8-15.** Since the public meetings, the Service has decided to not include specific signage. However, the expanded discussion of contamination issues in Section 1.8 elaborates that signage will include information on residual contamination and related safety issues.
8-16	Lindsay Ranch: The City supports the stabilization and interpretation of the entire Lindsay Ranch site. We do not agree with USFWS' plan to only stabilize and interpret the barn. As many structures as possible should be stabilized and maintained, including outbuildings, fences, and the house and the barn. If it is impractical for the house to be stabilized then it should be allowed to fall naturally in place. However, the house site should still be preserved and interpreted along with the entire ranch. As USFWS knows, the legislative intent was to preserve the Lindsay Ranch physical structures, not just the barn. It is disheartening that there is no plan to do as was intended by Congress.	**8-16.** The Refuge Act provides for the preservation and maintenance of the Lindsay Ranch structures in accordance with the National Historic Preservation Act. After evaluating the condition of the structures, the Service has concluded that the farm house is weathered beyond repair, and that appropriate restoration would significantly detract Refuge resources away from other management needs. For these reasons, the Service proposes to actively rehabilitate the barn only. As stated in the rationale for Alternatives A, B, and D under Objective 6.4, the Service would be willing to work with partners and consider stabilizing the house if resources could be found through partnerships or grants to undertake such a project. Even if the house does not remain, the Service agrees that the house can be interpreted through a variety of media such as interpretive panels. The EIS has been revised to reflect this. The Service is concerned about the house becoming an attractive nuisance if it is fenced off, and the type of security fencing that would be required to keep visitors away could detract from the visual qualities of the area.
8-17	Maps: One issue related to the actual document itself involves the maps used to depict the site. By completely shading the DOE retained lands, it is very difficult to understand the site in its entirety and the maps lose much of their meaning and effectiveness. It would be much more preferable to make the DOE retained land transparent by either lightly shading the area or using a dotted line around the perimeter. Otherwise, there is no possibility to understand the relationship of the center of the site (topography, habitat, drainage, etc.) with the Refuge lands.	**8-17.** While the depiction of the DOE retained area on the maps may be visually obtrusive, it is intended to convey the fact that the Service is not responsible for resource management within the retained area. The maps have been revised to make the retained area transparent. The Service, however, will provide recommendations to DOE regarding resource management issues.
8-18	After review of the entire Draft CCP/EIS it is clear that Alternative B adheres to all of the Planning Goals stated for the CCP/EIS. The balance of ecological restoration and management with public access is appropriate for a site of this nature and with its history. The City fully supports the implementation of Alternative B and asks that the suggested changes discussed above be addressed by the Refuge Planning Team in the Final CCP/EIS. It is the strong desire of the City to continue the positive relationship we have built with the USFWS due to our good fortune of having the Two Ponds National Wildlife Refuge	**8-18.** Thank you for your comment. Working with others is one of the six planning goals of the Refuge.

Comment #	Letter #8 continued	Response
8-19	within the City. Now is the time to start working on specific projects together in order to best facilitate public access and community involvement once the Refuge is open. We look forward to any opportunities to partner in the development of trails, public access, and the formation of volunteer community groups in support of the Refuge. Thank you for the opportunity to comment on the Draft CCP/EIS. Please do not hesitate to contact the City for any additional information or assistance. Sincerely, Ken Fellman Mayor Arvada Alternate – RFCLG Board Lorraine Anderson Councilmember Arvada Member – RFCLG Board cc: City Council Clark Johnson, Assistant to the City Manager Gordon Reusink, Director of Parks, Golf, and Hospitality Bill Ray, Director of Public Works David Abelson, Executive Director, RFCLG	**8-19.** Thank you for your comments.

Comment #	Letter #9	Response

CITY OF BOULDER

CITY COUNCIL OFFICE

Will Toor, Mayor
Thomas Eldridge, Deputy Mayor
Robin Bohannan, Councilmember
Crystal Gray, Councilmember
Shaun McGrath, Councilmember
Gordon Riggle, Councilmember
Mark Ruzzin, Councilmember
Andy Schultheiss, Councilmember
Jack Stoakes, Councilmember

April 20, 2004

Ms. Laurie Shannon
Planning Team Leader
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal NWR, Building 121
Commerce City, CO 80022

RECEIVED
APR 25 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

Dear Ms. Shannon,

9-1 We are writing on behalf of the City of Boulder to submit the following comments on the Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) for the Rocky Flats National Wildlife Refuge.

9-2 **The City supports Alternative C, Ecological Restoration, as the best alternative for the wildlife refuge at the Rocky Flats site.** We believe that the unique conditions at Rocky Flats warrant a conservative, "go slow" approach. This is the first former nuclear weapons facility that will be designated as a wildlife refuge. In that respect, it is unlike any of the other, more pristine land enrolled in the wildlife refuge system and should be managed accordingly. This plan will govern the first 15 years of the wildlife refuge, a proverbial drop in the bucket compared to the 24,000-year half-life of the plutonium known to have been on the site. This first plan should therefore focus on verifying the long-term safety of the land for future generations. If no problems are found during the first 15 years, we believe a discussion on greater level of public access and use could be warranted.

9-3 However, until we have gained the benefit of having managed these lands over the 15-year time period, we believe that the focus should be on ecological restoration over public access/use. To open the site to the public without this first being accomplished would be short sighted and would not serve the broad, long-term community interests.

9-4 The City has long-advocated for closure and clean up of the weapons production facility at Rocky Flats. We continue to work with the other local governments in the area through the Rocky Flats Coalition of Local Governments (RFCLOG) to argue for federal funding and attention to the issue. Proper cleanup of the site remains our first priority.

9-5 Beyond the cleanup and closure, the City supported the Udall-Allard legislation in 2001 which resulted in having the site designated a national wildlife refuge. This was important to the City of Boulder not only to protect the site from future development but

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9-1. Thank you for your comments.

9-2. Although the Refuge will not be established until cleanup is completed, and the EPA and CDPHE have verified that all proposed refuge activities would be safe for the refuge worker and visitor, the Service believes that the proposed action for Refuge management and public access (Alternative B) would best balance wildlife and habitat management, and public access. Under Alternative B, most of the Refuge would be restricted to public access for the first 5 years to allow time for restoration efforts to be initiated. The Service does not believe that the proposed action imprudently rushes public access.

Rocky Flats will not be the first refuge established on a former nuclear facility. Saddle Mountain NWR was established in Washington in 1971, with over 30,000 acres in the buffer zone of the DOE's Hanford Site. Saddle Mountain was included in the Hanford Reach National Monument, created as part of the Refuge System in 2000. Over 50,000 acres of the Hanford Reach National Monument is currently open to public use. Unfortunately, with the Refuge system there are dozens of sites that have to deal with a variety of contaminant issues related to former and/or adjacent land uses.

9-3. The Service acknowledges that weed management and ecological restoration would be major issues on the Refuge, and for this reason the Service has elected to focus the first 5 years of Refuge management on these issues. After 5 years, the Service believes that the amount of public use proposed in Alternative B would be compatible with on-going restoration efforts and other Refuge needs. The Service believes that wildlife-dependent recreation such as interpretation and environmental education can provide the public with opportunities to observe how the Service is meeting its restoration and other management objectives.

9-4. Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies that DOE has completed cleanup and closure.

9-5. Thank you for your comment.

Comment #	Letter #9 continued	Response
	also to preserve federal ownership of the site. Protection from development was an important part of our vision for the landscape given the efforts made by Boulder and Boulder County in setting aside open space adjacent to the site. Federal ownership was critical in our view to address the uncertainty of public health issues so that if any problems are detected in the future, the liability will be with the federal government – not local communities – to address those problems.	
9-6	To that end, we would like to point out language (p. 8) of the CCP/EIS that says the "USFWS will not assume full responsibility for the refuge until the EPA has deemed the cleanup complete". According to the Rocky Flats National Wildlife Refuge Act, if any problems are found - even after transfer to USFWS - the DOE will be responsible for addressing them. We support that provision, and urge you to revise the CCP/EIS to be clear that USFWS should never have to assume "full" responsibility for the site.	**9-6.** Under the Refuge Act, the DOE will be responsible for any future cleanup-related response actions on the Refuge. The Final CCP/EIS includes additional discussion about DOE's long-term responsibilities in Chapter 1 – *Purpose and Need.*
9-7	This is the first such site in the country to be transformed from a nuclear weapons production facility into a wildlife refuge, and it is imperative we proceed carefully. We believe a conservative approach is still appropriate when considering trails and public use, as we should remain cautious about public health risks and the potential for contamination. Local experience indicates that unforeseen issues do arise when managing sites that have been involved in the production and storage of toxic or hazardous materials: • At the Rocky Mountain Arsenal (RMA), a former chemical production site being cleaned up and managed as a wildlife refuge, sarin bombs were found as recently as 2001, prompting a temporary closure and re-evaluation of that site. • In 2003 at the former Air Force Base at Lowry, asbestos was found during redevelopment of the site which includes new homes and schools. • In fall 2003 at Rocky Flats, an incinerator was discovered during clean-up remediation at the uranium ash pits, another site discovered only 2 years prior to 2003.	**9-7.** See response to comment 9-2. The contamination levels in the area to become the Refuge are currently low enough not to require any response actions. All of the previously unknown contamination sites that have been discovered at Rocky Flats are all located within the area to be retained by DOE. Identifying and remediating such sites is purpose of the current cleanup efforts.
9-8	We also are concerned that there should not be a rush to cleanup and transfer. The DOE and USFWS are two very different agencies with different funding situations, missions and capacities. Prior to opening the site for public access, additional time should be provided for both agencies to work out details of the mandated land transfer. A memorandum of understanding about the details of this transfer is past due and needs to be completed by DOE as soon as possible.	**9-8.** It is the intent of the Service not to accept the transfer of administrative jurisdiction for any lands at Rocky Flats until the Memorandum of Understanding between DOE and DOI, required by the Refuge Act, is finalized. The Service is not "in a rush" to transfer. While the MOU has not yet been completed, the Service and DOE have continued to work cooperatively on many long-term transition issues.
9-9	Additionally, we insist on continual post-closure monitoring of the site, even after transfer to USFWS. This is required according to the provisions of the Rocky Flats National Wildlife Refuge Act, and we would like to ensure there is sufficient post-closure monitoring on the Refuge lands. Post-closure monitoring in the buffer zone – conducted by DOE – is critical in verifying the long-term safety of the site. The CCP does not mention post-closure monitoring, nor does it include a contingency plan if post-closure monitoring detects exceedences. The CCP should be revised to address both post-closure monitoring and contingencies. This is particularly important if the CCP allows more public access, e.g. Alternative B or D. 2	**9-9.** The CCP/EIS does not address post-closure contaminants monitoring on refuge lands because none is anticipated. The Service is currently unaware of any remedy-related monitoring that will be required on the lands currently identified for transfer into the National Wildlife Refuge System. DOE is responsible for all post-closure monitoring of the remedy, and is required by the Refuge Act to retain jurisdiction of any lands that require long-term monitoring. The Service does not believe that the RFCA parties are going to require long-term monitoring of Buffer Zone areas that are transferred to the Service. The City should address this concern to the RFCA parties and identify the "post-closure monitoring in the buffer zone" that the City believes is "critical."

Comment #	Letter #9 continued	Response
9-10	In the end-state agreement signed by 5 members of the 7-member RFCLOG, the decision was made to focus the clean up more on surface remediation than on the subsurface. Specific areas in the subsurface of the DOE-retained lands are contaminated and will be left as such; institutional controls including caps and other monitoring systems will be put in place. It is critical that the public be kept away from these institutional controls. One concern we have is that black-tailed prairie dogs are present on the site. We know cleanup of the site is to about 1 feet (6-9 inches is most common), but black-tailed prairie dogs dig as deep as 15 feet. There must be monitoring for any contamination that may be brought later by the prairie dogs or other species involved in bioturbation which brings subsurface material to the surface. .	**9-10.** The Refuge Act requires that the DOE retain jurisdiction and responsibility over all engineering structures or facilities and institutional controls related to cleanup. These areas are included in the DOE retained area. In the DEIS, the Service recommended that the demarcation of the DOE retained area be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. The FEIS was revised to elaborate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands are closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties. The Service has also recommended to the RFCA parties that DOE retained lands be posted with signs that prohibit public entry, and the Service is not opposed to more robust barriers around specific remedy monitoring sites and facilities that may be deemed appropriate by the RFCA Parties. Regarding prairie dogs, the EPA and CDPHE have verified that subsurface contamination is not an issue in the area that will become the Refuge. The Service agrees with the City that continuous long-term monitoring and management of DOE retained lands to limit and quickly detect any pioneering of prairie dogs into areas where contaminants are left in the subsurface is an important issue that must be addressed in DOE's long-term stewardship planning. Prairie dogs can disperse from a natal colony for distances over 10 miles, in a single movement and, therefore, could invade DOE retained lands from off-site as easily as from within the Refuge. The Service looks forward to working with adjacent landowners, including the City, in the long-term management of prairie dogs in this landscape.
9-11	Prior to allowing access to the site, DOE and USFWS must clearly state how access to the DOE-retained lands will be restricted. The purpose is to ensure that no one plays in the settling ponds, walks on the caps, damages the groundwater and surface water monitoring stations, etc. These important controls will be retained by DOE and we want to ensure that visitors to the refuge stay clear of these systems.	**9-11.** See response to comment 9-10.
9-12	In addition, we support the need for a fence that will distinguish between DOE-retained lands and the Wildlife Refuge. We believe there must be a clear separation between the two, because public safety is more important than a "seamless" site (as referenced on p. 8 of the CCP). We expect there will also be some perimeter fencing as well – not a wall around the site, but some type of fencing to separate the Refuge lands from adjacent properties, similar to how we treat our open space holdings. New development anticipated to the south and east of the site will bring additional near-by users of the Refuge from residential areas and will place more pressure on recreational uses. It is critical to maintain public safety and keep the public out of harm's way.	**9-12.** See response to comment 9-10. In regard to external fencing, the CCP/EIS recommends ongoing maintenance of the existing barbed-wire boundary fence, with appropriate boundary signage identifying the Refuge boundary.
9-13	As previously stated by the City, we support the Wildlife Refuge vision as desirable and compatible with our community goals. As a neighboring landowner, the City supports the draft goals, which include conserving and enhancing native ecosystems, plant communities and wildlife species. The proximity of the Refuge lands to other open space lands provides an extraordinary conservation opportunity. The Refuge lands will make important contributions in regional efforts to protect the values of native grasslands, shrublands and foothill riparian areas.	**9-13.** Thank you for your comment.
9-14	The City maintains that the focus of management planning should be: 1) The unique conservation opportunity of preserving a large and rare habitat unmatched anywhere along the Front Range of Colorado, and 2) The restoration of native plant and animal communities. Management actions for USFWS-controlled lands should focus on the following: ♦ Work to restore lands that have been degraded – including vegetation and wildlife. ♦ Proceed with caution due to the potential of elevated soil contamination levels. 3	

Comment #	Letter #9 continued	Response
	♦ Keep further fragmentation of Refuge lands to a minimum. ♦ Plan conservation areas and visitor facilities with regional focus that considers connections with surrounding trail systems, protected areas and the location of existing or proposed development.	**9-14.** The Service acknowledges that ecological restoration, habitat protection, and regional conservation will be important components of and benefits from the establishment and management of the Refuge. The Service believes that the Proposed Action, Alternative B, would best achieve these goals.
9-15	We continue to offer our support and partnership in coordinating refuge planning and management with our City of Boulder Open Space and Mountain Parks north and west of the site. Under any alternative, we expect to coordinate conservation practices and management of visitor use on Open Space and Mountain Parks lands with the Refuge. We have directed staff to provide technical comments on the CCP/EIS under separate cover. Please contact Mark Gershman, Environmental Planner, at (303) 441-2046 or gershmanm@ci.boulder.co.us to follow up on this issue.	**9-15.** Thank you for your comment. Working with others is one of the six planning goals of the Refuge.
9-16	We are also working with our colleagues on the RFCLOG to determine if all 7 affected local governments can support a common alternative for the management of the refuge. While we may have different opinions on the details of the refuge, we all are clearly in agreement on the following principles: 1. The site should be preserved as a wildlife refuge. 2. Access to the lands remaining under DOE control should be restricted, due to the institutional controls that will be put in place. 3. Additional analysis needs to be completed prior to the closure of Rocky Flats and transfer of jurisdiction of lands to USFWS. 4. There must be a thorough cleanup to acceptable levels (as defined and certified by the regulators of the Site – Environmental Protection Agency and Colorado Department of Public Health and Environment) before the Site is transferred to ensure protection of human health and the environment.	**9-16.** See response to comments 9-2 and 9-10. **9-17.** See responses to comments 9-8 and 9-10.
9-17	We would like to know the status of DOE-USFWS discussions on an MOU regarding the site. Again, we are concerned that the liability should remain with the federal government and more specifically with DOE as they have the funding and expertise to address any problems. USFWS should not have to carry that burden, and likely cannot considering their limited budget. We want assurances that if additional federal funds and attention are needed at this site, they will be available. We question what types of contingency plans are in place in case USFWS has insufficient or no funding – the plan must explain how the refuge will be operated under such circumstances. (See p. 58 of the CCP which details refuge operations "based on available funds".)	
9-18	We complement the USFWS on the language (p. 119) regarding mineral rights, as well as the recognition that properties between the west edge of Rocky Flats and Highway 93 need to be acquired/protected.	**9-18.** Thank you for your comment.
9-19	On p. 67, the CCP mentions the Northwest Corridor Transportation Study. Boulder firmly supported the language in the Udall/Allard bill that prohibits construction of any roads through the site. We believe it is inappropriate to bisect the site for a roadway purpose, especially as we do not see a need for a major roadway in or around the Rocky Flats site as much of the land is open space and protected from future development. We	**9-19.** The Service acknowledges that the Refuge Act prohibits the construction of any roads through the site, and there has been no proposal to bisect the Refuge with a road.

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Comment #	Letter #9 continued	Response
9-20	also believe it is consistent with our "go-slow" approach to be careful when considering any use of the site. There is a separate EIS underway for the Northwest Corridor (Jefferson, Broomfield and Boulder counties), and the current recommendation by the consultant for that study is to eliminate any option that would cut through Rocky Flats. We support that recommendation. As some of these comments are beyond the scope of the CCP/EIS, we have copied the Department of Energy, Colorado Department of Public Health and the Environment, and the United States Environmental Protection Agency. Please contact Amy Mueller, Policy Advisor, at (303) 441-3005 or muellera@ci.boulder.co.us if you have any questions. Thank you for your consideration of these comments. Sincerely, William R. Toor Mayor Shaun McGrath Council Member and RFCLOG Director Cc: Boulder City Council Rocky Flats Coalition of Local Governments Frazer Lockhart, DOE Doug Benevento, CDPHE Max Dodson, EPA Senator Wayne Allard Senator Ben Nighthorse Campbell Representative Mark Udall Representative Bob Beauprez 5	**9-20.** Thank you for your comment.

Comment #	Letter #10	Response

City of Boulder
Open Space and Mountain Parks Department
66 S. Cherryvale Road, Boulder, CO 80303
303-441-3440
http://www.ci.boulder.co.us/openspace

April 23, 2004

RECEIVED
APR 27 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

Ms. Laurie Shannon
Planning Team Leader
US Fish and Wildlife Service
Rocky Mountain Arsenal NWR Building 121
Commerce City, Colorado 80002

Dear Laurie:

10-1 Thank you for the opportunity to comment upon the Draft Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) for the Rocky Flats National Wildlife Refuge (the Refuge). I am providing these technical comments to supplement the official position of the City of Boulder, Colorado which was sent under separate cover in a letter dated April 20, 2004 from Mayor Will Toor and Councilmember Shaun McGrath.

As indicated in the comments from Mayor Toor and Mr. McGrath, the City supports Alternative C, Ecological Restoration, as the best alternative for the wildlife refuge at the Rocky Flats site. It is the City's position that the unique conditions at the proposed refuge warrant a conservative, "go-slow" approach.

10-2 The City supports the vision of a wildlife refuge at Rocky Flats as desirable and compatible with community goals. As neighboring landowners, the City supports the conservation of natural systems through a range of management actions that focus on restoration and threat abatement. The proximity of the proposed Refuge to Open Space and Mountain Parks lands provides us with excellent conservation opportunities that could have been lost if the Rocky Flats were developed for other uses. We look forward to working with the Fish and Wildlife Service (the Service) in collaborative efforts to protect the values of native species, communities and ecological systems in and around the proposed Refuge.

10-3 At the request of the Boulder City Council, Open Space and Mountain Parks staff has reviewed the draft CCP/EIS and prepared the following comments. These comments are intended to provide feedback as requested by the Service on the merits of the alternatives discussed. Every effort has been made to provide substantive comments using the criteria provided by the Service. Each comment is preceded by a reference number in parenthesis which gives the page number in the draft CCP/EIS document. Each comment is followed by a number intended to identify which of the criteria the comment is intended to meet. The numbers refer to the Service's criteria as follows:

1. Question, with reasonable basis, [the] accuracy of information in the document, or
2. Question, with reasonable basis [the] adequacy of the environmental analysis, or
3. Present reasonable alternatives other than those presented in the EIS
4. Cause changes revisions to the CCP or
5. Provide additional information relevant to the analysis.

The Open Space and Mountain Parks Department would like to complement the Service and their planning team for the timely and thorough work presented in the draft CCP/EIS. The planning framework is clearly presented, and the analyses are thorough. A large amount of information has been obtained and processed in a remarkably brief time to produce a strong draft plan. The Open Space and Mountain Parks Department shares an interest and commitment to the range of natural resource management issues included in the plan, including the control of invasive exotic plant species, and the conservation of special habitats such as tallgrass prairie and riparian areas.

10-1. Thank you for your comments.

10-2. Thank you for your comment. Working with others is one of the six planning goals of the Refuge.

10-3. Thank you for your comment. The Service believes that partnerships with neighboring jurisdictions will be an important component of Refuge management.

10-4. The Service acknowledges the landscape and ecological context of the Refuge.

10-5. The Service acknowledges that complete restoration to pre-settlement conditions is probably not achievable or even socially acceptable (e.g., natural wildfires, grizzly bears). The Service's goals in this area would be to restore, to the extent possible, native species and ecological processes that existed at the time of settlement and remove as many of the changes introduced by Euro-Americans as possible. In the pre-settlement era, it is likely that prairie dog populations on this site fluctuated over the centuries and it is likely that those populations will continue to fluctuate in the future. The Service believes its goals for prairie dog populations are achievable, socially acceptable, and with the range of habitation that may have occurred in the pre-settlement era – without unnecessarily threatening the integrity of the DOE remedy.

10-6. Thank you for your comment. Working with others is one of the six planning goals of the Refuge, and compatible scientific research is a refuge purpose.

10-7. The Service agrees that the use of fencing to prevent overgrazing by wild ungulates in Preble's habitat/riparian areas is not a feasible or reasonable practice. The FEIS has been changed to reflect that. The Service anticipates that ungulate management through hunting, culling, or hazing would be sufficient to prevent degradation of riparian habitats by wild ungulates. Temporary fencing may be used to control movement of livestock used in grazing prescriptions and the Service would retain an option to use fencing to exclude wild ungulates from smaller and specific rare or unique plant communities, such as the tall upland shrubland community.

Comment #	Letter #10 continued	Response
	We are especially appreciative of the Services development of Goal 5—fostering partnerships with government agencies to promote resource conservation, compatible wildlife-related research, public use, and infrastructure—and look forward to continuing our collaboration with the Service in these areas. The comments which follow have been gathered from land managers who have many years experience managing for visitor use, agricultural production and natural resource conservation in an area similar to the site of the proposed Refuge. We intend these comments as contributions to enhance the value of the plan in meeting the goals of the Service and the Rocky Flats Refuge Act.	**10-8.** The discussion about the effects of fragmentation is intended to be a general description of the types of effects that have the potential to occur on the Refuge. The Service is not aware of any studies that document the specific effects of habitat fragmentation on natural resources at Rocky Flats. No such studies were conducted as part of the CCP/EIS development and analysis.
10-4	(S.3.) These wildlife communities are supported by the regional network of protected open space that surrounds Rocky Flats on three sides and buffers wildlife habitat from the surrounding urban development. (5)	**10-9.** As suggested by the comment, the term "relatively undisturbed" is intended to imply that the land has been isolated from human activity, and has not been totally undisturbed. The suppression of natural grassland fires is an example of how human intervention has altered the ecological systems at Rocky Flats.
10-5	(S.4.) In the summary chapter, the goal of restoration is stated as striving to replicate pre-settlement condition. If this is the case, how was prairie dog management integrated? Is occupation of 20% of suitable habitat considered a presettlement condition? The Open Space and Mountain Parks land managers have found it difficult to manage for a specific or narrow range of prairie dog occupancy. (1)	**10-10.** The FEIS was revised as to not mischaracterize the efforts of other jurisdictions.
10-6	(S.5) The City of Boulder Open Space and Mountain Parks department has a natural resource research program. We look forward to opportunities to collaborate with the Service on important research questions associated with the urban/wildland interface.	**10-11.** The Service's goal in any cattle grazing prescription would attempt to emulate the pre-settlement bison grazing regime, using an intensive short-term rotation – flash grazing. The Service acknowledges that there will be costs for temporary electric fencing to implement such a grazing program, and that there may be difficulty in finding cooperative ranchers to participate in such a program. In that case, it may be necessary to use other means (such as prescribed fire or mowing) to restore a more natural disturbance regime. The Service does not believe that longer, market-driven rotations will produce the desired ecological benefits to Refuge grasslands. However, the Service looks forward to exchanging information with adjacent land managers to see if other grazing regimes may be suitable for refuge application.
10-7	Given the restoration goal, how does the Service see it appropriate to construct fencing to exclude ungulates from Preble's meadow jumping mouse habitat? Did these species not co-exist in pre-settlement times? Will hunting or culling not be sufficient to adjust herd size? Other management strategies have been used elsewhere to direct elk away from sensitive habitats such as providing hay or other food sources away from areas where protection is sought. (1) The CCP/EIS proposes under some alternatives to erect fencing to protect riparian habitat of Preble's from native ungulate grazing. Wouldn't such fencing be a significant barrier to movement for many other species in addition to deer and elk? How does the severity of effect of fragmentation by fencing compare with the effect of fragmentation by abandoned roads and trails?	
10-8	(37) A general restoration goal of pre-settlement condition suggests that roads, trails etc. should be minimized. The discussion of fragmentation under objective 1.4 describes how roads, trails and other disturbances create possibly hostile environments. Is this meant as a general description of one of the elements of fragmentation or do the Refuge managers believe that roads, trails or other disturbances function in this way at the Refuge? How? What sorts of "other disturbances?" If roads etc. are creating corridors for predators, are they not doing so for other species? It that significant? (1,2)	
10-9	(S.3) The summary of the draft CCP/EIS resources section states that many areas of the site have remain undisturbed for the last 30 to 50 years, allowing them to retain diverse habitat and associated wildlife. This gives the impression that disturbance does not perpetuate diversity and wildlife. Natural disturbances such as fire, grazing, floods are critical in supporting diverse and healthy ecological systems. Does the Service mean is "isolated from intense human activity, and land uses" rather than "undisturbed". (1)	**10-12.** Depending on how it is applied, grazing would be used as a weed management tool, an ecological restoration tool, or both. The Service anticipates that grazing prescriptions applied for achieving the ecological integrity of habitats will generally involve cattle, to emulate bison grazing, and that most weed control prescriptions would involve other livestock species such as goats. Grazing is mentioned under several different objectives (1.2 – *Xeric Tallgrass Management*, 1.3 – *Mixed Grassland Prairie Management*, and 1.4 – *Weed Management*) as a tool that would be available to achieve that objective. In the DEIS, Table 4 incorrectly identified prescribed fire and grazing as a management tool under Mixed Grassland Prairie Management. The FEIS has been revised.
10-10	(20) The CCP gives the impression that that "efforts to connect visitors to their natural resource heritage would distinguish the visitor experience from visits to nearby county and city open space properties". **This is not the case.** Building connections between visitors and natural resources is a major focus of the City of Boulder Open Space and Mountain Parks' and Boulder County Parks and Open Space's education and outreach programming. Recent community surveys have indicated that the community values this connection as one of the key purposes of Open Space. We look forward to working with the Service to build these connections in a collaborative manner. (1)	
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Comment #	Letter #10 continued	Response
10-11	(37) Why limit grazing to "flash grazing" in alternatives B and C? By including such language, the Service seems to un-necessarily limit the management practices that may best achieve its goals. Are there no other grazing regimes which the Service could ever anticipate being beneficial? There are also feasibility and cost concerns. Some ranchers may not be able to respond to the Services needs for flash grazing. We have found that although some local ranchers are willing to address the non-traditional grazing requests associated with species and habitat conservation, most are not interested in grazing opportunities for less than three weeks. It may be possible, but it could be costly to find people who would be available for contract grazing. However, negotiating a grazing regime that is sustainable for an agricultural operator and the Service may be preferable because it would be revenue neutral, or even generate revenue from lease receipts. Furthermore, the lack of pasture fencing at the Refuge will require temporary fencing, increasing the costs and/or reducing the likelihood of effective containment. It is likely that the Service would need to have some flexibility to negotiate a mutually beneficial lease. (1,2,5)	**10-13.** The Service agrees that some experimentation with a variety of grazing techniques would provide useful, adaptive management guidance. Such experimentation would be considered in a step-down Vegetation Management Plan.
10-12	(39) It is unclear why the Service would seek to distinguish the role of grazing as an ecological restoration tool (rather than a weed management tool) in alternatives with grazing. By suggesting the full range of IPM tools is available in alternatives B and C, but grazing is not to be considered a weed management tool, the Service sets up contradictory or at least confusing guidance. (1,2,5)	**10-14.** The FEIS was revised to incorporate the suggestion.
10-13	The draft CCP/EIS suggests that research will be needed to inform resource management on the Refuge. Experimenting with a variety of grazing treatments could provide information that would help the Service achieve its vegetation management goals. (5)	**10-15.** The Service anticipates that the extent of noxious weed infestations and the reduction of those infestations would be measured by their areal extent, and the relative density/severity of the infestations. The objective text was revised to include this information. Specific measures would be outlined in a step-down Integrated Pest Management Plan.
10-14	(38) The following sentence in objective 1.5 (Weed Management), is difficult to understand. "Infested native plant communities are reduced in capacity to support wildlife populations and a diversity of organism". Weedy areas can be more floristically diverse than undisturbed native habitats. It appears what is needed here is a statement that indicates that weeds alter the composition and structure of ecological systems, reducing the degree to which these systems support native plant and animal populations. (1,5)	**10-16.** The Service agrees with your assessment that the role of the prairie dog as a "keystone species" is a subject of scientific debate, while their contribution to grassland ecosystems is what is important. The text of Objective 1.7 was revised accordingly.
10-15	(39) As a neighbor, the Open Space and Mountain Parks Department appreciates and shares the Service's concern about the spread of weeds. The Service describes Alternative C and B as reducing the spread of other noxious weed species. How would this be measured? (2)	**10-17.** The FEIS has been revised to clarify the relationship between prairie dog colonies and noxious weed infestations.
10-16	(41) Objective 1.7 describes that prairie dogs as a keystone species because they "provide food and shelter for many other grassland species". Is it important to establish whether prairie dogs are a keystone species (a much debated topic in ecology)? Would it not be sufficient to indicate that "by virtue of their digging, clipping and feeding, prairie dogs significantly modify the environment and create habitats for species not found in grasslands undisturbed by prairie dogs"? (1,2)	**10-18.** The Service agrees that it can be difficult to manage and control prairie dogs, and that existing natural barriers are more effective. However, the Service does believe that it would be much easier to manage 750 acres of colonies than 2,400 acres, given projected future funding constraints. The limits on population expansion in Alternatives B and C are intended to provide a guideline that would allow sustainable population expansion while establishing a threshold at which the Service would intervene and control populations. A secondary purpose of limiting prairie dog expansion is to ensure that they would not colonize the DOE retained area, riparian habitat, or xeric tallgrass habitat.
10-17	Not only do prairie dogs create habitat for other native species, their ground clearing and burrowing creates ideal seed beds for the germination of exotic invasive plant species. If the CCP/EIS notes this important relationship, it is not clearly identified as an important (albeit complicating) consideration for meeting the integrated weed management goals of the CCP. (2,5)	With regard to plague control, the Service agrees that prairie dog to human plague transmission is very rare. However, the Service does believe that plague control is a prudent preventative safety measure. The Service currently controls for plague at the Rocky Mountain Arsenal NWR in areas where visitors are present.
10-18	Alternative B (and C?) implies that smaller prairie dog colonies mean fewer management issues or expenses. The City of Boulder Open Space and Mountain Parks Department's experience is that management costs are not proportional to colony size. The easiest colonies to manage are those with effective barriers to dispersal (e.g. abrupt vegetation changes, roadways, wooded areas) and better isolation from neighboring conflicting land uses. Managing small colonies without good barriers or where the colony's dispersal conflicts with adjacent land use is costly and typically ineffective. (1,5)	
	It is unclear why visitors need to be protected from prairie dogs If it is because of concerns over plague, this concern should be stated explicitly (Prairie dog to human plague transmission is very rare). (2)	
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Comment #	Letter #10 continued	Response
10-19	No mention was found in the document of how the Service will work with the Jefferson County Health Department on plague related issues.	**10-19.** As described in Objective 5.2 – *Conservation*, the Service will work with local governments to coordinate resource management issues. This would include issues related to plague.
10-20	(113) City of Boulder Open Space and Mountain Parks department's local experience indicates that prairie dogs are in no way restricted to habit that fit the 1989 Habitat Suitability Index (HIS) model. With the exception of soil conditions (depth and composition), we have found low fidelity of actually prairie dog distribution with the predictions of the habitat suitability model. It is unclear how the HSI (Clippinger 1989) was used in drafting the analysis or strategies associated with prairie dog management/conservation. (1,5)	**10-20.** The 1989 Habitat Suitability Index model was used to estimate the location and extent of potential prairie dog habitat on the Refuge, as shown in Figure 17. The Service is aware that prairie dogs often colonize areas that are outside of predicted habitat areas. Indeed, there is historical documentation of potential prairie dog colonies within the xeric tallgrass community where both the soils and the vegetation structure do not fall within the parameters of the model. However, the Service believes that it is likely that the historical prairie dog colonization of the tallgrass community was related to market-driven grazing practices by former landowners. For these reasons, the HIS model was used for general guidance and the prairie dog management objectives were designed to allow for intervention to prevent the colonization of "non-habitat" areas such as the xeric tallgrass prairie.
10-21	(98) While it may be true to changes to hydrology are beyond the scope of the CCP/EIS, these changes may have persistent and cascading effects upon the ecological systems on the site, especially upon riparian areas and habitat for the federally listed Preble's meadow jumping mouse. Given the potential significant impact upon some key conservation issues, how can the Service conclude that they are beyond the scope of the plan? (2) (136) Similarly, the environmental effects of mining upon groundwater, riparian vegetation and subsequently Preble's meadow jumping mouse are not fully analyzed. (2)	**10-21.** The Service agrees that potential hydrological changes related to site closure and permitted mining may have substantial effects on Refuge resources. From a NEPA standpoint, these changes will occur before the CCP/EIS takes effect, essentially altering the "baseline" conditions. These changes are discussed under Future Baseline Conditions in Section 3.3, *Water Resources*. DOE is consulting with the Service to minimize impacts on the Preble's from these hydrologic changes. It is noteworthy that the best Preble's habitat at Rocky Flats appears to be in the Rock Creek drainage where there is no imported water. The hydrologic changes will surely impact other plant and animal resources at the site. Unfortunately, the Service is required by the Refuge Act to complete the CCP before the RFCA parties approve final plans for re-configuring the site's industrial watersheds and it is not possible to determine what resources may be impacted, and how, by those hydrologic changes.
10-22	(99) After describing how wind-blown sand from adjacent mining areas disturbed xeric tallgrass stands, the CCP does not identify any strategies to abate the threat of future wind deposition onto the refuge. Why isn't a strategy proposed in the vegetation management section? (6)	**10-22.** The FEIS has been revised to note that the Service would work with the mining operators and appropriate regulatory agencies to minimize and mitigate the effects of windblown soil deposition on the Refuge.
10-23	(138-9) The use of "average patch size" is an interesting approach to quantifying levels of fragmentation. However, would it not be more informative to compare the distribution of patches of varying size, rather than their average size? Distribution is more informative because it reflects on the ground conditions, where as average values don't provide much information about the landscape context. Without information on number of patches, it is not even possible to gain a sense of the variance or range in patch size. Is this concept introduced as an illustrative part of the plan or a way of measuring or communicating success? Consider alternative presentations that may better describe the situation(e.g. include a map color coded by fragment size or a table/chart of fragment size distribution). Does the Service attach significance to the degree that trails, two tracks, or roadways (seldom or unused) create fragments? (1,2,5)	
10-24	(140) It is appropriate for the Service to conclude that there is only "remote potential" for biological controls to affect non-target plant species. For example, one of the biocontrol agents identified in the CCP/EIS, the field bindweed mite, has the potential for significant adverse impacts upon a native hedge bindweed (*Calystegia sepium*) which is a locally uncommon rare plant species. This native species has been collected on the site of the proposed refuge. This species has been recently documented (24 June 1999) at Rocky Flats. It is also known from the following Front Range counties: Boulder, Denver, Weld and Larimer. (1,2,5)	
10-25	(7) The City of Boulder Open Space and Mountain Parks Department supports the conservation of lands adjacent to the site's western boundary.	
10-26	(35) Strategy 1.2.6 identifies regional efforts to implement tallgrass prairie conservation. The City of Boulder Open Space and Mountain Parks has worked with the Colorado Natural Areas program to designate a state Natural Area for the conservation of tallgrass prairie. The Department looks forward to opportunities to work with the Service in conserving tall grass prairie; and suggests that Refuge managers contact the Colorado Natural Areas Program to discuss the appropriateness of state Natural Area designation for the site.(5)	
10-27	(41) The City of Boulder Open Space and Mountain Parks department has some experience in prairie dog mapping, which would be happy to share with the Refuge managers. (5) 4 *Open Space...Preserving a Wild Idea!*	

Comment #	Letter #10 continued	Response
10-28	(42) Reintroduction efforts for plains sharp-tailed grouse and fish. The cooperative grouse reintroduction project of 2003 resulted in over two dozen birds being introduced to the wild, not five. (5)	**10-23.** The presentation of "average patch size" is intended to be a general indicator of habitat fragmentation to compare the alternatives. For the purposes of the patch size analysis, all roads, regardless of their size, were considered equally. Although other, possibly more complex indicators are possible, they were not considered during the analysis process.
10-29	(55) City of Boulder Open Space and Mountain Parks rangers are certified peace officers and wildland firefighters capable of providing emergency response. The COB Open Space and Mountain Parks Department looks forward to discussing appropriate coordination of services. (5)	**10-24.** Objective 1.5 – *Weed Management* has been revised to elaborate that the use of biological control agents will be carefully planned to reduce potential impacts on native species.
10-30	(56) Objective 5.2 (Conservation) 'For many years, representatives of Boulder and Jefferson County resource management agencies met periodically at a "Resource Manager's Roundtable". These meetings lapsed in the 1990's. The Service's commitment (under Alternative B, C and D) to meet annually with local agencies, could provide impetus to re-establish these meetings and leverage communication among many agencies rather than just between each agency and the Service. (5)	**10-25.** The Service appreciates regional collaboration in protecting the ecological function of the Refuge and its interaction with neighboring open space areas. Working with others is one of the six planning goals of the Refuge.
10-31	The Service has proposed ways of measuring success and informing an adaptive management approach for most of the recommended strategies. However, the there is almost no monitoring described for the objectives and strategies associated with Goal #5. We are very interested in working with the Service to develop strong, indicators of agency coordination and cooperation. (2,4,5)	**10-26.** The Service looks forward to opportunities to work with the City of Boulder and other jurisdictions/agencies in the regional conservation of tallgrass prairie.
10-32	Please feel free to contact me if you have questions about these comments. Good luck with the next phase of the planning process. The City of Boulder Open Space and Mountain Parks Department looks forward to continued collaboration with the Service.	**10-27.** Thank you for the offer of the City's assistance. Working with others is one of the six planning goals of the Refuge.
	Sincerely, Mark Gershman, Environmental Planner 720-564-2046 gershmanm@ci.boulder.co.us cc: Will Toor, Mayor, City of Boulder Shaun McGrath, Council Member, City of Boulder Mike Patton, Director City of Boulder Open Space and Mountain Parks Amy Mueller, Policy Advisor, City of Boulder, City Manager's Office Dave Kuntz, Division Manager Planning and Technical Services, City of Boulder Open Space and Mountain Parks	**10-28.** Section 3.5 of the FEIS was revised.
		10-29. The Service is dedicated to working with other jurisdictions to coordinate management and emergency response efforts, and looks forward to working with the City.
		10-30. The Service would support the establishment of periodic "roundtable" meetings to better coordinate regional resource management efforts.
		10-31. The Service acknowledges that many of the measures for Goal 5 – *Working With Others* are qualitative and subjective. However, the objectives illustrate the Service's desire to work with the City and other entities on regional resource management issues.
		10-32. Thank you for your comments.

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Comment #	Letter #11	Response
11-1	CITY AND COUNTY OF BROOMFIELD One DesCombes Drive • Broomfield, CO 80020 • Phone: (303) 469-3301 May 14, 2004 Ms. Laurie Shannon Planning Team Leader U.S. Fish and Wildlife Service Rocky Mountain Arsenal - Building 121 Commerce City, CO 80022 Re: Draft Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Rocky Flats National Wildlife Refuge (RFNWR) Dear Ms. Shannon: The City and County of Broomfield is providing this revision to our previous comment letter dated April 23, 2004 on the Draft Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Rocky Flats National Wildlife Refuge (RFNWR), dated February 2004. Our Rocky Flats Coalition of Local Governments representatives have requested revisions to our previous letter. Broomfield continues to support "Alternative B – Wildlife, Habitat & Public Use," and we wish to revise certain aspects regarding that support. The proposed alternative emphasizes the conservation of wildlife and their habitats while allowing a moderate level of public use. The City and County of Broomfield appreciates the efforts the Service has made to work with us to ensure the proposed alternative is compatible with Broomfield's vision and goals for public use of our open space and protection of wildlife and habitat. Broomfield supports the draft proposed action *"Alternative B – Wildlife, Habitat & Public Use."* Throughout our letter, we use the phrase "DOE retained lands" referring only to those lands that will remain under the jurisdiction of the DOE which are generally in and around the current Industrial Area. While our comments primarily address the wildlife area of the refuge, it is assumed that wildlife will migrate into and out of the DOE retained areas. Words in italics are direct quotes from the CCP/EIS. The City and County of Broomfield has used the following general comment categories associated with the CCP/EIS which will be presented in this letter; 1. **Memorandum of Understanding** 2. **Wildlife and Habitat Management** 3. **Public Use, Education, and Interpretation** 4. **Refuge Operations, Safety and Partnerships**	**11-1.** Thank you for your comments. **11-2.** The MOU between the Service and DOE will be signed prior to Refuge establishment. The physical boundaries and how the lands retained by DOE will be demarcated will be defined by the RFCA parties and will not be identified in the MOU. **11-3.** See response to comment 11-2. **11-4.** See response to comment 11-2. **11-5.** See response to comment 11-2. **11-6.** Current Preble's populations at Rocky Flats have been documented by the DOE and are included in the Preble's Meadow Jumping Mouse Protection Area shown on Figure 16 – *Wildlife Resources.* Riparian and wetland vegetation is shown in Figure 13 – *Vegetation.*

Comment #	Letter #11 continued	Response
	Ms. Laurie Shannon May 14, 2004 – Revised Comments Page 2 of 11 The remainder of this document presents Broomfield's comments in each of these general topic categories. **1. Memorandum of Understanding** 1.1. Broomfield is apprehensive the Memorandum of Understanding (MOU) between the Department of Interior (DOI) and the Department of Energy (DOE) has not been finalized. The MOU was to be finalized on June 28, 2003.	**11-7.** It is the intention of the Service to manage Preble's populations within the constraints that will exist at Refuge establishment. Reduced surface water flow is anticipated to be one of those constraints. The Refuge Act specifically protects existing private property rights on the Refuge, including water rights and related easements. However, the Service will not preclude future voluntary acquisition of water rights on a willing-seller basis.
11-2 11-3 11-4 11-5	1.2. The MOU should clearly identify the physical boundaries and areas of management responsibilities by DOI and DOE. Based on assumptions that areas with residual contamination will be clearly demarcated and controlled 1.3. The MOU should state that the Service will only receive lands with less than 7 pCi/g, 1.4. *Alternative B* is our preferred alternative. It is imperative the Service identify a caveat in the CCP/EIS plan that the finalized activities and step-down management plans (operational documents) will be contingent on resolution of the MOU.	**11-8.** Due to the level of disturbance to the site, a limited budget for Refuge management, and public concerns about access to the Refuge, the Service has elected to maintain the public use implementation plan that was proposed in the DEIS. The Service would be obligated to address ecological concerns related to noxious weeds and the revegetation of unused roads on the Refuge. By focusing staffing and budgetary resources on habitat restoration in the first 5 years, the Service would be able to reduce the severity of noxious weed infestations, and initiate road restoration before public trail use would introduce a new disturbance onto the landscape. The Service has considered expanding the amount of trail to be opened in the first 5 years, and has revised Objective 2.13 – *Recreation Facilities* to allow greater flexibility to open additional trails in the first five years if restoration objectives are met and there is funding to open additional trails. The Service will not open trail connections to adjacent open space lands until those regional connections are in place.
	2. Wildlife and Habitat Management 2.1. Preble's Habitat Management - We support the proposed surveys of the Preble's habitat and protection of the Preble's Meadow Jumping Mouse (PMJM).	
11-6 11-7	2.1.1. Broomfield is concerned the current population of the PMJM is not clearly known nor are the riparian areas clearly delineated in the maps within the CCP/EIS. 2.1.2. We are not clear on the Service's objective to protect the PMJM and riparian areas in the event surface water flow will no longer support the PMJM or its habitat on Walnut Creek. As water right owners of surface water flowing through the site, it is imperative our rights are preserved and not diverted for protection of the PMJM and associated riparian habitat that would otherwise degrade without imported water.	
	2.2. Road Restoration and Revegetation - The plan identifies the need to restore 25 miles of road and 13 stream crossings for Alternative B. We understand road restoration and revegetation will require funding, labor, and time to allow vegetation to mature.	**11-9.** See response to comment 11-7. In addition, the Refuge access roads were designed to provide reasonable access to the McKay Ditch, the Upper Church Ditch, and other private property rights at Rocky Flats. The Service will work with the City and County of Broomfield to ensure reasonable access to ditches and associated easements.
11-8 11-9	2.2.1. While the phased-in approach and reasoning presented in the plan is acceptable, we ask that in addition to the Lindsay Ranch trails, the other planned trails be opened as soon as possible so that the public may visit and enjoy these areas. 2.2.2. Long-term stewardship activities by DOE and potentially the regulators will require maintained roads to access the retention ponds, monitoring stations, landfills, treatment units, and areas of high erosion. Broomfield will also require maintained roads to access and maintain their ditches. We ask that you work with us to ensure maintained roads are available to access the DOE retained lands and the above mentioned stewardship locations	
	2.3. Weed Management - The City & County of Broomfield supports the identified tools for weed management for Alternative B. The bullets which follow are individual issues Broomfield wishes to address within this topic.	**11-10.** The Service would solicit the input and participation of the City and County of Broomfield, other jurisdictions, stakeholders, and the public during the development of an Integrated Pest Management Plan.
11-10	2.3.1. We ask to be consulted and allowed to participate in the development of an Integrated Pest Management (IPM) plan for the RFNWR.	

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11-11	2.3.2. Chemical Control, herbicide application, should only be used with assurances that surface water quality will not be negatively impacted. DOE currently maintains a list of chemicals used to control weeds and has a process in place to provide us with an annual updated list of potential chemicals. The service should continue to provide us with an annual list of chemicals to be utilized for weed management and inform us any time chemicals are used within the Walnut Creek drainage areas.	**11-11.** See response to comment 11-10. The Service is committed to working with the City and County of Broomfield and other jurisdictions in addressing your concerns about weed management at the Refuge. A step-down Integrated Pest Management Plan would incorporate those concerns, as well as many of the current practices that are employed by DOE.
	2.3.3. DOE also informs us any time aerial controls are used. We ask the Service to assume this role. Per previous meetings with the Service, it is our understanding the Service does not plan on using aerial chemical spraying to manage weeds.	
11-12	2.3.4. Prescribed fire used as a restoration tool is a very volatile topic for surrounding communities. 2.3.4.1.We ask that we be included with the development of the Prescribed Burn Plan, specifically the size of the area to be burned at one time, air quality monitoring, pre-burn notification and the public involvement process. 2.3.4.2.Broomfield does not support prescribed burns in the DOE retained lands.	**11-12.** The Service would solicit the input and participation of the City and County of Broomfield, other jurisdictions, stakeholders, and the public during the development of a step-down Vegetation Management Plan and a specific Fire Management Plan. While the Service does not have management jurisdiction over the lands to be retained by DOE, it is our understanding that because of public concerns, prescribed fire would not be used within the retained area. In addition, the Service does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 10).
11-13	2.3.5. Biological Control should be used very carefully to not adversely affect native, non-target plant species. 2.3.5.1.Clarify the potential affects to current native species if the bindweed mite is used at the Refuge.	**11-13.** Biological control measures would be carefully applied to avoid adverse effects to native species. The FEIS has been revised to include this language.
11-14	2.3.6. Grazing is proposed for Alternatives B and C. 2.3.6.1.We have no issue with the use of transient grazing if controls are in place to ensure cattle, goats, or other livestock do not have access to the DOE retained lands.	**11-14.** Grazing programs would be highly managed, and would include adequate fencing to keep livestock out of the DOE retained area or other non-target areas.
11-15	2.3.7. Weed Mapping is essential as a management tool to provide the Service information to respond to new infestations and implement weed control strategies. 2.3.7.1.Clarify if the mapping will be provided to the public on an annual basis. This information will also serve surrounding open space land management agencies with their weed management strategy.	**11-15.** While the specific protocols for weed mapping and data sharing are not addressed in the CCP, the Service would be willing to share the annual weed mapping data with other jurisdictions and the public.
11-16	2.3.7.2.If the Service intends to have an annual public meeting, we would partner with you and volunteer to host the meetings.	**11-16.** The Service looks forward to partnering with the City and County of Broomfield, as well as other jurisdictions during all aspects of Refuge management.
11-17	2.4. Deer and Elk Management - Deer and Elk Management per the CCP/EIS will be maintained by the Service and the Colorado Department of Wildlife (CDOW). The plan states the deer and elk population will meet targeted numbers for Alternatives B, C, and D after three years. 2.4.1. Clarify how the target populations will be identified. If the population is not managed, overgrazing or overbrowsing of vegetation would have potential minor adverse effects.	**11-17.** Target populations would be quantified based on habitat and population conditions and would be based on the professional judgment of Service and CDOW staff.
11-18	2.4.2. With the impacts resulting in minor effects, will the target population numbers be similar for the different alternatives? The current population of deer and elk at the site do not seem to have an adverse impact to the current habitat; therefore, there may not be a need to cull the populations.	**11-18.** If target populations were to be determined for each alternative, they would likely vary depending on the level of public use in the alternatives, as well as the habitat conditions that would vary between alternatives.
11-19	2.4.3. We also ask the Service to defer its final decision on hunting at the RFNWR until analytical data is received from the frozen deer tissue to evaluate the uptake of	

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	Ms. Laurie Shannon May 14, 2004 – Revised Comments Page 4 of 11 plutonium and/or uranium in ungulates. Once a White Paper is drafted on the final analysis and evaluation of uptake, we request a copy of the White Paper. 2.5. Prairie Dog Management - Prairie Dog Management goals in the plan are not inclusive of the need to control prairie dogs for the entire site. The plan will trap and relocate prairie dogs from riparian areas if they have the potential to impact the riparian areas. Alternative B, C, and D, would relocate the dogs to protect xeric tallgrass habitat.	**11-19.** Tissue samples, including edible meat tissues, of deer harvested at Rocky Flats in 2002 have been analyzed for contaminants. The results of the analysis indicate that there is no significant uptake of contaminants by deer or other wildlife species at Rocky Flats.
11-20	2.5.1. Of key concern to the City & County of Broomfield is the need to control the population of prairie dogs to prevent colonizing into the DOE retained lands. Prairie dogs are known to burrow to seven-foot depths, and we do not want subsurface contamination brought to the surface to allow it to be dispersed into the environment. We ask a specified distance from the DOE retained areas to the prairie dog colonies be identified in the Prairie dog management plan to require a corrective action to relocate the prairie dogs. The corrective action will ensure protection of the remedy and maintain control of residual contamination.	**11-20.** The EPA and CDPHE have verified that subsurface contamination does not exist in the area that will become the Refuge. The DOE will be responsible for the protection of the remedy facilities within the portions of the DOE retained area where subsurface contamination will remain, which includes preventing prairie dogs or other burrowing animals from accessing subsurface contamination. While the Service is not responsible for prairie dogs within the DOE retained area, and while subsurface contamination should not be an issue on the Refuge, as a management partner with the DOE it is prudent for the Service to maintain a sustainable prairie dog population and to keep those populations away from the retained area.
11-21	2.5.2. Under no circumstances should prairie dogs be relocated to the RFNWR from surrounding communities to avoid over populating the areas that will be proposed for them in the refuge.	**11-21.** Alternative D would allow for prairie dog relocation from other jurisdictions. Alternative B, the Proposed Action, does not.
11-22	2.5.3. Alternative B would allow up to 750 acres to be occupied by prairie dogs, and this could have a negative impact on ecological habitats. Such a large amount of land set aside for prairie dog colonies will lead to an expansion of prairie dog colonies and adverse impacts to grassland communities.	**11-22.** The prairie dog is an integral component of the prairie ecosystem. While there is about 2,400 acres of potential prairie dog habitat, there are currently about 10 acres of prairie dog colonies at Rocky Flats. The Service believes that it is prudent to manage for some prairie dog expansion, and that the 750-acre maximum threshold for prairie dog expansion would allow for a reasonable limit on sustainable prairie dog expansion. Prairie dogs would not be permitted to colonize riparian or wetland habitat, xeric tallgrass habitat, or the DOE retained area.
11-23	2.5.4. To assist in properly managing the prairie dog population, the number of acres allocated for prairie dog habitat should reflect the funding level for the Refuge management activities and the number of full-time employees assigned to the RFNWR.	**11-23.** The Service believes that the proposed funding levels would be adequate to manage prairie dogs and other Refuge resources.
11-24	2.5.5. The CCP/EIS states human recreation is a significant component of Alternative B. Plague control methods may be used in prairie dog management for the protection of visitors. Clarify what is meant by "plague control methods regarding prairie dogs."	**11-24.** Plague control methods include the dusting of burrows to control fleas that spread plague. The discussion in Objective 1.7 – *Prairie Dog Management* has been revised to clarify that plague control methods will be used to protect prairie dog populations as well as Refuge visitors.
11-25	2.6. In the event pesticides have to be used to control prairie dogs, we also ask to be informed of the chemicals utilized and provided with a list of pesticides on an annual basis.	**11-25.** The Service will provide this information to the City and County of Broomfield.
	2.7. Species Reintroductions - Species Reintroductions should be considered with the impact to surrounding communities and with our input.	
11-26	2.7.1. While we also support the federal preservation of endangered and threatened species, Broomfield is specifically concerned if introduced species to the site migrate onto Broomfield-owned property. We do not wish to incur additional costs to manage federally protected species on Broomfield-owned lands. 2.7.2. We understand the CDOW would be primarily responsible for the implementation, management, and control of the consequences of introduction. We ask to be apprised of all the species' reintroduction and review of the management plan for the proposed species. 2.7.3. We support the introduction of the sharp-tailed grouse on the Refuge per the plan.	

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	Ms. Laurie Shannon May 14, 2004 – Revised Comments Page 5 of 11 2.7.4. To succeed with the introduction of a species, we ask CDOW and the Service to work closely with the surrounding open space land management agencies. **3. Public Use, Education, and Interpretation** 3.1. Public Access. The plan states between 2.4 – 3.0 acres of xeric tallgrass and mixed grassland prairie communities will be disturbed to construct new trails.	**11-26.** The Service would work with the City and County of Broomfield, as well as other neighboring jurisdictions, in developing plans for any species reintroductions to the Refuge.
11-27	3.1.1. If funding allows, there are no negative impacts to revegetated prairie communities, and Service's staff is able to enforce appropriate trails use, we ask the Service to open additional trail segments within the 5-year timeframe. The RFNWR will provide visitors with vistas of xeric tallgrass and mesic prairies, upland shrub, wetland habitats, native wildlife, downtown Denver skyline, and mountain backdrops. It is our desire for the public to have the opportunity to enjoy the valuable resources at the site and appreciate its historical value. *Alternative B* provides a balance of protection for wildlife and habitat with compatible public use.	**11-27.** The Service would like to clarify that between 1.4 and 3.2 acres of xeric tallgrass prairie would be disturbed by the new trails alignments (including those revised from the Draft CCP/EIS) that are proposed in Alternative B. With regard to trail implementation, see response to comment 11- 8.
11-28	3.2. Designation of Impact Threshold Definitions. The CCP/EIS identifies terms such as negligible, minor, moderate, and major in Table 10.	**11-28.** The basis for evaluating the impacts from public use or other Refuge activities (Table 10) were determined on an resource-specific basis, considering the nature of that resource on the Refuge and the range of possible effects to that resource.
11-29	3.2.1. Clarify the basis for the terminology to measure impacts from public use and activities at the Refuge. 3.2.2. Broomfield does not agree if an air quality standard is exceeded due to actions by the Service at the Refuge that the impact should be considered only a "moderate" impact.	**11-29.** Air quality impact thresholds in Table 10 have been revised.
11-30	3.3. Trail Use. 3.3.1. In support of other local governments, Broomfield supports the position that trails on the southern side of the Refuge should have loops to prevent trails which are detrimental to the eco-system.	**11-30.** The proposed trail configuration for Alternative B in the southern portion of the Refuge was revised to improve connectivity and provide a higher quality and more diverse visitor experience. While trail revisions slightly extend the length of trails proposed in Alternative B, they are still within a range that is reasonable for the Service's goals for Alternative B. The Service does not believe that the benefits of significant trail additions warrant the increased construction and maintenance expense that they would require.
11-31	3.3.2. The multi-use trails should be closely monitored to identify long-term impacts to the surrounding ecological communities, especially from equestrian and biking use. With hikers, bikers, and horseback riders all utilizing the same multi-use trial, some public visitors may not see these activities as compatible on the same trail. Clarify the process to ensure hikers will have a quality recreational use of the trails while still understanding the needs of the bikers and equestrian users.	**11-31.** Trail design, signage, education, and law enforcement would be used to promote a positive trail experience for all users.
11-32	3.4. Horses 3.4.1. Broomfield is concerned with the potential impacts from horses to introduce imported noxious weed seeds in their manure, hooves, and coat. We are pleased to learn equestrian use at the site is contingent upon equestrian organizations volunteering to maintain the multi-use trail on the south side of the site. 3.4.2. We do not support equestrian use on the northern half of the Refuge due to the sensitive habitat and wildlife located in Rock Creek and Walnut Creek drainages.	**11-32.** Thank you for your comments and participation.
11-33	3.5. Trails Routes & Features 3.5.1. Broomfield would like to thank the Service for working with us to connect a northern east/west trail on the RFNWR to our Open Space trail north of Great	**11-33.** The Service recognizes the importance of coordinated trail planning, and is encouraged by the efforts of neighboring jurisdictions to develop trail connections that complement Refuge trails, including a north-south connection on the east side of Indiana Street. As described in strategy 2.13.13, trail connections could include a trail underpass at Indiana Street.

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	Western Reservoir. The plan references a pedestrian crossing. Clarify that this connection could also be an underpass beneath Indiana Street. 3.5.2. Westminster open space management agency is working with our open space management agency to connect a south/north trail east of Great Western Reservoir to provide a loop around the RFNWR on the eastern side of the Refuge.	**11-35.** Portable restrooms will be available at the visitor contact station and main trailhead, but not at the perimeter trailheads.
11-34 **11-35** **11-36**	3.5.3. We support the access points identified in the plan for Alternative B that directs visitors to orientation information, trailheads, and parking areas. 3.5.4. Portable restroom facilities should be provided at high-use trailheads. 3.5.5. We support the proposed SH 128 trailhead, but it may be more appropriate to site the parking lot at a lower elevation that is visible from SH 128. Access by hiking or biking would connect the parking lot and the northern Refuge trail.	**11-36.** The proposed trailhead along SH 128 was located because of existing access and an existing disturbed area, access to striking views from the pediment top overlooking the Rock Creek drainage, and easy and low impact access to internal trails. A specific location that is closer to the grade of the existing roadway would be considered in the design process.
11-37 **11-38**	3.5.6. We support visitation at the site from dawn to dusk. 3.5.7. Clarify the signage and wording for the access points that will inform visitors about conservation practices and priorities that may differ from surrounding open space areas.	**11-37.** Objective 2.2 – *Public Access* has been revised to elaborate that the access hours will be from dawn to dusk. **11-38.** Objective 2.13 – *Recreation Facilities*, has been revised to elaborate on the nature of interpretive signage at the Refuge entrances.
	3.6. Off Trail Use	
11-39	3.6.1. We support off-trail use based on the assumption that controls will be in place to prevent access from the general public into the DOE retained lands. 3.6.2. Off-trail use should be allowed in the southern half of the site. 3.6.3. In the northern half of the site, pedestrian off-trail use should be limited to areas that will not interfere with the PMJM and its habitat.	**11-39.** Thank you for your comments and participation.
	3.7. Multi-Use Trails	
11-40	3.7.1. Broomfield concurs with the Multi-Use (Equestrian, Bicycle, and Foot access) Trails compatibility determination on pages 224 through 227. 3.7.2. We agree with the draft plan that equestrian and bicycle use are a form of transportation and recreation. 3.7.3. We agree with the identified stipulations as noted in the compatibility determination.	**11-40.** Thank you for your comments and participation. **11-41.** Thank you for your comment and participation.
	3.8. Wildlife Observation and Photography - Wildlife Observation and Photography are valuable activities that will allow the public to observe and appreciate the wildlife and overlooks at the RFNWR.	
11-41	3.8.1. The City & County of Broomfield agrees with the draft compatibility determination and stipulations necessary to insure compatibility identified on pages 228 through 231.	
11-42	3.9. Hunting. 3.9.1. Broomfield believes that hunting is incompatible with the public use of the Refuge and for safety concerns since the Refuge is near populated areas.	**11-42.** The Service believes that a limited, highly managed hunting program would be a safe and positive form of wildlife dependent recreation on the Refuge, and would complement other tools for managing ungulate populations. Note that Objective 1.6 – *Deer and Elk Management*, and Objective 2.10 – *Hunting Program*, have been revised to better correlate the establishment and analysis of target population size and public hunting programs.
11-43	3.10. Education. 3.10.1. We support the environmental education program proposed for Alternative B, which targets both on-site and off-site environmental education.	**11-43.** Thank you for your comment and participation.

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11-44	3.10.2. It is crucial to encourage a search or independent study of the site's natural and cultural resources. We would like to partner with you to develop a sound education program to focus on the natural, cultural, and historical aspects of the site.	**11-44.** The Service welcomes Broomfield's input to education programs, as well as independent research proposals.
11-45	3.10.3. To ease public apprehension about the site and make visitors feel welcome, safe, and comfortable, it is imperative to communicate the cleanup results and ongoing safety measures performed by DOE and the regulators for both the Refuge area and the DOE retained lands. We once again volunteer to partner with the Service to develop a volunteer program focused on helping the public and site visitors understand efforts that have been made to ensure the safety of site users. As a surrounding community of the RFNWR, it is important for our citizens to feel safe and welcome to experience the Refuge. 3.10.4. Keep us apprised of Refuge events and the progress of the CCP's implementation.	**11-45.** The CCP/EIS is written under the premise that the land will be sufficiently remediated and certified prior to the establishment of the Refuge. The Service is not a decision-maker in matters regarding cleanup, but the EPA and CDPHE have accepted that all activities proposed in the CCP would be safe. However, the Service also acknowledges the concerns of many members of the public regarding the location and level of residual contamination on lands that will become the Refuge. For this reason, we have added an additional discussion of contamination issues in Section 1.8. The Service welcomes Broomfield's input into public outreach and interpretation efforts.
11-46	3.10.5. We ask that you work with us to identify the wording on signs, brochures, website, and other means to convey safety information. 3.10.6. We could also serve as a contact to convey safety information during off-seasons.	**11-46.** The Service welcome's Broomfield's input and participation during the development of a step-down Visitor Services Plan, as well as throughout the Refuge management process.
11-47	3.11. Interpretive Facilities - The anticipated initial cost of $76,000 to develop interpretive facilities may not come to fruition if appropriate funding is not available. 3.11.1. We will partner with the Service to work with non-profit organizations, other local governments, and government and state agencies to develop interpretive facilities and environmental education programs. 3.11.2. We strongly support the self-study training program to be used by educators. The interpretation and environmental education program will definitely increase public appreciation for the Refuge System and conservation of our community's natural resources.	**11-47.** See response to comment 11-46.
11-48	3.11.3. Including historical information of the site in the educational program will assist long-term stewardship efforts to ensure that maintenance and monitoring continues as long as it is needed to verify the effectiveness of the remedy which will promote public confidence in visiting the Refuge.	**11-48.** The Refuge would include signs and displays conveying the history of the site, the location and nature of residual contamination, and relative risks associated with the Refuge. These would be developed in a step-down Visitor Services Plan.
11-49	3.12. Interpretive Planning. 3.12.1. The plan addresses the development of a Visitor Services Plan, yet we struggle to understand how such a plan can be developed without knowing the mechanisms to control access to the DOE retained lands, ensure protection of Institutional Controls, and Engineering Controls.	**11-49.** All step-down plans, including a Visitor Services Plan, would be completed after the MOU is completed and cleanup protocols are in place. No step-down plans will be developed until after the site becomes a refuge.
11-50	3.12.2. Signs on tours should not just address cultural and natural themes, but should also include signs addressing restrictions to the DOE retained lands. The signs should not stigmatize the Refuge, but rather inform and educate visitors of the need for the prohibition of access into the DOE retained lands.	**11-50.** See response to comment 11-48.
	4. Refuge Operations, Safety and Partnerships 4.1. McKay Ditch and Upper Church Ditch - The McKay Ditch and Upper Church Ditch, in which Broomfield owns water rights, are located on the west side of the Industrial Area and will continue to require maintenance for optimum operations. We have worked with	

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	DOE to access the ditches while ensuring protection of the PMJM and riparian/wetland areas.	**11-52.** Thank you for your comment and participation.
11-51	4.1.1. We ask the Service to work with us to ensure access to McKay and Upper Church Ditch to make certain our actions are protective of the composition and integrity of riparian and wetland habitats to ensure a continued protection suitable for PMJM habitat. 4.1.2. It is imperative our water, which conveys across Rocky Flats to the east and northeast, is protected	**11-53.** In the DEIS, the Service recommended that the demarcation between the Refuge and the DOE retained area be "seamless" with few obvious visual differences. Section 1.8 of the FEIS elaborates that the Service believes that a four-strand barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands are closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.
11-52	4.2. Fencing. 4.2.1. We support using the existing barbed wire boundary fence to delineate the boundaries of the Refuge. The current fence appears to allow the movement of wildlife species onto and off of the site.	**11-54.** The Service looks forward to working with Broomfield and other adjacent jurisdictions to coordinate and improve the regional management of wildlife and their habitat.
11-53	4.2.2. We understand the CCP/EIS plan does not address control of the DOE retained lands. The draft document states: It is the goal of both the Service and DOE that to the extent possible, Rocky Flats will be a seamless property, with no or few obvious visual differences between Refuge and retained lands. Broomfield disagrees with this statement and is adamant the DOE retained lands should be clearly demarcated. 4.2.3. If it is decided that a fence will be used to accomplish this, Broomfield recommends that only a standard, three-wire agricultural-type fence be constructed to prevent accidental access to the DOE retained lands. As a community downgradient from Rocky Flats, our goal is to ensure protection of surface water quality entering our community. This goal can only be achieved through protection of the remedy and protection of the monitoring equipment to evaluate the remedy. Per the recent public meetings held in March, it is apparent the public desires a fence around the DOE retained lands to control access to areas with residual contamination.	**11-55.** See response to comment 11-35.
11-54	4.3. Partnerships. 4.3.1. The City & County of Broomfield wants to be the first to volunteer to partner with the Service and provide the opportunity for our community to appreciate and visit the Refuge. We look forward to discussing our wildlife and wildlife habitat management strategies with the Service along with networking with other open space agencies to enhance our community's natural resources. Per the plan, this dialogue will improve and expand the range of available habitat for many species and protect wildlife movement corridors between properties.	**11-56.** The Service plans on installing a cistern or other storage system to provide water to the visitor contact station, offices, and maintenance facilities.
11-55 **11-56** **11-57**	4.4. Restrooms. The plan states: The only restrooms at the Refuge would be located near and/or within the visitor contact station. 4.4.1. The Service may want to consider having portable restrooms at the high-use trailheads to accommodate visitors taking long hikes. 4.4.2. Clarify how water will be made available to the restrooms at the visitor contact station. 4.4.3. If the contact station is staffed seasonally, will the restrooms be serviced during off-seasons?	**11-57.** Regular routine maintenance activities, including servicing restrooms, would occur independent of whether a visitor contact station is staffed.

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	4.5. Staff and Visitor Safety. It is our understanding both of the security butler buildings will remain on-site for use by the Service for storage. Both of the buildings are within the DOE retained lands.	
11-58	4.5.1. To reduce unneeded access to DOE retained lands and reduce stress to the topography to prevent erosion, the butler buildings should be transferred to the lands transferred to DOI.	**11-58.** The transfer of existing structures for a Refuge maintenance facility will likely occur prior to Refuge establishment.
11-59	4.5.2. It is vital to emphasize both EPA and CDPHE have concurred that the Refuge will be safe for public use.	**11-59.** The additional discussion of contamination issues in Section 1.8 emphasizes that the EPA and CDPHE concur that the lands to become the Refuge will be safe for any proposed Refuge management activities.
	4.6. Law Enforcement - A law enforcement presence on-site is important to educate visitors to adhere to the rules of the Refuge.	
11-60	4.6.1. Broomfield is concerned the Service may not have sufficient funding to staff enforcement officers to protect wildlife and habitat and ensure visitor access to the DOE retained lands is prohibited.	**11-60.** The Service does not anticipate a constant law enforcement presence on the Refuge. However, the Service does believe that the proposed levels of staffing are sufficient to implement the management objectives that are proposed in the CCP.
11-61	4.6.2. Broomfield is concerned the CCP/EIS does not identify the physical controls for DOE retained lands, nor does it identify who will be responsible for controlling access to these lands. We are making decisions and providing recommendations for future use at the Refuge based on DOE and the Service having a robust plan in place to protect the remedy and prevent public access to DOE retained lands. 4.6.3. A layered institutional control program should be utilized to educate visitors and prohibit access to DOE retained lands.	**11-61.** See response to comment 11-53.
	4.7. Mining	
11-62	4.7.1. Broomfield is very concerned the mining rights issue has not been resolved and the MOU has not been signed.	**11-62.** The Service agrees that surface mining would have an adverse impact on the management of the Refuge and its resources, and would not be compatible with the purposes of the Refuge or the NWRS. The Service has expressed to DOE that it will not accept the transfer of administrative jurisdiction of lands subject to mining until the United States owns the associated mineral rights, or until mined lands have been reclaimed to native grasslands.
11-63	4.7.2. The impacts from future aggregate mining are clearly not compatible with the goals of a Refuge.	**11-63.** Chapter 4 has been revised to include additional analysis of the potential cumulative effects of mining on Refuge resources.
11-64	4.7.3. The adverse effects of aggregate mining were not clearly identified in the CCP/EIS. 4.7.4. Broomfield is apprehensive about the future of the Refuge if the mineral rights issue cannot be resolved. If DOI and DOE cannot come to an agreement about this one topic, we have reservations about the decision-making process to transfer lands from DOE to DOI prior to closure of the Rocky Flats Technology Site.	**11-64.** See response to comment 11-62. There is no plan to transfer land from DOE to DOI prior to closure of the site.
	4.8. Transfer of Property	
11-65	4.8.1. The Rocky Flats Environmental Technology Site is currently listed as a Comprehensive Environmental Response, Compensation, and Liability (CERCLA) site and is identified on the National Priority List (NPL). The CCP/EIS does not address how or when transfer of lands between DOE and DOI will take place. The Bill addresses certification of the land, and we are not clear on the criteria for certification or its relationship to delisting CERCLA lands.	**11-65.** The CCP/EIS is written under the premise that the land will be sufficiently remediated and certified prior to the establishment of the Refuge. The Service is not a decision-maker in matters regarding cleanup, but the EPA and CDPHE have accepted that all activities proposed in the CCP will be safe. The exact nature of the certification, as well as issues related to the de-listing of the site or portions thereof from CERCLA, are matters for the EPA and the other RFCA parties. The RFCA parties have sought input from the Service on the certification standards.
11-66	4.8.2. We ask that any land be de-listed prior to transfer of lands to DOI. We also request clarification for the certification process and the comparison to the delisting	**11-66.** See response to comment 11-65.

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	Ms. Laurie Shannon May 14, 2004 – Revised Comments Page 10 of 11 process. Revise the document to include the process to transfer lands and the public process. 4.9. Transportation Right-of-Way 4.9.1. The transportation right-of-way easement is of key concern for Broomfield.	
11-67	4.9.2. The City & County of Broomfield wants to reiterate its position that the boundaries of the transportation right-of-way shall be at least 300 feet from the west edge of the Indiana Street right-of- way, as that right-of-way exists as of the date of the enactment of the Rocky Flats National Wildlife Refuge Act of 2001. 4.9.3. We agree the environmental impact of the right-of-way should be addressed in the Northwest Corridor EIS. Broomfield will also work through the Northwest Corridor process, including the EIS to ensure movement corridors for deer and elk from the site to nearby habitat areas are protected.	**11-67.** The Refuge Act directed that the land to be made available for transportation improvements should not extend more than 300 feet from the Indiana Street right-of-way. The Service acknowledges that the transfer of land for the purposes of transportation improvements is the responsibility of the DOE and would occur prior to the establishment of the Refuge. However, the Refuge Act directs the Service to make recommendations on land that could be made available for transportation improvements. To that end, the FEIS includes a new Section 4.16, which discusses potential concerns that the Service would have related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.
11-68	The City & County of Broomfield expects that we will continue to be involved, informed, and allowed to participate and comment on the final CCP/EIS and step-down plans. Broomfield anticipates our issues and comments will be addressed at a future scheduled meeting. Broomfield once again appreciates the opportunity to share our community's vision and goals of open space to enhance and compliment wildlife, habitat, and public use activities at the RFNWR. If you have any questions, please feel free to call Shirley Garcia of my staff, at 303-438-6329. Sincerely, Dorian Brown Director of Public Works pc: Gary Brosz, City & County of Broomfield City Council Lori Cox, City & County of Broomfield City Council Charles Ozaki, Deputy City and County Manager Kevin Stanbridge, Assistant City and County Manager Mike Bartleson, City & County of Broomfield Kathy Schnoor, City & County of Broomfield Kristan Pritz, City & County of Broomfield Shirley Garcia, City & County of Broomfield Sam Dixion, City of Westminster City Council Al Nelson, City of Westminster Dean Rundle, Service Manager for RFNWR Mark Sattelberg, Fish and Wildlife Service Hank Stovall, RFCLoG Steve Gunderson, CDPHE Mark Aguiler, EPA David Abelson, RFCLoG Ray Plieness, DOE	**11-68.** Thank you for your comments and participation.

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	WESTMINSTER APR 25 2004 RECEIVED APR 25 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 23, 2004 Laurie Shannon Planning Team Leader Rocky Mountain Arsenal National Wildlife Refuge Building 121 Commerce City, Colorado 80022-1748 City of Westminster Office of the City Manager 4800 West 92nd Avenue Westminster, Colorado 80031 303-430-2400 FAX 303-430-1809 Re: *The Draft Comprehensive Conservation Plan and Environmental Impact Statement*, dated February 2004 Dear Ms. Shannon: **12-1** The City of Westminster appreciates the opportunity to review and provide comments on the *Draft Comprehensive Conservation Plan and Environmental Impact Statement* (CCP/EIS) for the Rocky Flats National Wildlife Refuge (RFNWR). Westminster appreciates the effort the Service has made to work with the community collaboratively towards a common goal and objective. Westminster supports the draft proposed action *"Alternative B – Wildlife, Habitat & Public Use."* Alternative B provides a balance between public use and protection of wildlife and habitat, while still controlling access to areas with residual contamination. Please reference our letter dated June 24, 2003, which addressed previous comments and concerns pertaining to the RFNWR. Some of our issues associated with stewardship controls are still outstanding from last year's letter and we anticipate they will be resolved through future dialogue and comments prior to the finalization of the CCP/EIS. City staff has very thoughtfully and thoroughly reviewed the CCP/EIS and has the following comments and recommendations: **Objective 1.1 - Preble's Meadow Jumping Mouse (PMJM) Habitat Management** **12-2** We are concerned about the level of protection for the PMJM if the water available after remediation does not support a riparian habitat. This issue has not been clearly resolved. **12-3** Riparian Area (wetlands, riparian areas & creeks) - As the amount of surface water is reduced, we do not want the Service to maintain any man-made areas requiring importation of water to maintain habitats within these areas. This issue has not been clearly resolved. Riparian and wetland habitat management in Alternative B would include the option for selective exclusion of grazing/browsing animals from sensitive riparian areas using fences. Additional characterization of the Buffer Zone will only include surface soils and *Printed on recycled paper*	**12-1.** Thank you for your comments. **12-2.** DOE has been working with the Service to minimize impacts on the Preble's from hydrologic changes of site closure. It is the intention of the Service to manage Preble's populations with the resources that will exist when the Refuge is established. Reduced surface water flow is anticipated to be one of the hydrologic changes. The Refuge Act specifically protects existing property rights on the Refuge, including water rights and related easements. However, the Service would consider future voluntary acquisition of water rights on a willing-seller basis. **12-3.** See response to comment 12-2. Any residual contamination in the buffer zone is limited to surface contamination that is well below cleanup levels that are required to protect public safety. All areas with significant surface or subsurface contamination will be within the lands to be retained by DOE, and will be remediated. For that reason, the EPA and CDPHE have verified that Refuge operations, including the digging of fence posts, would not expose additional contamination to Refuge workers or the public.

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	contamination could potentially be encountered during the process to dig holes for posts for fencing to exclude ungulates. Provide the City with any short-term or long-term plans, if any, to monitor and/or sample for contamination during excavation or any soil disturbance.	
12-4	**Objective 1.2 - Xeric Tallgrass Management** Support if areas already contain xeric tallgrass. We do not want to expend additional funds that may be taken from long-term stewardship (LTS) activities. Biomes will eventually mature to shrubland and we do not know what the Service's plans will be to maintain the xeric tallgrass. If soil is disturbed, will a Radiological Control Technician (RCT) be available to monitor for contamination? We need the cost estimate to restore large areas of grassland and the potential for the habitat restoration to be successful.	**12-4.** The budget for Refuge management activities, including habitat restoration and revegetation would be allocated separately through Department of the Interior appropriations. Long-term stewardship of the DOE retained area will be funded through DOE appropriations. Xeric tallgrass management activities on the Refuge would not affect budgets for DOE long-term stewardship. Maintenance of the xeric tallgrass prairie is one of the reasons Congress authorized the Refuge. The Service's plans for maintaining xeric tallgrass are described in Objective 1.2 – *Xeric Tallgrass Management*. It is the Service's belief that the xeric tallgrass community has persisted for a very long time, and is the climax vegetative community on the portions of the site it occupies. The Service believes there is insufficient annual precipitation at this site to allow the xeric tallgrass community to advance successionally into a shrubland. If that were the case, a shrub/scrub community likely would have replaced the tallgrass prairie in the time since DOE acquired most of the land in 1951.
12-5	**Objective 1.3 - Mixed Grassland Prairie Management** Tilling and any disturbance of soil will have to have controls in place to ensure contamination is not dispersed into the environment or that the footprint of the Industrial Area (IA) is enlarged. If soil is disturbed, will a RCT be available to monitor for contamination? We support revegetation of the hay fields.	The Service does not plan to employ a Radiological Control Technician to monitor habitat restoration activities. The CDPHE and EPA have verified that such activities can be conducted on future refuge lands without threatening human health. In regard to general issues about residual contamination, see the response to comment 12-3, as well as the expanded discussion in Section 1.8 of the FEIS.
12-6	**Objective 1.4 - Road Restoration and Revegetation** We will require roads to access monitoring stations and remedies. Further discussion is required. If soil is disturbed, will a RCT be available to monitor for contamination? We need to ensure roads are maintained to treatment units, caps, and monitoring areas such as wells, drainages, and air monitoring stations. We support the removal of culverts in areas where roads will no longer be required, but they should be kept in areas where vehicle traffic will be used to monitor the remedy. We ask that you work with us to ensure maintained roads are available to access the IA and the above mentioned stewardship locations.	**12-5.** See response to comment 12-3, as well as the expanded discussion in Section 1.8 of the FEIS. **12-6.** The Refuge access roads were designed to provide reasonable access to the DOE retained area, all monitoring facilities, ditches and other private property rights at Rocky Flats. The DOE will retain responsibility for all of the lands and access roads related to the cleanup and remedy facilities.
12-7	**Objective 1.5 - Weed Management** The City supports the identified tools for weed management for *Alternative B*. We ask to be consulted and allowed to participate in the development of an Integrated Pest Management (IPM) plan for the RFNWR.	**12-7.** The Service would solicit the input and participation of the City of Westminster, other jurisdictions, stakeholders, and the public during the development of an Integrated Pest Management Plan.
12-8	Grazing - We support grazing in the non-IA, if goats are used for weed management. We support use of cattle in the hay fields to contribute to a more diverse ecological ecosystem. Animals must be controlled by temporary electric fences. Due to the potential risk of remaining contamination on the surface and *in the sub-surface, grazing is not acceptable in the IA. Other options are acceptable if controlled and a plan is in place and the public has an opportunity to*	

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	publicly comment. Our decision will also be based on the sampling methodology for the Buffer Zone and White Spaces and the results of the sampling.	
12-9	Prescribed fire - If using prescribed fire, work with Westminster on comprehensive burn plan. The maximum area to be burned should not exceed the current maximum area allowed in the Revegetation Plan. Air monitoring and qualified RCT should both be in place during the burns.	**12-9.** The Service would solicit the input and participation of the City of Westminster, other jurisdictions, stakeholders, and the public during the development of a step-down Fire Management Plan. The EPA and CDPHE have verified that all of the proposed Refuge management activities, including prescribed fire, would be safe. However, in response to concerns about residual contamination associated with the 903 pad, the Service has taken a conservative approach and does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 8). The Service will rely on CDPHE recommendations and requirements regarding air monitoring during any application of prescribed fire.
12-10	Pesticides and Herbicides Use - Support limited use with an approved list of chemicals and that pesticide or herbicide application should only be used with assurances that surface water quality will not be negatively impacted. Utilize current process of notification to local governments.	**12-10.** See response to comment 12-7. The Service is committed to working with the City of Westminster and other jurisdictions in addressing concerns about weed management at the Refuge. A step-down Integrated Pest Management Plan would incorporate those concerns, as well as many of the current DOE practices. The Service complies with EPA-approved labels. All proposed pesticide applications on the Refuge would go through a rigorous Pesticide Use Proposal review process in accordance with DOI policy, prior to use on the Refuge.
	Objective 1.6 - Deer and Elk Management	
12-11	We will withhold judgment on hunting until the results of the tissue sampling that is being carried out, is completed. We reiterate that the service should defer its final decision on hunting at the RFNWR until analytical data is received from the frozen deer tissue to evaluate the uptake of plutonium and/or uranium in ungulates. Hunting must be limited to archery or crossbow only; we do not support the use of shotguns or muzzleloaders due to the proximity of high use highways and commercial and residential areas. Will the site have the same protocols for releasing culled animals off-site? If the animals are not consumed, how will FWS dispose of carcasses? At this point we do not support an expanded hunting program with such a short phased in approach. The two-year reinvestigation for opening the site to other hunters should be at least five years.	
12-12	The CCP/EIS should delineate exactly where on the refuge possible hunting areas will be located. The areas must have a definite exclusion area from surrounding public and private lands.	
	Objective 1.7 – Prairie Dog Management	
12-13	We support, if they do not impact the remedy. We ask a specified distance from the Industrial Area to the prairie dog colonies be identified in the prairie dog management plan to require a corrective action to relocate the prairie dogs. The corrective action will ensure protection of the remedy and maintain control of residual contamination. Under no circumstances should prairie dogs be relocated to the RFNWR from surrounding communities. Any colonies near remedy areas MUST be relocated or eradicated.	
	Objective 1.8 - Species Reintroduction	
12-14	*We support, if they do not impact the remedy and their migration to adjoining properties is strictly controlled.*	

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	Objective 2.2 - Public Access	
12-15	Trails - Final decisions will be based on the institutional controls of the IA. Westminster would like an additional foot trail from the Westminster access point on Indiana to the Overlook in the southern part of the site. The multiuse trail along the southern boundary must be far enough from the planned Arvada development so as to have a buffer between the two. In support of other local governments, trails on the southern side of the Refuge should have loops to prevent social trails. The multi-use trails should be closely monitored to identify long-term impacts to the surrounding ecological communities, especially from equestrian and biking use. With hikers, bikers, and horseback riders all utilizing the same multi-use trial, some public visitors may not see these activities as compatible on the same trail. Clarify the process to ensure hikers will have a quality recreational use of the trails while still understanding the needs of the bikers and equestrian users.	**12-12.** The exact structure and locations of the proposed hunting programs would be documented in a step-down Hunting Plan. The Service would solicit the input and participation of the City of Westminster, other jurisdictions, stakeholders, and the public during the development of this plan. The Final CCP/EIS has been revised to propose only archery and shotguns for deer/elk hunting. The proposal to allow use of muzzle-loading rifles has been removed in consideration of safety comments received during public review of the Draft CCP/EIS.
12-16	Equestrian use – We do not support equestrian use on the northern half of the Refuge due to the sensitive habitat and wildlife located in Rock Creek and Walnut Creek drainages. We support equestrian use on southern trails only, but have the following questions: • How will riders stay on designated trails? • Who will enforce the activity and ensure the activity is only on designated trails? • Horses will have to be kept out of the IA and drainages. What controls will be in place to protect the water? • We need to review the studies of equestrian use at other Department of Defense (DoD) and Department of Energy (DOE) sites and their impacts to ecological systems and remedies.	**12-13.** The EPA and CDPHE have verified that subsurface contamination does not exist in the area that will become the Refuge. The DOE will be responsible for the protection of the remedy facilities within the portions of the DOE retained area where subsurface contamination will remain, which includes preventing prairie dogs or other burrowing animals from accessing subsurface contamination. While the Service is not responsible for prairie dogs within the DOE retained area, and while subsurface contamination should not be an issue on the Refuge, as a management partner with the DOE it is prudent for the Service to maintain a sustainable prairie dog population and to keep those populations away from the retained area.
12-17	Mountain biking – We support mountain biking on all perimeter trails, but have the following questions: • How will riders stay on designated trails? • Who will enforce the activity and ensure the activity is only on designated trails? Bikes will have to be kept out of the IA and drainages, what controls will be in place to protect the water?	During their annual dispersal from natal colonies, prairie dogs may move as far as 10 miles or more, pioneering into new areas. Hence, it is as likely that prairie dogs could invade DOE retained lands from areas outside Rocky Flats as they could from within the Refuge. There is no biologically sound, or practical management reason to establish any specific distances to keep prairie dogs away from DOE retained lands. Other issues such as vegetative structure and natural barriers are more important than distances. In any case, DOE will need to develop a robust stand of vegetation in the Industrial Area and maintain long-term monitoring to prevent burrowing animals from compromising the remedy.
12-18	Off-trail use – We support during seasonal activities such as possible hunting or bird watching. We need more information about the type of activity and controls in place to protect the remedy. This activity must be closely monitored to ensure it is pedestrian only and NO horses or bicycles go off-trail. Controls must be in place to keep people off the remedy and out of DOE maintained areas.	
12-19	Phased in approach – We support the Lindsay Ranch trail being opened during the first five years and the plan to revegetate specific areas and open the other areas as they are prepared for public use.	

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12-20	Access Hours – We support that the refuge will be open only during the day with identified hours of operation. We support the access points identified in the plan for Alternative B that directs visitors to orientation information, trailheads, and parking areas. Clarify the signage and wording for the access points that will inform visitors about conservation practices and priorities that may differ from surrounding open space areas.	**12-15.** The Service considered additional trail configurations, including those requested by the City of Westminster, other jurisdictions, and organizations. The proposed trail configuration for Alternative B in the southern portion of the Refuge was revised to improve connectivity and provide a higher quality and more diverse visitor experience. The overall length of trails in Alternative B was increased only slightly, so it would not significantly increase the cost of maintaining Refuge trails. As described in Objective 1.5 – *Weed Management*, trails would be informally surveyed for new weed infestations and other ecological issues. Trail design, signage, education, and law enforcement would be used to promote a positive trail experience for all users.
12-21	Balance between refuge activities and IA protection – We need the memorandum of understanding (MOU) so we can better understand how this issue is going to be resolved.	
12-22	Controls - DOE needs to address this issue in their remediation documents and closure documents such as the Corrective Action Decision/Record of Decision (CAD/ROD) or post-Rocky Flats Cleanup Agreement (RFCA). Remedy protection will always have priority over refuge goals and activities. We support remediation of the old firing range. Erosion controls have to be evaluated on their long-term impacts and remedial action goals.	
12-23	Adjacent Land Protection – The City supports the Service's proposal to pursue habitat-protection partnerships, conservation easements and/or acquisition of lands west of the refuge.	**12-16.** All public uses, including equestrian access, would be managed though a combination of signage, education, and law enforcement. These methods have proven to be effective at other Refuges and in many open space areas.
	Objective 2.8 - Environmental Education Planning	
12-24	Support - We foresee the opportunities the refuge may have for education of ecological, environmental, and historical information. Educating the public and preserving the historical memory of the site will service several different functions. One function is to preserve and educate people on the past use of the site during the Cold War era. If B060 could be acquired for the Museum/Visitor's Center, it could be used to remind future generations of areas with residual contamination and the need to maintain institutional controls. The Center would also allow the Service a facility in which to conduct their education and outreach programs as well as an operations and maintenance facility to house staff.	The Service believes that these same controls would be effective in keeping the public out of the DOE retained area. However, in response to concerns about access to the DOE retained area, the Service has recommended to the RFCA parties that a barbed-wire agricultural fence and/or permanent obelisks demarcating the interior property boundary could be used to delineate the retained area without adversely affecting the movement of wildlife or aesthetics on the Refuge.
	Objective 2.10 - Hunting Program	
12-25	See comment under Objective 1.6 - Deer and Elk Management	**12-17.** See response to comment 12-16.
	Objective 2.13 - Recreation Facilities	
12-26	There should be no parking for horse trailers at trailheads where direct equestrian access to the refuge for equestrian use is not allowed. Biking only on perimeter trails.	**12-18.** Off-trail use would be allowed on a seasonal basis, for pedestrian access only, in the areas south of the primary multi-use trail in the southern part of the Refuge (see Figure 25). Use restrictions would be managed through signage, education, and law enforcement. In regard to specific concerns about residual contamination, the EPA and CDPHE have verified that any proposed public uses, including off-trail use, would be safe. In addition, the proposed off-trail use areas are outside of the DOE retained area and other areas of residual soil contamination (Figure 4).

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Objective 3.1 - Staff Safety

12-27 Workers shall meet all the regulatory training requirements: including but not limited to: OSHA, Radiation Worker, Emergency Response, etc.

Objective 3.2 - Visitor Safety

12-28 We believe a process should be in place to prevent access to the IA from the general public. We suggest fencing as well as signs posted around the IA to prevent access to the area. The signs could state "Environmental Restoration and Study Area, No Public Access Allowed." This wording will not convey that there is residual contamination in the area, but still provides a reasonable precaution. The IA will contain residual contamination in the soils and contaminated groundwater and we prefer access to the area only be given to FWS or to personnel performing stewardship activities. Activities allowed at the refuge will be based on controls for the IA and presence of the Service at the site.

Objective 4.1 – Outreach

12-29 Vision? Needs? Still waiting for the MOU to determine needs and funding.

Goal 5 - Working with Others

12-30 Mineral Rights - This is still an outstanding issue. We need further dialogue.

12-31 MOU - The City is apprehensive that the MOU between the Department of Interior (DOI) and the DOE has not been finalized. The MOU was to include valuable information, which would clearly identify the physical boundaries and areas of management responsibilities by DOI and DOE. Based on assumptions that areas with residual contamination will be clearly demarcated and controlled and the Service will only receive lands with less than 7 pCi/g, *Alternative B* is our preferred alternative. It is imperative the Service identify a caveat in the CCP/EIS plan that the finalized activities and step-down management plans (operational documents) will be contingent on resolution to the MOU. Westminster is very concerned the mining rights issue has not been resolved and the MOU has not been signed. The impacts from future aggregate mining are clearly not compatible with the goals of a Refuge. The adverse effects of aggregate mining were not clearly identified in the CCP/EIS. Westminster is apprehensive about the future of the Refuge if the mineral rights issue cannot be resolved. If DOI and DOE cannot come to an agreement about this one topic, we have reservations about the decision making process to transfer lands from DOE to DOI prior to closure of the Rocky Flats Technology Site.

12-32 Partnerships - The City wants to be the first to volunteer to partner with the Service and provide support to ensure our community appreciates and utilizes the opportunities the Refuge will provide. We look forward to discussing our

12-19. Thank you for your comment.

12-20. Objective 2.2 – *Public Access* has been revised to elaborate that public access would be limited to daylight hours. Objective 2.13 – *Recreation Facilities* has been revised to include the City's specific suggestion about the Refuge and its distinction from nearby open space areas.

12-21. It is the Service's intent not to accept transfer of administrative jurisdiction of any lands at Rocky Flats until the MOU between DOE and DOI, as required by the Refuge Act, is finalized. It will be up to the RFCA parties to determine how the response actions are protected, while the EPA will determine what lands are certified. As outlined in the Refuge Act, any issues related to maintaining response actions will take precedence over Refuge management activities.

12-22. As the City is aware, the RFCA parties, and not the Service, are not responsible for cleanup related decisions and documentation.

12-23. Thank you for your comment.

12-24. The establishment of the Cold War Museum is outside the jurisdiction of the Service and the scope of the CCP/EIS. However, the Service has expressed that it would prefer to co-locate some Refuge interpretation facilities center with the Cold War Museum, if such a museum is established and it is within close proximity to the Refuge entrance.

12-25. See response to comment 12-11.

12-26. Objective 2.13 – *Recreation Facilities* has been revised to specify the recommended location of horse trailer parking areas.

12-27. Safety requirements are addressed in Objective 3.1 – *Staff Safety*.

12-28. See response to comment 12-16.

12-29. Thank you for your comment.

12-30. As described in Section 3.8 of the FEIS, the Service has expressed to DOE that it will not accept the transfer of administrative jurisdiction of lands subject to mining until the United States owns the associated mineral rights, or until mined lands have been reclaimed to native grasslands.

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	wildlife and wildlife habitat management strategies with the Service along with networking with other open space agencies to enhance our community's natural resources. Per the plan, this dialogue will improve and expand the range of available habitat for many species and protect wildlife movement corridors between properties.	
12-33	Funding – The City will investigate the feasibility of acquiring additional funding for the FWS from entities, i.e. GOCO, to be used to accelerate trail construction and access to the site.	
12-34	**Objective 5.1 – Emergency** Support, but believe emergency response agreements must be in place when the FWS gains possession of the refuge not by one year later.	
12-35	**Objective 5.2 – Conservation** Easements for ditches and other existing utility easements need to be maintained and preserved. Work closely with the City to develop a Water Protection Plan to ensure the security of the following areas: groundwater wells, surface water monitoring stations, treatment units, drainage areas flowing into the retention ponds on Woman Creek and the Smart Ditch drainage. Boundaries of transportation corridor right-of-way should be 300 ft from the eastern edge of the site. Water Protection Plan - Water Protection Plan should include: methods to secure the areas to prevent spread of contamination; fencing, use of storm water, BMPs, other controls measures; and, identify access requirements.	
12-36	**Objective 6.3 – Fencing** We believe a process should be in place to prevent access to the IA from the general public. We suggest using the current four-strand barbed wire fencing as well as signs posted around the IA to prevent access to the area. The signs could state "Environmental Restoration and Study Area, No Public Access Allowed." This wording will not convey that there is residual contamination in the area, but still provides a reasonable precaution. The IA will contain residual contamination in the soils and contaminated groundwater and we prefer access to the area only be given to FWS or to personnel performing stewardship activities. Activities allowed at the refuge will be based on controls for the IA and presence of the Service at the site. For defense in depth, we suggest that each individual monitoring station, landfill cap, treatment unit, etc., be fenced as well.	
12-37	The City expects that we will continue to be involved, informed, and allowed to participate and comment on the final CCP/EIS and step-down plans. Westminster anticipates our issues and comments will be addressed at a future	**12-31.** See response to comment 12-21. **12-32.** Thank you for your comment and participation. Working with others is one of the six planning goals of the Refuge. **12-33.** The Service is encouraged by the efforts of the City and other neighboring jurisdictions to develop trail connections that complement Refuge trails. **12-34.** While the Service will seek to coordinate with neighboring jurisdictions as early as possible, it will not be feasible to develop formal arrangements until adequate budgets and staffing have been established. **12-35.** The Refuge Act specifically protects existing property rights on the Refuge, including water rights and related easements. In addition, see response to comment 12-16. The DOE is solely responsible for the maintenance and security of water quality protection facilities. However, the Service will work with the DOE and other stakeholders to ensure that Refuge activities do not affect the effectiveness of the remedy. **12-36.** See response to comment 12-16. **12-37.** The Service would solicit the input and participation of the City of Westminster, other jurisdictions, stakeholders, and the public during the development of the step-down management plans.

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12-38	Laurie Shannon April 23, 2004 Page 8 scheduled meeting. We once again appreciate the opportunity to share our community's vision and goals of open space to enhance and compliment wildlife, habitat, and public use activities at the RFNWR. If you have any questions, please feel free to contact Ron Hellbusch (303) 430-2400 ext. 2177 or Al Nelson (303) 430-2400 ext. 2174 of my staff. Sincerely yours, J. Brent McFall City Manager cc: City Council, City of Westminster Ron Hellbusch, Director Public Works and Utilities, City of Westminster Al Nelson, Rocky Flats Coordinator, City of Westminster Senator Wayne Allard Congressman Mark Udall Congressman Bob Beauprez Gary Brosz, City Councilor, City & County of Broomfield Lori Cox, City Councilor, City & County of Broomfield Shirley Garcia, Environmental Coordinator, City & County of Broomfield Mark Aguilar, Environmental Protection Agency Steve Gunderson, Colorado Department of Public Health and Environment Dean Rundle, Refuge Manager, Rocky Mountain Arsenal David Abelson, Rocky Flats Coalition of Local Governments	**12-38.** Thank you for your comments.

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Town of Superior

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APR 26 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

April 19, 2004

Mr. Dean Rundle, Refuge Manager
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal National Wildlife Refuge
Building 111
Commerce City, CO 80022-1748

Dear Mr. Rundle:

13-1 Thank you for the opportunity to comment on the Rocky Flats National Wildlife Refuge (RFNWR) draft Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS). We appreciate the efforts of the U.S. Fish and Wildlife Service (USFWS) to work with the communities surrounding the Rocky Flats site to reach common goals and objectives.

13-2 On behalf of the Superior Town Board of Trustees, I am submitting this letter as formal comment on the draft CCP/EIS. We have previously submitted comments to USFWS in 2003, stating our preference for Alternative C – Ecological Restoration, with the following modifications:

- Allowance for a Rocky Flats Cold War Museum/Visitor Center to be located on the RFNWR site.
- The addition of two visitor overlook sites, one that would overlook the old industrial site, and one that would overlook the north end of the site (Rock Creek Reserve).
- Trail connections should be limited to serve museum/visitor center and overlooks.
- Ensure that all public access is limited to daylight hours.
- Preserve and maintain all of the Lindsay Ranch buildings.
- Secure Federal ownership of mineral rights.

13-3 Our preference for this plan has not changed. However, in addition to restating our preference for Alternative C, with the above modifications, we would also like to provide the following comments for consideration by USFWS.

13-4
13-5
13-6 Regardless of the adopted alternative, The Town of Superior:

- supports the creation of the Rocky Flats National Wildlife Refuge.
- strongly recommends the use of security fencing and signage around the Dept. of Energy (DOE) retained lands to keep the public off these areas.
- strongly discourages the authorization of any public hunting on the site.

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Fax: (303) 499-3677 • www.townofsuperior.com

13-1. Thank you for your comments.

13-2. Thank you for your comments.

13-3. Thank you for your comment.

13-4. Thank you for your comment.

13-5. In the DEIS, the Service recommended that the demarcation be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. Section 1.8 of the FEIS was revised to indicate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks with appropriate signage would best demarcate the DOE retained area, keep any livestock out of the DOE retained area, and indicate the DOE lands would be closed to public access. The Service has provided these recommendations to the RFCA parties.

13-6. The Service believes that a limited, highly managed hunting program would be a safe and positive form of wildlife dependent recreation on the Refuge, and would complement other tools for managing ungulate populations, if necessary. Objective 1.6 – *Deer and Elk Management*, and Objective 2.10 – *Hunting Program* was revised in the FEIS to better correlate the establishment and analysis of target population size and public hunting programs.

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13-7 13-8 13-9 13-10 13-11 13-12	• recommends the USFWS engage in proactive control of invasive weeds throughout the site. • supports the use of prescribed burns only as a control method of last resort, and strongly recommends that prescribed burns never be used on DOE retained lands. • recommends that public access to the site be limited to pedestrian access only. We feel that equine and bicycle uses would have detrimental impacts to the site's trails and wildlife habitats. • strongly recommends that public access to the site be limited to on-trail access only. We feel that safety and habitat concerns outweigh any need for public off-trail access. • recommends that the USFWS not rush to meet arbitrary implementation deadlines. The Town supports the allowance of ample time to ensure the site is safe for public access and that the potential ecological impacts of public access have been fully considered. Again, on behalf on the Superior Town Board of Trustees, I thank you for this opportunity to comment on the draft CCP/EIS. We look forward to continued cooperative efforts to make the Rocky Flats National Wildlife Refuge an asset for all our communities. Sincerely, Susan K. Spence Mayor Cc: Superior Town Board of Trustees Bruce Williams, Town Manager, Superior Devin Granbery, Management Analyst, Superior David Abelson, Exec. Dir., Rocky Flats Coalition of Local Governments	**13-7.** The Service believes that the proposed weed management objectives would take a proactive approach to reducing weed infestations over the life of the CCP. **13-8.** Prescribed fire would be one component of a comprehensive vegetation management strategy that may be used, in concert with other techniques, to restore native grasslands, reduce the risk for unplanned wildfire, and where appropriate, reduce weed infestations. The Service does not intend to use prescribed fire in the DOE retained lands and is not aware of any plans for the DOE to use prescribed fire. Both the EPA and CDPHE have indicated that the use of prescribed fire outside of the DOE retained area would not pose a significant risk to firefighters, Service personnel, or the general public (Appendix D). However, in the interest of caution and respect for the concerns of the public, the Service does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 10). **13-9.** In Alternative B and D, the Service would allow equestrian and bicycle access as modes of transportation that would facilitate access to priority public uses of the Refuge. A secondary benefit would be the ability to complement and improve regional trail connectivity. The size of the Refuge also would warrant other modes of access besides hiking. For example, in Alternative B the trail distance between the proposed trail connection near the Town of Superior and the visitor contact station would be 3.5 miles one way, which may be too far round-trip for some Refuge visitors. As noted in the Compatibility Determination, 72% of the multi-use trails would be constructed using existing roads that would be converted to trails. Such access would have very few additional habitat impacts. While weed dispersal, social trails, wildlife disturbance and other impacts to natural resources would be a concern, the Service does not believe that these impacts would be substantially reduced by excluding bicycles and equestrians from the Refuge.
Comment #	Letter #13 continued	Response

13-10. Seasonal off-trail hiking access would be allowed in the southern portion of the Refuge in Alternative B as a practical means of allowing amateur naturalists, wildlife photographers or others better access to their subjects. It is anticipated that off-trail use in this area would be limited in numbers and highly dispersed and would not adversely affect vegetation communities or wildlife. With regard to safety concerns, the Service believes that those visitors who participate in off-trail access on the Refuge would be responsible for their own physical safety, as would be the case on other public lands open to the public. In regard to specific concerns about residual contamination, the EPA and CDPHE have verified that any proposed public uses, including off-trail use, would be safe. In addition, the proposed off-trail use areas (Figure 25) are outside of the DOE retained area and other areas of residual soil contamination (Figure 4).

13-11. The Refuge will not be established until the EPA certifies that the land has been cleaned up to be safe for the proposed Refuge uses. Once the Refuge is established, the Service proposes to initially focus on habitat restoration in the first 5 years before expanding public use opportunities. The 5-year target date is not a firm deadline, and is contingent on successful habitat restoration and sufficient funding to construct and manage visitor use facilities. As conditions change and the Refuge condition evolves, the Service would be adaptable to those changes.

13-12. Thank you for your comments.

Comment #	Letter #14	Response
	Boulder County Post Office Box 471 • Boulder, Colorado 80306 **Board of County Commissioners** 13th & Pearl Streets • Boulder County Courthouse • Boulder, Co 80302 • (303) 441-3500 RECEIVED APR 25 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR *4/22/04* **Formal Comments from Boulder County Commissioners to Department of Fish & Wildlife on the Rocky Flats Refuge Proposals CCP/EIS**	
14-1	As a member of the Rocky Flats Coalition of Local Governments, Boulder County has provided regular and consistent input and discussion on the clean-up of Rocky Flats, and to its use as a wildlife refuge consistent with the provisions of the Rocky Flats National Wildlife Refuge Act of 2001.	**14-1.** Thank you for your comments.
14-2	Boulder County supported the passage of the Refuge Act and supports the transfer of use of this land from a former weapons site to a wildlife refuge. We feel this is the highest and best use of these lands, given their former history of use and contamination. However, we believe that there should be no rush to open this land to the public, and that methodical oversight and planning procedures need to be in place prior to opening. The county's comments are submitted in the spirit of obtaining the best and safest cleanup, and the best refuge management practices.	**14-2.** Thank you for your comment. Although the Refuge will not be established until the cleanup is completed, and the EPA and CDPHE have verified that all refuge activities would be safe for the refuge worker and visitor, the Service believes that the proposed plan for Refuge management and public access is appropriately conservative and responsive to concerns. Most of the refuge would be restricted to public access for the first 5 years to allow time for restoration efforts to be initiated.
14-3	**Boulder County's position: We support Fish & Wildlife Proposed Alternative A as our first priority, with Alternative C as our second priority.** **Both of these alternatives would permit far reduced access than either Alternative B, which Fish & Wildlife is recommending, or Alternative D, which provides the greatest public access.** Paul Danish, County Commissioner Ronald K. Stewart, County Commissioner Tom Mayer, County Commissioner	**14-3.** Thank you for your comment.

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	1. **Restricting public access to lands retained by DOE**	
14-4	Boulder County believes that public access should not be permitted in the section of the refuge held by the Department of Energy as defined on Fish and Wildlife maps as of this date. This includes the Industrial Area, areas to the east that contain monitoring stations and solar ponds, and the Old Landfill. The public should not be allowed access to such facilities in the DOE zone as the monitoring stations, retention ponds, or landfill caps, for reasons of their safety as much as for reasons of ensuring that paths, erosion, and other impacts do not damage the integrity of the remediation, and protection from intentional acts of vandalism. We are sure that both the DOE and F&W agree with this. Yet, neither the DOE nor the F&W in this current plan have outlined how they intend to keep the public from hiking, biking, horseback riding, fishing, swimming, or exploring around these areas.	**14-4.** Section 1.8 of the FEIS was revised to indicate that the Service believes that a four-strand barbed-wire agricultural fence and/or permanent obelisks with appropriate signage would best demarcate the DOE retained area, keep any livestock out of the DOE retained area, and indicate the DOE lands would be closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties. The DOE will be responsible for the management and security of cleanup related facilities. The CCP/EIS does specifically define the area of the future refuge where public uses would be authorized. This has the same result as specifically designating "off-limits" areas because no use of a National Wildlife Refuge is allowed unless it is specifically authorized. Access to DOE lands is clearly outside the scope of the CCP/EIS. However, the Service has recommended to the RFCA parties that the DOE retained lands be posted with signs that prohibit public entry.
14-5	Representatives from the Department of Energy, at its Rocky Flats Cleanup Availability Session on April 14, said that they had not yet determined what specific "institutional controls" were necessary to keep people out of certain areas, nor had they even identified the specific areas that warrant public access controls. This is particularly disturbing, since local governments and citizens affected by the clean up and by refuge use decisions are being asked to submit their formal public comments on the CCP/EIS governing Fish & Wildlife use of the refuge by April 26. Since the DOE-held areas in question are within the perimeter of the current Rocky Flats property, we think that this fundamental question of ***which*** specific areas will be off-limits to the public, and ***how*** public access controls will be institutionalized, must be resolved before the surrounding buffer area is opened to the public. Vague references to "institutional controls" should not substitute for adequate, robust fencing.	**14-5.** See response to comment 14-4.

Comment #	Letter #14 continued	Response
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14-6	Until the Department of Energy has specified in detail exactly which portion of Rocky Flats it intends to keep under its jurisdiction and protection, we do not believe that any lands should be transferred to Fish and Wildlife. The decision of specifically which lands are to be included in the DOE-retained area, and any institutional controls that will be implemented to prevent public access, must be made before Fish and Wildlife decides how the remaining surrounding area is to be used. Decommissioning of Rocky Flats and its transfer to refuge status should not occur unless a substantial and sufficient barrier around DOE-retained lands is in place.	**14-6.** A Refuge Comprehensive Conservation Plan is a document that describes the desired future conditions of the Refuge and provides long-range guidance and management direction to achieve the purposes of the Refuge. The Refuge Act specifically required the Service to develop a CCP by December 31, 2004 in consultation with the RFCA parties, the RFCLOG, and others. The Act specifically requires the Service to address and make recommendations on a number of issues including the feasibility and location of a visitor center. The CCP will not be implemented until after the site has been certified by the EPA and transferred to the Service. The Service has been in continued contact with the DOE during the CCP planning process and has been apprised of the approximate boundaries of the lands that will be retained. Obviously, the Service can only accept transfer of lands that DOE is not required to retain, and offers up for transfer. The Refuge Act requires DOE to retain all property needed to ensure the long-term protectiveness of the remedy. The Service will not ask DOE for any lands that the DOE does not offer for transfer. While the exact boundaries are likely to change prior to Refuge establishment, the Service is confident that the general nature of the lands and resources that would be included in the Refuge will not change. For these reasons, the Service is confident that it is both reasonable and effective to complete the CCP process at this time. See response to comment 14-4 regarding the demarcation of the DOE retained area.
14-7	**Before the public is allowed on the Refuge, the Department of Energy must first define exactly which area it will retain. Before public access, Fish & Wildlife and the Department of Energy both have the responsibility to clarify specifically how they will keep the DOE-retained lands strictly "off-limits" to the public. Among other approaches, Boulder County believes that DOE-retained areas must be contained by robust fencing.**	**14-7.** As stated in responses to comments 14-4 and 14-6, any public access would not occur prior to certification and transfer of lands to the Service.

Comment #	Letter #14 continued	Response
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14-8	2. **Funding for the Fish and Wildlife Department must be adequate to achieve and maintain any potentially hazardous situations that may be discovered at Rocky Flats in the future.** While the Fish & Wildlife Draft CCP/EIS reiterates its commitment to goals of safety (pages 3 and 4), we fear that Fish and Wildlife has not been given sufficient resources to guarantee this end. Commissioner Paul Danish recommended in March to Chris Kearney, Deputy Assistant Secretary for Policy, Department of the Interior, that cold war sites and prior nuclear weapons sites that are being converted to wildlife refuges be treated and staffed in a fundamentally different manner from other wildlife refuges that do not have the same kind of contamination history that Rocky Flats and other similar sites have. It is unreasonable to expect the Department of Interior and Fish and Wildlife to manage these highly problematic properties through reliance on a reallocation of their already-scarce resources. The Department of Interior should ask Congress for additional funds as this serious oversight mandate should not be allowed to go unfounded. We re prepared to pursue this matter with our congressional delegation.	**14-8.** Thank you for your comment. **14-9.** Thank you for your comment.
14-9	**The funding for the Department of Interior and Fish and Wildlife should be increased accordingly to reflect its increased levels of responsibility for the Rocky Flats Wildlife Refuge.**	

Comment #	Letter #14 continued	Response
14-10	-5- 3. **Potential for identification and management of future "surprises"** Despite continued efforts by Kaiser-Hill to clean up contamination, we have seen far too many examples over the past few years of "surprise" findings of hot radionuclide spots. There has been a history of contamination being discovered in unexpected places. Thus, we do not have the confidence we need to support an alternative such as Alternative B, which would permit extensive public use on the buffer portion of the refuge in the near future. While there have been no indications to date that there are any "hot spots" in the refuge buffer area, nor do we have the confidence that there has been adequate characterization of the buffer areas where public access is proposed, which would be needed to ensure that the refuge is a safe place for humans and horses. **The Coalition is working through the RFCA process to make sure that the characterization of the buffer zone represents what's really out there. We need the adequate time to work through this process, without rushing to permit access prematurely.** **We also believe procedures must be spelled out that clearly deal with future discoveries of hazardous materials.**	**14-10.** The Refuge will not be established until the EPA certifies that cleanup is complete, and that all of the lands that will become the Refuge would be safe for all of the proposed Refuge management activities, including public use. The Service has confidence that the characterization of the land that will become the Refuge is sufficient. The Service believes that it is very unlikely that significant contamination will be discovered on lands transferred to become the Refuge, but acknowledges that the discovery of previously unknown releases is possible. The Service does not intend to accept the transfer of administrative jurisdiction for any land at Rocky Flats until the Memorandum of Understanding between DOE and DOI, required by the Refuge Act, is finalized. It is the Service's intent to ensure that the final MOU will contain specific provisions for responses to discovery of previously unknown contaminant releases. The FEIS was revised to include additional discussion of cleanup-related issues in Section 1.8.

Comment #	Letter #14 continued	Response
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14-11	4. **Ecological impacts** Our wildlife biologist staff in our Parks and Open Space Department, which monitors habitat immediately north of the Rocky Flats Refuge, states that the trail alignments in the Fish & Wildlife proposed Alternative B are all in sensitive riparian habitat in Rock Creek and Woman Creek, which would be counterproductive to the high wildlife value that these areas currently support.	**14-11.** As noted in detail in response to comments made by Boulder County Parks and Open Space (letter #15), the Service disagrees with the assertion that the proposed trail alignments "are all in sensitive riparian habitat." During the planning process, the Service took special care to plan trail configurations that would avoid and minimize impacts to riparian habitat. Of the 16.5 miles of trails that are planned for Alternative B, 0.4 miles, or 2% of trail would be within riparian habitat areas. The 0.4 miles of trail that are within riparian habitat areas are trail crossings, most of which are on existing roads. Adequate bridging and habitat restoration will be used to minimize trail impacts at these crossings.
14-12	Alternative B, proposed by Fish & Wildlife, would only allow five years of time to implement restoration and conservation efforts before public access would be allowed beyond access to Lindsay Ranch. The two alternatives Boulder County supports would each allow 15 years to keep the public out of the area while further analysis of the contamination level of the refuge is determined, which secondarily benefits most wildlife on the refuge.	**14-12.** The Service acknowledges that weed management and ecological restoration would be a major issue on the Refuge, and for this reason the Service has elected to focus the first 5 years of Refuge management on habitat restoration. After 5 years, the Service believes that the modest amount of public use proposed in Alternative B would be compatible with on-going restoration efforts and would be protective of wildlife habitat needs. The Refuge would not be established until the EPA has certified that the characterization and analysis of the site is sufficient, and that subsequent cleanup activities have been completed.
14-13	**In order to best protect wildlife on the refuge, which is the highest priority use as defined in the authorizing legislation, public access should not be permitted in ecologically sensitive areas.**	**14-13.** As discussed in response to comment 14-11, the proposed public use facilities in Alternative B would avoid ecologically sensitive areas to the greatest extent possible. Trails within or in close proximity to sensitive areas such as the Rock Creek drainage would be managed to minimize potential impacts to sensitive wildlife species.

Comment #	Letter #14 continued	Response
	-7-	
14-14	**Conclusion:** While we support the conversion of this land to a wildlife refuge, we see no need to rush to this status by permitting premature access by the public. We must take the time to make sure the lands where the public would be allowed are clean and safe, and that DOE and Fish & Wildlife have given us a plan to make sure people will not be able to access contaminated areas.	**14-14.** Thank you for your comments.

Comment #	Letter #15	Response
	RECEIVED APR 26 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 26, 2004 Comments on the draft Rocky Flats National Wildlife Refuge Comprehensive Conservation Plan and Environmental Impact Statement February 2004 Draft	
15-1	The following general comments regard the four alternative management actions that have been proposed in this draft CCP/EIS. My comments are based on the perspective of a wildlife biologist who is responsible for wildlife management and ecological function of the adjacent Boulder County Parks and Open Space Department public lands:	
15-2	1- Acceptance of Alternative A would allow for a longer period of time (15 years) to keep the public out of the area while further analysis of the contamination level of the refuge was determined. This would secondarily benefit most wildlife on the refuge by eliminating any negative impact resulting from increased recreational activities. This alternative does not allow a sufficient level of active management to occur, however, which is necessary for recovery and maintenance of much of the habitat on the refuge. Thus, this alternative would be my second choice.	
15-3	2- Acceptance of Alternative B, the Preferred Action, would only allocate 5 years to implement restoration and conservation efforts before allowing public access. This shortened timeframe would result in less wildlife conservation management progress as other alternatives that limit public access to the property. When public access begins, resources would then undoubtedly be re-appropriated to provide for public service and would reduce funding for subsequent restoration and management efforts. Also, the trail alignments in Alt. B are all in sensitive riparian habitat in Rock Creek and Woman Creek. This would be counterproductive to the high wildlife value that these areas currently support.	
15-4	3- Alternative C also gives managers 15 years to address restoration issues while providing greater financial resources and staff to implement these activities. This alternative would be my preference, if it allowed hunting as a management tool or provided enough staff resources or CDOW involvement to cull ungulate herds as necessary to maintain ecological integrity. This alternative also minimizes the potential impact from the public by keeping the refuge essentially closed. A downside to this proposal, as written, would be the loss of the Lindsay Ranch homestead.	
15-5	4- Alternative D would not be preferred with respect to wildlife habitat and population restoration and subsequent conservation efforts. This alternative focuses primarily on public recreational use and would encourage more visitation, even thought it would receive more funding for restoration and staffing. As mentioned earlier, increased public visitation would have some level of negative impacts to wildlife on the refuge.	

15-1. Thank you for your comments.

15-2. The Service agrees that Alternative A, No Action, would provide insufficient habitat management that could result in increased degradation of wildlife habitat due to the continued proliferation of noxious weeds. With regard to ongoing site characterization, the Refuge would not be established until the EPA has certified that the characterization and analysis of the site is sufficient, and that subsequent cleanup activities have been completed.

15-3. Alternative B does not allocate "only 5 years" to implement restoration and conservation efforts. Those efforts will continue throughout the life o f the plan, just as in Alternative C. Alternative B simply provides the first 5 years to concentrate on those restoration and conservation efforts before the majority of public uses are implemented.

The Service disagrees with the assertion that the proposed trail alignments in Alternative B "are all in sensitive riparian habitat in Rock Creek and Woman Creek." In the Rock Creek drainage, 0.3 miles, or 9% of the proposed 3.4 miles of trail would be within riparian areas. All of the trails that would cross through riparian areas would be on existing roads, and would be closed seasonally to protect sensitive wildlife species. The east-west multi-use trail near the Rock Creek drainage would be on the pediment top about 50 vertical feet above the drainage, and would be generally about 175 feet from the slope wetlands and between 300 and 600 feet from the stream bottom.

In the Woman Creek drainage, 0.1 miles, or 2% of the proposed 4.6 miles of trail would be within riparian areas. Most of the proposed multi-use trail would be on an existing roads that are no less than about 150 feet from riparian habitat, with the exception of several small stream crossings that would use existing road crossings.

Comment #	Letter #15 continued	Response
	I have the following technical comments as well for some of the stated objectives and goals pertaining to wildlife management and/or habitat:	
15-6	• Soil types should be considered regarding the decision to accept prairie dogs from outside the refuge in the future. If FWS has to create artificial burrows to accommodate these prairie dogs, they would prove difficult to construct in the cobbly soils that encompass much of the area. Our experience on Boulder County open space north of the proposed refuge has shown this to be the case in very similar habitat. I would recommend wording to indicate that limitation, regardless of which alternative is accepted.	During the planning process, the Service took special care to plan trail configurations that would avoid and minimize impacts to riparian habitat. Overall, of the 16.5 miles of trails that are planned for Alternative B, 0.4 miles, or 2% of trail would be within riparian habitat areas. The 0.4 miles of trail that are within riparian habitat areas are trail crossings, most of which are on existing roads. Adequate bridging and habitat restoration will be used to minimize trail impacts at these crossings.
15-7	• The target acreages of prairie dogs in any of these options, from 500 to 1,000 acres, out of a total of 2,460 potentially available acres, could be problematic towards weed control and mixed/tall grass conservation. I suggest that FWS scale back the prairie dog acreage goals and incorporate existing protected prairie dog conservation acreage, on surrounding Boulder County, Jefferson County and City of Boulder public lands, in analyzing the best capacity for prairie dogs based on a landscape analysis, inclusive of these other surrounding protected lands. It would also be beneficial to have cooperative agreements in place with these surrounding jurisdictions to monitor and report sylvatic plague in the region.	**15-4.** Alternative C would not include public hunting on the grounds that the Refuge would be closed to all public access, with the exception of guided tours. There would be sufficient resources to control wild ungulates, if necessary, through selective culling.
15-8	• All current prairie dog colonies appear to be on the edges of the refuge. This will result in conflicts with neighboring landowners and municipalities undoubtedly as these colonies expand to the levels described in each alternative. The plan should outline strategies for buffer zones, containment and other management activities to address this situation. I would strongly recommend some type of IGA with the public land managers of Broomfield, Jefferson and Boulder Counties and the cities of Arvada and Boulder regarding prairie dog habitat and management on these border areas on the north, south and east perimeters of the refuge.	**15-5.** While Alternative D would have greater effects on wildlife and habitat than Alternative B, the Service believes that the effects would be compatible with the habitat management goals of the Refuge. Additional analysis (Table 14) has shown that the length of trail per acre in Alternative D would be lower than other nearby open space facilities.
15-9	• Prairie dog management as proposed in Alt. A could possibly be detrimental to future sharp-tailed grouse reintroductions, if they impacted the tall grass community that this species would utilize for cover. I would either reject this alternative for that reason, or modify it to include active management of prairie dog colonies where necessary, as given in Alt. C.	**15-6.** Section 3.6 of the DEIS and the FEIS, as well as Figure 19, includes an analysis of potential prairie dog habitat on the Refuge. This analysis was based on a habitat model that included soils.
15-10	• The issue of impact to Preble's mouse populations from trail development was brought up in public hearings as well. Dr. Carron Meaney and associates recently completed a study for the City of Boulder OSMP on this topic of Preble's population response to recreational trails. I would recommend this information be incorporated into the decision of trail building along the riparian corridors. It was published in The Prairie Naturalist 34(3/4): September/December 2002.	**15-7.** The Service acknowledges that sustainable prairie dog management needs to be balanced against other management concerns. Currently, there are 10 acres of prairie dog colonies at Rocky Flats, most of which are adjacent to Highway 128 and nearby County open space lands. The Service has carefully examined available habitat and historical prairie dog areas at Rocky Flats, and believes that the suggested limits for prairie dog expansion are appropriate guidelines to allow for sustainable prairie dog expansion. One of the purposes of these guidelines is to limit prairie dog expansion into xeric tallgrass communities.
15-11	• The issue of fencing around the DOE-retained core area has been brought up. If fencing is installed, I would encourage that a minimal design is used, just enough to enhance public understanding that it is a closed area, but not enough to inhibit	

Comment #	Letter #15 continued	Response
	most wildlife movement through the core area (prairie dogs could be the exception to this).	
15-12	• Each alternative has proposed that grazing be allowed. Most of the focus is on high intensity-short duration grazing. This type of grazing would necessitate some level of prairie dog and/or noxious weed management to follow up this regime. We would suggest that either: having sufficient staff to monitor and control prairie dog/noxious weed growth on these grazed areas (opposite of what is proposed in Alt. A); or have outside researchers involved in monitoring this type of grazing regime and experimenting with alternate grazing regimes to HISD grazing, as proposed. These research contracts should be integral with this CCP.	The Service appreciates the County's suggestion regarding weed control issues, and has revised Objective 1.7 – *Prairie Dog Management* to better correlate prairie dog expansion and weed management efforts. Objective 5.2 – *Conservation*, outlines that the Service will work with adjacent jurisdictions to address cross-boundary resource management issues. Specific agreements would be arranged in the future on an as-needed basis.
15-13	• If any alternative besides Alt. A is chosen, then some level of on-the-ground human activity will be introduced to a location that has not experienced this type of human presence for at least 50 years. If one of these alternatives is implemented, we would suggest implementing some type of research on the impacts of human presence to the local wildlife populations, prior to the refuge being opened to the public. This would be an excellent opportunity to gather baseline data on populations, behavior, etc. and compare it to post-recreational impact results to these wildlife populations.	**15-8.** Objective 5.2 – *Conservation*, outlines that the Service will work with adjacent jurisdictions to address cross-boundary resource management issues. As most of the prairie dogs at Rocky Flats appear to be associated with populations across Highway 128 on County open space lands, this is a good example of an opportunity for the Service to work with the County on prairie dog management. Specific agreements would be arranged in the future on an as-needed basis.
15-14	Thank you for the opportunity to comment on this CCP/EIS draft document. Mark Brennan Wildlife Specialist Boulder County Parks and Open Space Department	**15-9.** The Service agrees that unmanaged prairie dog expansion in Alternative A has the potential to adversely impact several sensitive resources, including sharp-tailed grouse habitat. However, this situation reflects realities of the "no action" scenario. **15-10.** Dr. Meaney's article was considered in the analysis of potential trail impacts to Preble's that is found in Section 4.6. In addition, see response to comment 15-3. All of the trails that are planned in Preble's habitat would be located on existing roads, and that most of these areas would be subject to seasonal closures. **15-11.** Thank you for your comment. While the exact nature of the fencing around the DOE retained area is the responsibility of the RFCA parties, the Service has recommended a four-strand barbed-wire fence and/or obelisks that allow for the movement of wildlife across the site. **15-12.** Managed grazing would be permitted in Alternatives B and C. As any grazing regime would be highly managed, Refuge staff would monitor its results and any adverse effects. Specific plans grazing regimes management and monitoring would be identified in a step-down Vegetation and Wildlife Management Plan.

Comment #	Letter #15 continued	Response
		15-13. While the Service agrees that the proposed alternatives would change the nature and frequency of human uses in the buffer zone, these changes are not anticipated to adversely affect wildlife under any alternative. The Service believes that the phased implementation plan would allow for wildlife and Refuge managers to adjust to new human uses on the Refuge. Objective 5.3 – *Research*, would encourage scientific research related to the impacts of public use on wildlife populations. However, the Service does not believe that it is necessary to suspend public use until such research in completed. **15-14.** Thank you for your comments.

Comment #	Letter #16	Response
		16-1. Thank you for your comments. The configuration of the DOE retained area will be decided by the RFCA Parties.

JEFFERSON COUNTY COLORADO FOUNDED 1861

Board of County Commissioners

Michelle Lawrence
District No. 1
Patricia B. Holloway
District No. 2
Richard M. Sheehan
District No. 3

April 26, 2004

RECEIVED
APR 27 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

Rocky Flats NWR
Comprehensive Conservation Plan
Laurie Shannon, Planning Team Leader
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal NWR - Building 121
Commerce City, CO 80022-1748

Re: Draft Comprehensive Conservation Plan & Environmental Impact Statement for Rocky Flats National Wildlife Refuge, February, 2004

Dear Laurie:

16-1 Thank you for providing Jefferson County with the opportunity to comment on the "Draft Comprehensive Conservation Plan & Environmental Impact Statement" for Rocky Flats National Wildlife Refuge. We continue to appreciate both yours and Dean Rundle's time and commitment to exploring the best outcome for this area.

As you are aware, the predominant land area of Rocky Flats is within unincorporated Jefferson County. We therefore have deep appreciation for the assets that the Wildlife Refuge can provide the regional community and at the same time integrate with the surrounding open space programs particularly Jefferson County's Open Space Program. Jefferson County helped pioneer the open space movement in Colorado by establishing a very successful program over three decades ago. We will continue to pledge to make our experience and expertise available throughout the process. We are also one of the founding members of the Rocky Flats Coalition of Local Governments. With that being said we truly have a **vested interest** in the outcome of the management of the refuge and its integration with our County plans.

In addition, we encourage the continual communication between the Department of Energy (DOE) and the United States Fish and Wildlife Service (Service) to the extent possible, minimize the DOE's footprint within the Industrial area. We will continue to have as our highest priorities the public health safety and welfare of our citizens and visitors to Jefferson County. In so doing, we want to see maximum clean up efforts and minimization of the residual contamination. Thus returning this once weapons factor for the Cold War era to land for creating a wildlife refuge.

We reviewed the document and continue to **support the preferred alternative "Alternative B: Wildlife, Habitat & Public Use (Proposed Action)" with modifications**. This alternative with modifications encompasses the appropriate balance between compatibility with Jefferson County's planning efforts, the recognition of historic use as a Weapon's production plant, the cleanup efforts by the Department of Energy, public use/safety and the ecological/wildlife

100 Jefferson County Parkway, Golden, Colorado 80419
(303) 279-6511
http://jeffco.us

Comment #	Letter #16 continued	Response
	Rocky Flats NWR Laurie Shannon, Planning Team Leader April 26, 2004 Page Two	**16-2.** The Service agrees that if weed management efforts are to be successful, a broad range of management tools needs to be available. The Service would work with Jefferson County and other jurisdictions in the development of step-down management plans, including an Integrated Pest Management Plan.
	components the site has to offer. The site in itself is so large that people forget to look at the site as a set of subsystems that don't necessarily need to have one solution for the entire site. By example, the Town of Superior is only ¾ the size of the current Department of Energy owned land.	**16-3.** During the winter of 2003/2004, the Service, in partnership with DOE, the Cold War Museum, and the Jefferson County Historical Society, stabilized the Lindsay barn, which was severely damaged during the March 2003 blizzard. The east and west wings were essentially rebuilt. After evaluation of the farmhouse, the Service has concluded that it is in a dilapidated condition and may be weathered beyond repair. The Service has retained the option of demolishing the farmhouse if it poses a significant safety hazard to Refuge visitors. Chapter 3 of the Final CCP/EIS includes additional information on the history and present condition of the Lindsay Ranch.
	In addition to our previous comments documented in the June 20, 2003, letter from the Jefferson County Board of Commissioners to Dean Rundle, we are re-emphasizing some of the issues below:	As stated in the rationale for Alternatives A, B, and D under Objective 6.4, the Service would be willing to work with partners and consider stabilizing the house if resources could be found through partnerships or grants to undertake such a project. The Service agrees that the house can be interpreted whether it remains standing or not through a variety of media such as interpretive panels. The EIS has been revised to reflect this. The Service is concerned about the house becoming an attractive nuisance if it is fenced off, and the type of security fencing that would be required to keep visitors away could detract from the visual qualities of the area.
	Recommended modifications:	
	Wildlife and Habitat Management:	
16-2	❑ **Reaffirmation of Weed Management**: Jefferson County employs various options and methods to address weed management issues throughout the County. Given the challenges of many invasive species, Jefferson County feels the Service should keep all its options open to address weed problems and be aggressive in combating the problem. It is also a key to ecological restoration. Prescribed controlled burns, grazing, mowing and spraying programs may be necessary to limit weed infestation on-site as well as the spread of weeds off-site. Close monitoring and coordination with all surrounding jurisdictions is a key to controlling and capturing the synergy of joint efforts.	
	We concur with Alternative B recommendations.	
	Public Use, Education & Interpretation:	
16-3	❑ **Lindsay Ranch** - We are appreciative of Senator Allard's and Congressman Udall's intent in the Rocky Flats Wildlife Refuge legislation, as requested by Jefferson County, to preserve and where possible rehabilitate the Lindsay Ranch structures. This irreplaceable remnant of our pioneer heritage needs stabilization and reliable funding to continue as a reminder of bygone era. We are unaware of any property in Jefferson County that can provide a more fitting example of early twentieth century ranching than the Lindsay Ranch and once again encourage the total preservation of the Ranch. Recently the Service and Jefferson County staff had discussions and it is our understanding of the Service's interpretation of the bill language is that you still could remove any and all ranch structures. **At this time we are adamantly opposed to the demolishing of any structures and request that a detail structural report be completed outlining the costs of rehabilitation, maintenance and interpretation all structures associated with the Lindsay Ranch. Our goal is to see that all structures remain, to provide the contextual relationship of the ranch and be open to the public.** Any structures removed diminish the sense the public could gain of this bygone	

Comment #	Letter #16 continued	Response
	Rocky Flats NWR Laurie Shannon, Planning Team Leader April 26, 2004 Page Three	
	era. Therefore, if the house, determined through this structural study (performed by a person experienced with expertise on such issues), proves to be impractical for restoration then it should be allowed to remain until it deteriorates with appropriate safeguards for viewing the exterior.	
	Alternative B still does not preserve all the buildings. We encourage the USFWS to pursue keeping all structures.	
16-4	❑ **Trail Loops:** The County appreciates the efforts the Service has engaged in working with the surrounding communities on trailheads and access within the site. Traditionally, the citizens of Jefferson County and those using the Jefferson County Open Space system have visited and appreciated the various ecosystems of the County through carefully planned trail systems. We strongly encourage the **addition of carefully planned trail loops**, the Rocky Flats Wildlife Refuge can serve its mission through a series of trails that are sensitive to habitat and wildlife needs, and inform neighbors and visitors of this resource. The trail loops provide an inviting experience to the public and minimizes the overuse of any one trail. Our experience shows that dead-end trails increases deterioration of the trail and reduces the enjoyment of trail users. Given the size of the refuge and the existing roads, we believe a balance can be found to meet everyone's needs.	**16-4.** Several jurisdictions have suggested additional trail loops in the southern part of the Refuge. Revisions to the Alternative B trails include a trail connection to the southwest, a more direct connection to the east, and a new southern east-west trail alignment that provides a more diverse and higher quality trail experience. These trail revisions do not significantly change the total length of trails in Alternative B. The Service believes that the significant additions to the trail system would no longer strike the balance between public use and habitat management that Alternative B seeks to achieve, would add to the overall trail length without contributing to the quality of the experience, and would add to the cost of trail maintenance.
16-5	**In addition the Draft Comprehensive Conservation Plan & Environmental Impact Statement Alternative B indicates that the only trail to open at the onset of USFWS management is the trail to the Lindsay Ranch. Other trails would not open until 5 years into the 15-year plan. We recommend that if trails, particularly those on the southern portion of the site, can be open sooner, the USFWS should not bind themselves with this document to the 5 years. We believe to put such a limitation of 5 years in the document is too premature. Trail opening could be tied to reduction of the roadway footprint to a trail and to other regional trail connections.**	**16-5.** Due to the level of disturbance to the site, a limited budget for Refuge management, and public concerns about access to the Refuge, the Service has elected to maintain the public use implementation plan that was proposed in the Draft CCP/EIS. By focusing staffing and budgetary resources on habitat restoration in the first 5 years, the Service would be able to reduce the severity of noxious weed infestations, and initiate road restoration before public trail use would introduce a new disturbance onto the landscape. However, Objective 2.13 – *Recreation Facilities* has been revised to allow greater flexibility in opening additional trails in the first five years if conditions and funding allow.
16-6	❑ **Addition of the analysis of potential Colorado Front Range Trail inclusion on the Refuge** – The vision for the Governor's Colorado Front Range Trail calls for a 725-mile network of trails connecting Fort Collins in the north to Trinidad in southern Colorado. While the issue has been discussed through this planning process, little or no analysis has been provided to look at the reasonableness/viability of such a corridor through the Refuge. We request that this analysis be part of the management planning process to provide factual data on the opportunities and impacts of such a corridor. **No analysis was provided in the DRAFT.**	**16-6.** In the DEIS and FEIS, the Front Range Trail was considered to be a Reasonably Foreseeable Activity that was planned to occur outside of the Refuge. None of the alternatives considered incorporating the Front Range Trail onto the Refuge, and thus the effects were not analyzed. In developing the alternatives, the Service examined if the Front Range Trail could be accommodated on a portion of the site, and found that there are currently no reasonable alternatives for locating the trail on the Refuge. The Service does not have a lead role in planning the Front Range Trail, but will work with state agencies and local government proponents if any future trail alternatives are developed that include the Refuge.

Comment #	Letter #16 continued	Response
	Rocky Flats NWR Laurie Shannon, Planning Team Leader April 26, 2004 Page Four	**16-7.** Alternative B includes equestrian access on the trails in the southern part of the Refuge, under the stipulations that are described in the Compatibility Determination in Appendix B. **16-8.** The Service is looking forward to continued collaboration with the County and other nearby jurisdictions. Working with others is one of the six planning goals of the Refuge. **16-9.** The Service would consider these and other resources during the management of the Refuge. **16-10.** The Service would work with the County to establish appropriate emergency response protocols. **16-11.** The FEIS was revised accordingly. **16-12.** The Service does not anticipate a constant law enforcement presence on the Refuge. However, the Service does believe that the proposed levels of staffing are sufficient to implement the management objectives that are proposed in the CCP. Resources would be shared across the refuge complex that includes the Rocky Mountain Arsenal NWR and Two Ponds NWR.
16-7	▫ **Equestrian access**: Jefferson County with its rich history of pioneer settlement, cattle and horse ranching and equestrian activities continues to this day with its equestrian tradition. Our Open Space areas share hundreds of miles of equestrian trails, the most prolific trail system in Colorado. In addition, access and connections to city and recreation district trails serve both Jefferson County and Boulder County equestrian populations. The Rocky Flats Wildlife Refuge should provide the necessary link between trails. If any issue was strongly expressed by the Jefferson County Open Space Advisory Committee, it was for the inclusion of equestrian trail uses within the refuge. **We are pleased that Alternative B is inclusive of equestrian use at least in the south side of the site.**	
	Safety: No comments	
16-8	**Open & Effective Communication:** ▫ We strongly encourage the continuation of the open communication throughout the planning process and continue the coordination/partnership with the surrounding communities once the site officially becomes the Refuge.	
16-9 16-10 16-11	**Working with Others:** ▫ We have several resources that the Service should explore that are utilized by Jefferson County including volunteers, the Jefferson County Historical Society, etc. ▫ As part of the Emergency planning efforts, the County has an Emergency Management Coordinator and the Sheriff's Department that has worked with the site to help with various issues. ▫ As noted in the document: "Coordinate … mineral rights issues, and highway planning along Indiana with local open space agencies and adjacent landowners." Please revise to say "with local governments" since some of the issues (mineral rights and transportation) for Jefferson County are coordinated through the County Administrator's office.	
16-12	**Refuge Operations**: ▫ While we are not in the position to comment on the number of FTEs needed for the management of the Refuge, we do want to express our view of the intent of proper and effective management. The staffing of the Refuge should address the adopted alternative. As in the case of Alternative B providing trail loops, trail heads and interpretation, there should be enough presence to monitor proper use and enforce regulations protecting the sited and resources. There should be adequate staffing to cover the entrances, circulate around the site and be available on-site during the hours the Refuge is open to the public. Certainly an after hour staff presence would be nice, however, contract security may be	

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	Rocky Flats NWR Laurie Shannon, Planning Team Leader April 26, 2004 Page Five	
	adequate during those hours. Additionally, we are assuming the number of FTEs includes those who will assist in the restoration efforts.	
	From our expertise it appears that the number of FTEs appears to be ½ of what would be needed to provide adequate management.	
	Other comments:	
16-13	❑ Perimeter Fencing: Early in the process of the draft legislation, a key issue voiced by the city of Arvada was the issue of fence type since the location of Rocky Flats is at the gateway to the city and to Jefferson County. No mention was made in the proposed management plan, so Jefferson County wants to voice their support for the city of Arvada's position to minimize the use of obtrusive fencing and support the concept of a traditional three-strand cattle fence, with stays, around the perimeter of the Refuge.	**16-13.** As required by the Refuge Act, the Service analyzed different fencing options in Section 4.15 – *Fencing Considerations.* A barbed-wire boundary fence was recommended for all alternatives. Section 1.8 of the FEIS was revised to indicate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks with appropriate signage would best demarcate the DOE retained area, keep any livestock out of the DOE retained area, and indicate the DOE lands would be closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.
	We do support the position to demarcate lands that will be retained by the Department of Energy and to post any necessary information to communicate to the general public of the restricted access.	
16-14	❑ **Transportation Corridor**: As you are aware, a major transportation corridor is needed through this portion of Jefferson County. Jefferson County, and the cities of Golden, Lakewood, Wheat Ridge, Arvada and Westminster, completed a two year study known as the Northwest Quadrant Feasibility Study which identified the need to preserve 300-feet of right-of-way generally along the Indiana corridor. The implementation of this finding through the efforts of the Governor and local elected officials has progressed and the Colorado Department of Transportation (CDOT) is initiating the Environmental Impact Statement (EIS) for the corridor. We support the Service in their efforts to identify the impacts of the 300-foot corridor along the west side of Indiana **to determine the impacts as it relates to the management of the Refuge. However, we do not see the Service as transportation planners and request the determination of appropriate transportation right-of-way width be a part of the EIS that will be completed by CDOT.** The Service analyzing the entire 300-foot width should identify all impacts identified for the Service. It is not the function, nor is it within the expertise of the Service to determine the width of the potential transportation corridor.	**16-14.** The DEIS and FEIS identify those resources that fall within a distance of 50, 125, 300 feet from Indiana. The Service acknowledges that the transfer of land for the purposes of transportation improvements is DOE's responsibility and would occur prior to the establishment of the Refuge. The Refuge Act directs the Service to address and make recommendations for the identification of any land that DOE could make available for transportation improvements. The FEIS was revised to include a new Section 4.16 that discusses potential Refuge lands within a corridor immediately west of Indiana Street up to 300 feet wide. The new section also describes recommended mitigation measures that would minimize adverse impacts to the Refuge related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.
	Analysis was provided within the document however, at times, statements were made without measurable data. Minimal comments should be made and the "Northwest Corridor Environmental Impact Statement" should fully explore each issue and the cumulative impacts.	

Comment #	Letter #16 continued	Response
	Rocky Flats NWR Laurie Shannon, Planning Team Leader April 26, 2004 Page Six	
16-15	❑ **Mineral Rights:** Jefferson County understands the Service's position on not managing lands without the acquisition of the mineral rights. However, we have always been clear in our position: We can support Federal ownership of the rights, provided that they can be **acquired from a willing seller** and request you take appropriate steps to **work with the owners** of the mineral rights to secure the ownership.	**16-15.** Thank you for your comments.
16-16	❑ **15-year Phasing:** The Rocky Flats site has a long history of closure and restricted access. With the impending changes in land utilization coupled with several very concerned and involved communities along the Front Range, it is important to introduce the public to the site as soon as it is reasonably possible. These are communities that appreciate open lands and wildlife and the values they bring. As with the arsenal site, public access, understanding and appreciation will further the role of the Service in keeping this resource available to millions of Metro Denver's residents. Unlike the arsenal, this site will be "clean" before the management is turned over to the Service, therefore, public use can be more flexible. Jefferson County, therefore, is hoping that select portions of the Refuge would be opened for public use as soon as is possible – almost immediately. We don't want to see analysis paralysis. We also encourage the Service, in conjunction with the local government partners, to take advantage of the next three years before the official transfer of the land, to explore the opportunities for immediate public access. For example, large tracts of "buffer" lands never received direct manufacturing impacts from plant operations and have remained virtually the same since our early pioneer days. They are great examples of both tall and short grass prairie lands and prairie ecosystems that can be combined with public use to find the appropriate balance for the Refuge.	**16-16.** See response to comment 16-5.
16-17	❑ **Several references were made to "pre-settlement" conditions throughout the document. It would be helpful to quantify what "pre-settlement" conditions are.**	**16-17.** The FEIS was revised to clarify the meaning of "pre-settlement" conditions to be a conceptual goals for habitat restoration based on ecological conditions that existed prior to ranching and modern use and disturbance of the site. This definition has been added to the glossary.
16-18	Thank you once again for the opportunity to comment. Please do not hesitate to contact us or Nanette Neelan, Assistant County Administrator, for any additional information or assistance. We are looking forward to the partnership in this Jefferson County jewel! Sincerely, BOARD OF COUNTY COMMISSIONERS Michelle Lawrence Chairman Richard M. Sheehan Patricia B. Holloway	**16-18.** Thank you for your comments.

Comment #	Letter #16 continued	Response
	Rocky Flats NWR Laurie Shannon, Planning Team Leader April 26, 2004 Page Seven BCC/mm c: Colorado Congressional Delegation Jefferson County Open Space Advisory Committee David Abelson, RFCLoG Executive Director Patrick Thompson, County Administrator Nanette Neelan, Assistant County Administrator Ralph Schell, Open Space Director Ken Foelske, Open Space Manager Dannie Brindle, Public Works Director Richard Turner, Planning Director	

Comment #	Letter #17	Response
	City of Golden 911 Tenth Street, Golden, Colorado 80401 Telephone: 303/384-8000 · Facsimile: 303/384-8001 www.ci.golden.co.us April 22, 2004 RECEIVED APR. 25 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Rocky Flats National Wildlife Reserve Comprehensive Conservation Plan Attn: Planning Team Leader Laurie Shannon U.S. Fish and Wildlife Service Rocky Mountain Arsenal NWR Building 121 Commerce City, CO 80022 Dear Ms. Shannon: **17-1** Golden City Council appreciates your agency taking the time to brief us on the proposed alternatives for wildlife and resource management and public uses at Rocky Flats National Wildlife Refuge (RFNWR). We commend you for your efforts to ensure the project's goals and objectives are compatible with neighboring communities. We welcome the opportunity to review the alternatives and recommend the draft proposed action ***Alternative B – Wildlife, Habitat & Public Use***. This alternative best fits Golden City Council's desire for a balance between public use and protection of wildlife. Alternative B maintains strict control over access to areas with remaining residual contamination. We support plans included in Alternative B for trails in both the northern and southern regions of the site, with equestrian capabilities in the south as well. Alternative B is also desirable due to its openness to limited hunting capabilities and the unique use of part of the site especially for handicapped hunters. We believe the addition of multiple overview sites will provide excellent educational opportunities for visitors to gain perspective. **17-2** In addition to supporting Alternative B, Golden City Council urges you to take all action possible to preserve and restore the Lindsay Ranch barn to the greatest extent possible. The barn is a tremendous piece of history on the site, and provides great insight. Sincerely, C J Baroch Charles J. Baroch, Mayor Bob Nelson Bob Nelson – Mayor Pro-Tem	**17-1.** Thank you for your comments. **17-2.** Alternative B includes the stabilization and interpretation of the Lindsay Ranch barn.

Comment #	Letter #18	Response

City of Golden

911 Tenth Street, Golden, Colorado 80401
Telephone: 303/384-8000 · Facsimile: 303/384-8001
www.ci.golden.co.us

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U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

April 22, 2004

Laurie Shannon
Rocky Flats National Wildlife Refuge
US Fish and Wildlife Service
Rocky Mountain Arsenal Building 121
Commerce City, CO 80022

Via email laurie.shannon@rf.doe.gov and US Mail

Re: Comments of City of Golden on Draft Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for Rocky Flats National Wildlife Refuge

Dear Ms. Shannon:

18-1 In accordance with the Federal Register Notice at 69 FR 11853, I am submitting this comment letter for the City of Golden (Golden) as an addition to the comments submitted to you on April 21 by Mayor Chuck Baroch and Mayor-Pro Tem Bob Nelson. Golden is one of the cities identified in section 3178(b) of the Rocky Flats National Wildlife Refuge Act of 2001 (Act), Public Law 107-107, as participants entitled to direct involvement in the comprehensive planning process.

Golden supports plans to ensure that the Refuge will be managed to provide for conservation and preservation of native habitats and wildlife, as well as further preservation of the unique Mountain Backdrop along the Front Range. It also seeks to ensure that the planning process will adequately identify and minimize the effects that any transportation projects that may be located along the east side of the Refuge will have on the Refuge's resources and the region as a whole.

Transportation Corridor Issues

18-2 The Act explicitly directs FWS to plan for and make recommendations in the CCP regarding a transportation corridor of up to 300 feet in width along Indiana Street on the eastern boundary of the Refuge. FWS's mandate is to protect the resources contained within the Refuge and ensure the biological viability of wildlife resources and habitat.

Pursuant to the Act, the CCP shall "address and make recommendations on … the identification of any land" that may be made available for the transportation corridor. Act at § 3178(d)(1). The Act clearly contemplates that FWS will exercise judgment regarding the extent of the 300-

18-1. Thank you for your comments.

18-2. The Service does not have the authority to determine the extent (up to 300 feet) of a transportation corridor that could be made available. The transfer of land for the purposes of transportation improvements is DOE's responsibility and will occur prior to the Refuge establishment.

The DEIS identifies those resources that fall within a distance of 50, 125, and 300 feet from Indiana. The Refuge Act directs the Service to address and make recommendations for the identification of any land that DOE could make available for transportation improvements. The FEIS was revised to include a new Section 4.16 that discusses potential Refuge lands within a corridor immediately west of Indiana Street up to 300 feet wide. The new section also describes recommended mitigation measures that would minimize adverse impacts to the Refuge related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.

Comment #	Letter #18 continued	Response
	foot corridor that could be made available and how the transportation corridor will interact with management of the Refuge. FWS has the ability and the obligation to plan for a smaller corridor. If Congress had meant FWS merely to identify the 300-foot maximum corridor already identified in the Act, the language requiring FWS "to address and make recommendations on … identification of land . . . that could be made available" would be surplus. The requirement to address the transportation corridor in the CCP, coupled with the requirement in the Act that an applicant show that a project would minimize impacts on FWS's *management* of the Refuge, *id.* at § 3174(e), contemplates that FWS will establish objective criteria regarding the corridor that will inform whether a proposed project would adequately "minimize adverse effects on the management of Rocky Flats as a wildlife refuge." This the Draft CCP fails to do.	**18-3.** The Service disagrees with the City's interpretation that the Refuge Act requires "objective criteria" for evaluating an application for a corridor. If an application is submitted to DOE for the corridor, the Service would work with the applicant and the DOE to minimize the impacts of transportation improvements to the Refuge. See response to comment 18-4 for additional discussion.
18-3	The Draft CCP selects three corridor widths (50, 125 and 300 feet) and, in Chapter 4, attempts to quantify the extent of impact to various Refuge resources in each of these three hypothetical corridors. While this is a useful exercise in predicting the rough parameters of impact, it does not assist in meeting the statutory requirement of providing objective criteria for evaluating an application for a corridor, when submitted.	
18-4	The Act provides that, upon submission of an application by "any county, city, or other political subdivision of the State of Colorado," DOE, in consultation with the Secretary of Interior, "shall make available land along the eastern boundary of Rocky Flats for the sole purpose of transportation improvements along Indiana Street." Act at § 3174(e). The application must include documentation demonstrating that: (1) *the transportation project is constructed so as to minimize adverse effects on the management of Rocky Flats as a wildlife refuge*; and (2) the transportation project is included in the regional transportation plan of the Denver Regional Council of Governments ("DRCOG"). *Id.* The land made available "may not extend more than 300 feet from the west edge of the Indiana Street right-of-way." *Id.* The Act does not provide explicit standards or criteria by which DOE would determine if a transportation project would minimize potential impacts on the Refuge. However, the language of the Act directed at the minimization of the "adverse effects on the *management of Rocky Flats as a wildlife refuge*" indicates that FWS – as the designated manager and planner for the Refuge – would provide such standards through the CCP. FWS's plans for managing and protecting the Refuge resources will provide the criteria for determining how a transportation proposal will affect the Refuge's management. In this case, the CCP will supply the standards by which minimization of impacts to Refuge management will de determined. FWS must develop these standards as part of its duties under the Act and the Refuge System Act. These standards are omitted from the Draft CCP, and Golden submits that those elements should encompass, at a minimum, the following: • Use of the narrowest practicable right-of-way. • Development of a complete inventory of resources in the corridor and assessment of their importance to FWS's management of the Refuge.	**18-4.** The Refuge Act directs the Service to make recommendations on land that could be made available for transportation improvements. To that end, the FEIS includes a new Section 4.16, which discusses potential concerns that the Service would have related to any transportation improvements along Indiana Street, Highway 128, and Highway 93.

Comment #	Letter #18 continued	Response
18-5	• Development of standards for the potential use of the transportation corridor to ensure a minimum of impacts to the management of the Refuge pursuant to the Act. A proposed transportation project would minimize impacts to the management of the Refuge only if: o *No other practicable offsite alternative would meet environmentally appropriate transportation objectives.* o *It uses the minimum amount of Refuge property necessary to meet the environmentally appropriate transportation objectives.* o *It provides all reasonably available mitigation measures to minimize impacts to Refuge habitat, migration routes, water quality, air quality, and other resources.* o *It minimizes effects to offsite resources that are important to the management of the Refuge, such as adjacent areas of open space used as habitat by Refuge species, streams, viewsheds, and open space recreational activities, and to the regional environment.*	**18-5.** See response to comment 18-4. **18-6.** See response to comment 18-4.
18-6	Even aside from the specific requirement in the Act to address the transportation corridor, FWS cannot plan for the Refuge without addressing the effects of use of the transportation corridor. The Refuge System Act requires that comprehensive conservation plans identify and describe "significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants within the planning unit and the actions necessary to correct or mitigate such problems." 16 U.S.C. § 668dd(e). A highway corridor that would cut through critical habitat for an endangered species, wetlands, and rare xeric tallgrass prairie habitat qualifies as a problem that may affect habitat within the planning unit. Therefore, the CCP Plan must identify impacts associated with the use of the transportation corridor and the actions necessary to mitigate them. Discussion of impacts merely as a cumulative impacts issue under NEPA is insufficient.	**18-7.** The FEIS was revised to describe the types of cumulative impacts that adjacent urban development may have on the Refuge.
18-7	**Impacts of Other Nearby, Foreseeable Development on Refuge Resources** The CCP makes only a passing reference to future development adjacent to the southern boundary of the Refuge (CCP at 67). The CCP acknowledges that this development is "Reasonably Foreseeable." *Id.* In its dual role as an Environmental Impact Statement and Plan for the Refuge, the CCP must be revised to disclose, discuss and plan for the probable impacts of this intensive residential and commercial development (called Vauxmont) on the Refuge and its resources. 40 CFR 1508.7. As currently drafted, the CCP/EIS inadequately discusses these impacts. Foreseeable development on any of the Refuge's other external boundaries must likewise be discussed. *Id.*	**18-8.** Rocky Flats was not included as critical habitat for the Preble's because it was designated to become a National Wildlife Refuge and the mouse would be protected as a result. While the DEIS states that the Refuge was not included in the critical habitat designation for the Preble's, the Service disagrees with the assertion that this statement of fact implies that "its habitat may be taken and used for conflicting purposes." During the critical habitat designation process, the Service directed that areas outside of the critical habitat designation will continue to be subject to conservation actions and regulatory protections (69 Fed. Reg. 37295). The Final CCP/EIS identifies up to 8.5 acres of potential Preble's habitat that would be included in a 300-foot transportation right-of-way. While the revised discussion in Section 4.16 includes general concerns related to habitat impacts related to Refuge management, it is not the Service's responsibility to analyze the potential direct impacts of yet unknown transportation improvements.
18-8	**Endangered Species Impacts** With respect to the Preble's Mouse, the Draft CCP states that the proposed Refuge contains no designated critical habitat for the Mouse, implying that its habitat may be taken and used for conflicting purposes. (CCP at 111) While it is accurate to state	

Comment #	Letter #18 continued	Response
	that the final critical habitat rule did not designate critical habitat within the proposed Refuge, see 68 Fed. Reg. 37276 (June 23, 2003), the implication, if it was intended by FWS, is incorrect. The rule makes clear that the refuge contains the *de facto* critical habitat of the Mouse, and as such that habitat enjoys protection from taking under section 9 of the Endangered Species Act. 68 Fed. Reg. at 37,305 ("The Service will manage the refuge in a manner to conserve the Preble's. For that reason, we find that the Rocky Flats site is not in need of special management measures."). *See e.g. Palila v. Hawaii*, 852 F.2d 1106 (9th Cir. 1988). Again, it is necessary to identify the planning measures by which the CCP can ensure no takings of the Preble's Mouse, and the conservation of the Preble's Mouse, in the context of the transportation corridor. Sincerely, Michael C. Bestor City Manager	

Comment #	Letter #19	Response
19-1	CARLSON, HAMMOND & PADDOCK, L.L.C. ATTORNEYS AT LAW MARY MEAD HAMMOND WILLIAM A. PADDOCK LEE H. JOHNSON KARL D. OHLSEN BETH ANN J. PARSONS 1700 LINCOLN STREET, SUITE 3900 DENVER, COLORADO 80203-4539 TELEPHONE (303) 861-9000 TELECOPIER (303) 861-9026 JOHN UNDEM CARLSON (1940-1992) e-mail: chp@chp-law.com website: www.chp-law.com April 23, 2004 RECEIVED APR 26 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Laurie Shannon Planning Team Leader Rocky Mountain Arsenal National Wildlife Refuge Building 121 Commerce City, CO 80022-1748 Re: *The Draft Comprehensive Conservation Plan and Environmental Impact Statement*, dated February 2004 Dear Ms. Shannon: I am writing on behalf of the Woman Creek Reservoir Authority. The Woman Creek Reservoir Authority ("Authority") appreciates the opportunity to comment on the *Draft Comprehensive Conservation and Environmental Impact Statement* (CCP/EIS) for the Rocky Flats National Wildlife Refuge (RFNWR). The Authority is a political subdivision and a public corporation of the State of Colorado. Its membership is comprised of the cities of Westminster, Northglenn, and Thornton. The Authority owns property adjacent to the proposed refuge area. The Authority supports the draft proposed action "Alternative B - Wildlife Habitat & Public Use." Alternative B allows for public use of the refuge, protection of wildlife and habitat, and controlled access to areas with residual contamination. In addition, please incorporate by reference the City of Westminster's April 21, 2004 letter containing comments to the CCP/EIS for the RFNWR. The Authority expects that it will be involved in and informed of any future action regarding the RFNWR, and would also like to participate and comment on the CCP/EIS final plans. Thank you, once again, for the opportunity to comment. Sincerely, Lee H. Johnson Attorney for the Woman Creek Reservoir Authority Cc: Bud Hart Mary Fabisiak Ron Hellbusch James Holladay Rocky Flats Coalition of Local Governments LhJ:acj-1548(373)	**19-1.** Thank you for your comments. See responses to the City of Westminster's comments (letter #12).

Comment #	Letter #20	Response
20-1 20-2 20-3		**20-1.** Thank you for your comments. **20-2.** There is no scientific evidence that there are dangerous levels of plutonium or other contaminants scattered "across the whole of the 6,500 acre site." Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies DOE has completed a cleanup and closure. The EPA and CDPHE considered the types of recreational activities that may be allowed on the Refuge when the RSALS of cleanup were determined. The Service is not a decision-maker in matters regarding cleanup, but the EPA and CDPHE have accepted that all activities proposed in the CCP will be safe. However, in response to public interest and concern, an expanded discussion of issues related to site cleanup is included in Section 1.8. **20-3.** See response to comment 20-2.

Alliance for Nuclear Accountability

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Carolina Peace Resource Center
Columbia, SC

Citizen Alert
Las Vegas, NV

Coalition for Health Concern
Benton, KY

Concerned Citizens for Nuclear Safety
Santa Fe, NM

Fernald Residents for Environmental Safety and Health, Inc.
Ross, OH

Global Resource Action Center for the Environment
New York, NY

Government Accountability Project
Seattle, WA

Heart of America Northwest
Seattle, WA

Miamisburg Enviz. Safety & Health
Miamisburg, OH

National Environmental Coalition of Native Americans
Prague, OK

Nuclear Watch of New Mexico
Santa Fe, NM

Oak Ridge Enviz. Peace Alliance
Oak Ridge, TN

Panhandle Area Neighbors & Landowners
Panhandle, TX

Peace Action Education Fund
Washington, DC

Peace Farm
Panhandle, TX

Physicians for Social Responsibility
Washington, DC

Portsmouth/Piketon Residents for Environmental Safety & Security
McDermott, OH

Rocky Mt.Peace & Justice Center
Boulder, CO

Shundahai Network
Salt Lake City, UT

Snake River Alliance
Boise, ID

Southwest Research and Information Center
Albuquerque, NM

STAND of Amarillo
Amarillo, TX

Tri-Valley CAREs
Livermore, CA

Western States Legal Foundation
Oakland, CA

Women's Action for New Directions
Arlington, MA

March 15, 2004

Rocky Flats NWR
Comprehensive Conservation Plan
Attn: Laurie Shannon, Planning Team Leader
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal NWR, Building 121
Commerce City, CO 80022

RE: Proposal to open the Rocky Flats Wildlife Refuge to public use.

Dear Comprehensive Conservation Planning Team:

The Alliance for Nuclear Accountability (ANA) is a national network of more than thirty local, regional and national organizations representing the concerns of communities downwind and downstream from U.S. nuclear weapons production and radioactive waste disposal sites.

ANA's broad range of member organizations object in the strongest manner to the proposed opening of the Rocky Flats Wildlife Refuge for public recreation. For almost half a century, the exceedingly dangerous work of processing and recovering plutonium and of manufacturing the fissionable plutonium "pits" of nuclear weapons was done at Rocky Flats. Fires, accidents, routine operations, and random dumping during the production scattered plutonium across the whole of the 6,500-acre site. Other toxins, including beryllium, organic compounds, heavy metals, and other radioactive materials were also released into the environment or disposed of on the site. Given that these toxins will still be present in varying amounts when FWS receives the site from DOE, FWS must take on the responsibility of keeping the public away from the area.

The Draft Comprehensive Conservation Plan and Environmental Impact Statement for the Rocky Flats National Wildlife Refuge, recently released by FWS, ignores the evidence that the site will remain contaminated until well beyond the 2006 proposed hand-over to FWS. Indeed, the site will remain contaminated essentially forever, because plutonium, with a half-life of 24,400 years, remains dangerously radioactive for a quarter of a million years. Plutonium particles dusted over the surface environment could be stirred up and resuspended by the recreational activities of hiking, biking, hunting, and horseback riding proposed by FWS in its preferred alternative for future use of the site. Tiny particles inhaled, ingested, or otherwise taken into the body may result in cancer, harm to the immune system, or pollution of the human gene pool. Numerous studies indicate that current official standards for permissible exposure seriously underestimate the harm that may result from exposure to a miniscule quantity of plutonium. Moreover, genetic effects on wildlife are very poorly understood. In addition, some scientists fear that wind, floods, fires, geophysical changes, as well as animal and human activity, will bring to the surface plutonium and other dangerous materials being left in the subsurface environment and so increase the danger of exposure to humans. Little is known about the synergistic effects of various toxins in combination.

Seattle Office: 1914 North 34th St., Suite 407, Seattle, WA 98103, 206/547-3175, Fax: 206/547-7158
Washington, DC Office: 322 4th Street NE, Washington, DC 20002, 202/544-0217, Fax: 202/544-6143
www.ananuclear.org ananuclear@earthlink.net

Comment #	Letter #20 continued	Response
20-4	Despite these and other alarming indicators of the dangers posed by the site to humans on or near the premises, the site has never been examined to determine the full extent of contamination. The "cleanup" will be completed without knowing whether there are undetected hot spots of various contaminants, which there will likely be. Workers recently uncovered a buried incinerator three stories tall. Of the $7 billion being spent to close the site by December 2006, no more than $470 million (about 7% of the total) will be applied directly to cleaning the environment. Cleanup efforts at Rocky Flats do not provide the maximum possible protection for the public.	**20-4.** See response to comment 20-2.
20-5	At completion of the cleanup, the site will be divided between the more-contaminated part still managed by the DOE and a less-contaminated portion to be operated by FWS as the Wildlife Refuge. Yet DOE and FWS propose a Rocky Flats site with no fences or warning signs, utilizing only institutional and physical controls (e.g. rules about use, barriers) to keep the public safe. The National Academy of Sciences says such controls will fail.	**20-5.** The final configuration of the DOE retained area, as well as the nature of any fencing or structures demarcating its boundary within the Refuge will be decided by DOE and the other RFCA parties. The Service is not the final decision-maker in these matters. However, the Service will continue to provide input to the RFCA parties. In the DEIS, the Service recommended that the demarcation be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. Section 1.8 of the FEIS was revised to indicate that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks with appropriate signage would best demarcate the DOE retained area, keep any livestock out of the DOE retained area, and indicate the DOE lands would be closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.
20-6	The Alliance for Nuclear Accountability and its 33 member organizations recognize the novelty of FWS being expected to manage as a wildlife refuge the site of a former nuclear weapons production facility. We also realize that making Rocky Flats into a wildlife refuge sets a precedent for other contaminated DOE sites. Clearly, this is not business as usual. Accordingly, we strongly back the following proposals:	**20-6.** The Refuge was established by the U.S. Congress in the Rocky Flats National Wildlife Refuge Act of 2001. Rocky Flats will not be the first refuge established on a former nuclear facility. Saddle Mountain NWR was established in Washington in 1971, with over 30,000 acres in the buffer zone of the DOE's Hanford Site. Saddle Mountain was included in the Hanford Reach National Monument, created as part of the Refuge System in 2000. Over 50,000 acres of the Hanford Reach National Monument is currently open to public use. Unfortunately, with the Refuge system there are dozens of sites that have to deal with a variety of contaminant issues related to former and/or adjacent land uses.
20-7	• Due to the contaminated conditions of the Rocky Flats site, the wildlife refuge should be declared off limits to the public for at least two centuries from establishment of the refuge.	**20-7.** See response to comment 20-2.
20-8	• A comprehensive research program should be implemented to collect data on the plutonium body burden of wildlife on the site, on the basis of which extrapolations can be made to genetic effects on the wildlife and potential effects on humans at or near the site.	**20-8.** Tissue samples, including edible meat tissues, of deer harvested at Rocky Flats in 2002 have been analyzed for contaminants. The results of the analysis indicate that there is no significant uptake of contaminants by deer or other wildlife species at Rocky Flats.
20-9	• U.S. Fish and Wildlife Service should work closely with DOE's Legacy Management Office in implementing at Rocky Flats a program of ongoing research on promising technologies that can be applied at the site to reduce contamination with minimal ecological disturbance.	
20-10	• To oversee the foregoing, a broadly representative program of public oversight should be developed and implemented.	

Comment #	Letter #20 continued	Response
20-11	We hope that in your future deliberations on the desirable end state of the Rocky Flats site, comments submitted by the public will be taken more seriously than they have been in the past. Over 85% of the individuals and organizations that commented on the Rocky Flats Cleanup Agreement proposed in late 2002 rejected the plan as inadequate, yet this fact was ignored by the DOE and the regulators when they adopted the plan in June 2003. Sincerely, Susan R Gordon Susan Gordon, Director Alliance for Nuclear Accountability Cc: Senator Wayne Allard Representative Mark Udall Rocky Flats Citizens Advisory Board Rocky Flats Coalition of Local Governments	Extensive studies have been conducted on wildlife and vegetation at Rocky Flats since the mid 1970s, mostly by Colorado State University. These studies include two deer studies as well as studies of small mammals, arthropods (insects), snakes, and cattle. Samples were taken of various species for the Draft Ecological Risk Assessments for Walnut Creek and Woman Creek Watersheds at Rocky Flats Environmental Technology Site (September 1995) and included samples from small mammals, insects, benthic invertebrates, and fish. Additional studies were done by CSU on vegetation uptake of Pu, in both terrestrial and aquatic species. Studies have also been done at other DOE facilities that can be used to compare to Rocky Flats. One of the purposes that the Refuge was established is scientific research. Once the Service takes primary jurisdiction, the Service will review proposals for research on the site. If the Service establishes that the research will be of benefit to science and the advancement of the Refuge, the investigators will be allowed to proceed with the research. **20-9.** Working with others is one of the six planning goals of the Refuge. **20-10.** The Service would involve the public in Refuge management decisions in a variety of forums. First, many of the specific management actions would be determined by “step-down” management plans, such as a Fire Management Plan or an Integrated Pest Management Plan. Step-down management plans typically include a public participation process. A second means for citizens to be involved in Refuge management is through the establishment of a “Friends” group for the Refuge (Objective 5.4). Alternatives B and D would implement a volunteer program which is a great way for the public to actively engage in Refuge management. Finally, existing forums for citizen involvement in matters pertaining to Rocky Flats include the Rocky Flats Citizen Advisory Board (RFCAB), and the Rocky Flats Coalition of Local Governments. **20-11.** Thank you for your comments.

Comment #	Letter #21	Response

APR 19 2004

U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

BOULDER AREA TRAILS COALITION

BOARD OF DIRECTORS

Guy Burgess

Jim Knopf

Adam Massey

Chris Morrison

Gary Sprung

Holly Tulin

Eric Vogelsberg

Suzanne Webel

April 11, 2004

To: Ms. Laurie Shannon
U. S. Fish and Wildlife Service

Subject: Management Alternatives for the Rocky Flats National Wildlife Refuge Comprehensive Conservation Plan and Environmental Impact Statement

References:
1) Memo to Senator Allard from the Boulder Area Trails Coalition, June 24, 2000
2) Memo to Ms. Laurie Shannon from the Boulder Area Trails Coalition, October 2, 2002
3) Memo to Ms. Laurie Shannon from the Boulder Area Trails Coalition, June 14, 2003

21-1 The Board of Directors of the Boulder Area Trails Coalition would like to take this opportunity to comment on the draft Comprehensive Conservation Plan and Environmental Impact Statement (CCP/EIS) for the Rocky Flats National Wildlife Refuge. As we've noted before, we're delighted with the opportunities the refuge offers for public appreciation of this important wildlife resource.

21-2 We support the Fish and Wildlife Service's Proposed Action (Alternative B). We recommend some enhancements which we believe will advance the Fish and Wildlife objectives and better serve the public. In particular:

- 21-3 Develop a phased implementation plan which allows gradually increasing visitor access to the trail system over the initial five years of operation, rather than closing most of the property to visitors for that period
- 21-4 Provide a short trail segment paralleling the gravel road between the parking lots on the west side of the refuge to create a north-south connection between the two major east-west trail alignments
- 21-5 Provide a trail to the northwest to connect with Boulder City Open Space and Mountain Parks trails
- 21-6 Make provision in the plan to include a north-south trail connection along the eastern side of the property in any future highway expansion along that corridor
- 21-7 Allow equestrian access to a north-south trail to provide connection to the Boulder City and County Open Space properties to the north of Rocky Flats that are open to equestrian use

BATCO ♦ PMB 201 ♦ 1705 14TH St. ♦ Boulder, CO 80302

21-1. Thank you for your comments.

21-2. Thank you for your comments.

21-3. Based on the interest of the Coalition and several members of the public, the Service considered expanding initial public access opportunities on the Refuge. Due to the proposed restoration, a limited budget for Refuge management, and public concerns about access to the Refuge, the Service maintained the public use implementation plan for all alternatives. By focusing staffing and budgetary resources on habitat restoration in the first 5 years, the Service would be able to reduce the severity of noxious weed infestations, and initiate road restoration before public trail use would introduce a new disturbance onto the landscape.

21-4. A parallel trail along the north-south access road has been incorporated into Alternatives B and D.

21-5. The Draft CCP/EIS acknowledges that there would be no proposed connection between trails in the Rock Creek portion of the Refuge, and the existing and proposed trails to the north of the Refuge along Highway 128. Based on the concerns of the Coalition, the City of Boulder, and several citizens, the planning team re-visited this decision, but did not include such a connection in the Proposed Action. A connection would not be provided because the Rock Creek drainage is the most ecologically sensitive portion of the Refuge, and therefore would only support seasonal, hiking-only trails. A multi-use through trail in this area would hamper the Service's ability to manage access and seasonal closures. In addition, a trail connection to the north would need to ascend steep slopes below Highway 128, and would compromise the Service's ability to manage trail access and use in the sensitive Rock Creek drainage.

21-6. Throughout the planning process, there has been community interest in a trail along the east side of the Refuge. For several reasons, the proposed action does not include such a trail. These reasons include uncertainties surrounding the potential transfer of land along Indiana Street for regional transportation improvements, the desired level of trail facilities that would be consistent with the Service's goal of balancing habitat protection and public use, and public concerns about contamination issues. While the Service does not hesitate to accept cleanup decisions related to protecting the safety of Refuge visitors and workers, the Service is aware of and

Comment #	Letter #21 continued	Response
	- 2 -	
21-8	We recognize that the ongoing cleanup activities at Rocky Flats are not the responsibility of the Fish and Wildlife Service and are beyond the scope of the draft Comprehensive Conservation Plan and Environmental Impact Statement. However, we feel compelled to address the very vocal concerns about the cleanup that have been expressed by some Boulder residents. These concerns do not represent the majority of our citizens. We've attached an editorial on the subject from the Daily Camera that we believe much more accurately reflects the viewpoints of most of our residents. It certainly reflects our position and the consensus of our members. We are confident that no public access will be allowed until the EPA has certified the success of the cleanup activities and we are comfortable with the safety of the Fish & Wildlife Service's proposed management actions.	sensitive to public perceptions and concerns about residual contamination on the eastern edge of the Refuge and therefore does not propose a north-south trail along the west side of the Indiana Street corridor. However, the Service has added to the CCP/EIS a discussion of preliminary recommendations regarding transportation improvements along the Refuge boundaries (Section 4.16). A north-south trail connection along the Indiana Street corridor is among those recommendations.
21-9	We were disappointed by the negative positions taken by the City of Boulder and the Boulder County Commissioners. We feel these positions are not fair representations of the public's interest. The City Council and the County Commissioners based their responses on the recommendations of a few individuals who had agendas of their own. Public input was not solicited and there was little opportunity for comment or discussion. It would most unfortunate if a few disgruntled activists were to succeed in denying reasonable public access to the Rocky Flats Wildlife Refuge.	**21-7.** See response to comment 21-5 regarding connections to trails to the north. In regard to north-south equestrian access, the Service anticipates that the Front Range Trail, which is conceptually proposed along the Highway 93 corridor, would provide north-south regional equestrian access. As noted in response to comment 21-6, the Service recommends that a north-south multi-use trail be included in any major transportation improvements along the Refuge.
21-10	We are excited about this opportunity to create a significant public facility in our neighborhood. Please don't let a vocal minority derail the process.	**21-8.** Issues related to ongoing cleanup activities are beyond the scope of the CCP/EIS and outside of the Service's decision-making authority. Due to the high level of public interest and concern, and expanded discussion of issues related to site cleanup is included in Section 1.8.
	Sincerely, The Board of Directors of Boulder Area Trails Coalition	**21-9.** The Service recognizes that the question of future public access to the Refuge is a sensitive political issue, and is confident in the EPA and CDPHE's position that once the site is certified to be safe, it would be safe for all Refuge activities, including public use.
	BATCO ♦ PMB 201 ♦ 1705 14TH St. ♦ Boulder, CO 80302	**21-10.** Thank you for your comment.

Comment #	Letter #22	Response

BOULDER COUNTY HORSE ASSOCIATION

The Voice for Horses and Horse People in Boulder County

RECEIVED
MAR 11 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

Rocky Flats National Wildlife Refuge
Comprehensive Conservation Plan
US Fish & Wildlife Service
Rocky Mountain Arsenal – Bldg. 121
Commerce City, CO 80022

Mar. 11, 2004

22-1 The Boulder County Horse Association (BCHA) supports a meaningful system of non-motorized recreational trails at the Rocky Flats National Wildlife Refuge. We have been active participants in the public input process as the dialogue progressed regarding trails and recreation. We sincerely appreciate your inclusion of equestrians on at least a few trails at the southern periphery of the Refuge in Alternative B, your Proposed Action.

However, we would like to take this opportunity to make a few comments about Alternative B in general and about equestrian considerations in particular.

Alternative B Trail Plan

22-2 1) We appreciate the care you have put into designating most of the trail corridors. It appears most of these will utilize existing alignments such as old roads, which is fine with us. It appears that a variety of trail experiences will also be offered.

22-3 2) We support the creation of some (shorter) trails for pedestrians only, such as those shown on the northwest portion of your map.

22-4 3) We support the creation of the main Reserve entrance (the "contact station", including a trailhead, restrooms, and seasonal staff) at the western location.

22-5 4) We believe the proposed trailhead parking at the northern edge of the Reserve should be placed across Highway 128 from the existing Coalton Drive Trail. Your current proposed location is more than a mile east of that point, forcing trail users to hike, walk or ride along this busy and very dangerous highway if they want to get from one trail system to another. There is plenty of room for a trailhead parking at the appropriate location (in fact, one of your alternatives shows it as a possible site for the Cold War museum!) so why not put it there?

PO Box 19601 • Boulder, Colorado 80308-2601 • web site: www.boulderhorse.org

22-1. Thank you for your comments.

22-2. Thank you for your comments. The Refuge trail system was designed to provide minimize impacts to natural resources, provide meaningful visual or physical access to the Refuge attributes, and to provide interesting experience for trail users.

22-3. Thank you for your comment.

22-4. Thank you for your comment.

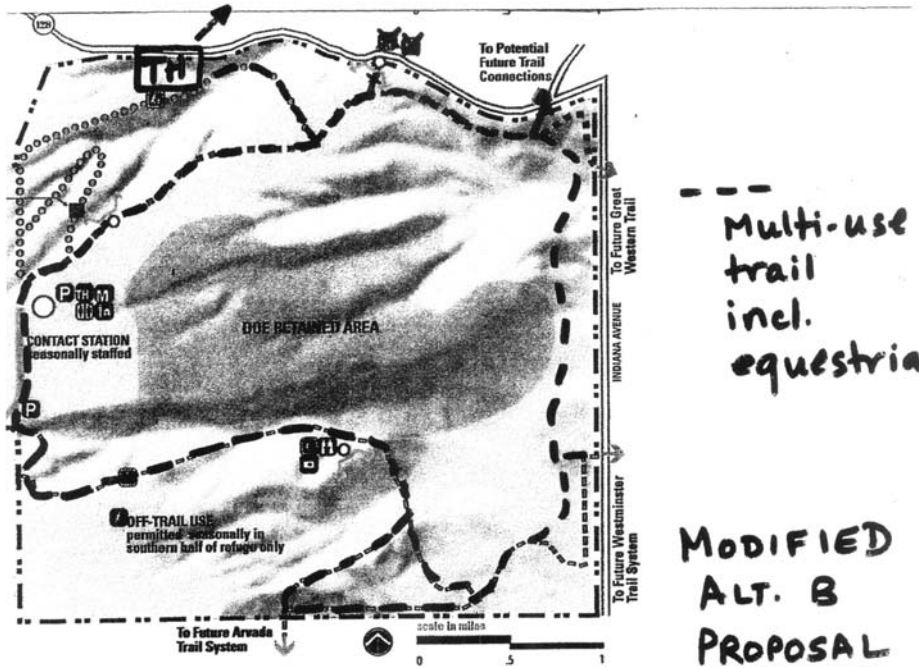
22-5. Early in the planning process, the existing pull-off area along Highway 128, adjacent to the Rock Creek drainage and across the road from Boulder County's Coalton Trail access was considered as a potential trailhead location. This trailhead location was not included in any of the alternatives for several reasons, all related to the sensitive natural resources in the Rock Creek drainage. First, the aforementioned location is bounded to the south by slopes that the Service believes are too steep for an ecologically sensitive trail connection. Second, due to the resources in the Rock Creek drainage, all trails in that area would be hiking only and closed seasonally. If a trailhead or multi-use trail connection were established at that location, the Service does not believe that it would be able to effectively enforce the seasonal and modal trail closures that would be necessary to protect natural resources. Finally, the northern trailhead location is not intended to be a regional trail connection. Instead, it is envisioned to be a starting off point for access to the Refuge trails and views for the communities to the north of Rocky Flats.

The Service understands the desire of some users to have a northern connection to the Refuge, but in balancing the ecological concerns of the area, the proximity of the Wind Technology Site, and the potential mining of most of the western portion of the site, the Service was not able to identify a compatible trail connection to Boulder's open space lands. The Service believes that there are other options that exist adjacent to the Refuge and would encourage user groups to explore other options.

Comment #	Letter #22 continued	Response
22-6	5) Your Figure No. 5 (Visitor Use Map, Alternative B) shows your proposed trails connecting to "future" trail systems on the north, east, south and west sides of Rocky Flats – yet your Figure No. 21 (Regional Trails) shows these future proposed trails connecting through Rocky Flats only northward at the northeast corner ("to Potential Future Trail Connections" – sure, right where the Northwest Corridor highway will be built!) and at the southern boundary ("to Future Arvada Trail System"). Specifically, a trail connection is not indicated between Colorado Hills or Standley Lake to the southeastern trail arrow shown on your map, and the entire northwest corner of the Standley Lake property is closed for eagle habitat so achieving any proposed trail there is dubious at best. The future of a trail along the northern boundary of the Great Western Reservoir is in doubt, inasmuch as there is a gun range there, as well as new developments. The Front Range Trail is shown in an abominable location along Highway 93 (the subject of many future but separate discussions!) with no connection to Rocky Flats other than along the proposed gravel entrance road. Even the proposed southern trail connection "to Future Arvada Trail System" is questionable, as your Figure No. 9 (Reasonably Foreseeable Activities) and accompanying text shows that this trail would have to traverse the Vauxmont Development – which doesn't sound like a desirable situation.	In regard to the potential Cold War Museum location along Highway 128, that location, referenced in Section 2.10 – *Reasonably Foreseeable Activities*, was recommended as a potential site in the 2003 Museum Feasibility Study. The Study suggested a site near the entrance to the National Wind Technology Center, which is about ¼ mile west of the aforementioned Coalton Trail access point. **22-6.** The proposed trails shown in Figure 21, Regional Trails, are based on existing plans and documents that were provided by adjacent jurisdictions. While some have been proposed by individual jurisdictions in anticipation of Refuge establishment, most were planned and documented prior to the CCP/EIS planning process. For this reason, the Service sought to establish trail connections to other planned trails where practicable. It is understood that some trail connections to the Refuge (such as Colorado Hills Open Space) would need to be established in the future whether or not they are in the current plans for those areas. It is the intent of the Service to work with nearby jurisdictions to establish regional trail connectivity.
22-7	6) Alternative B makes no provision for north-south recreational connections other than the proposed Front Range Trail out west by Highway 93. We see the future Northwest Corridor highway alignment as an obstacle to quality trail connectivity (to the east), making a north-south trail alignment on the eastern part of the Reserve even more important.	**22-7.** The Service acknowledges that Alternative B does not provide a direct, north-south trail connection on either the east or west sides of the Refuge. Based on the concerns and recommendations of others, the planning team reconsidered the trail configuration in Alternative B and added a north-south trail along the visitor access road, as well as a trail connection to the southwest.
22-8	7) Finally, the time frame proposed for trail development is way too long. There is no reason for this modest plan to take 15 years. Use volunteers to help get the job done – but please, get it done in our lifetimes!	As specified in the Refuge Act, an area with a width of up to 300 feet may be used for highway improvements along Indiana Street. In addition, it is not known at this time what the final boundary will be for the eastern edge of the DOE retained land and if there will be any Refuge boundary between the two. Further, the Service believes that a trail along the eastern edge of the site should be included as part of any roadway widening project.
	Equestrian Considerations	
22-9	1) We are pleased that you note that "equestrian use is authorized in most units of the National Wilderness System, and is deemed appropriate with preservation of wilderness values" (Compatibility Determination, p. 226). We agree. Furthermore, we note that the equine population of the Front Range has declined drastically in the past two decades, in part because of urbanization of Colorado and in part because of a decline in quality places to ride. The horse community needs access to public lands – and support from public land managers -- to help us preserve our way of life.	
22-10	2) We would like to explore further your apparent concern with equestrian use. In many parts of the Draft CCP&EIS this concern is not evaluated or supported other than by isolated references to "messes on trails" or concern about potential user conflicts. Only toward the end of the document does it appear that the real issue may be trail erosion or the spread of noxious weeds.	
22-11	The report cites two articles; we are familiar with both, and we have problems with using them as definitive works. The Weir (2000) article seeks to justify mountain bicycling on public land in Canada, which is fine as long as we all realize that that is its objective. It appears to be a non-scientific, no-peer-review compilation of some of the literature on Impacts of Non-Motorized Trail Use, by an author with no clear professional affiliation. The entire study is full of unsupported statements and the expression of vague accusations about non-bicycle user groups. It does state clearly that there is a paucity of objective data about the effects of recreational trail users on trail sustainability, and that "more thorough study is needed before conclusive	**22-8.** Prior to full implementation of the public use plans for the Refuge, the Service will be obligated to address ecological concerns related to noxious weeds and revegetation of unused roads on the Refuge. By focusing staffing and budgetary resources on habitat restoration in the first 5 years, the Service would be able to reduce the severity of noxious weed infestations, and initiate road restoration before public trail use would introduce a new disturbance onto the landscape. Objective 2.13 – *Recreation Facilities* has been revised to allow for more flexibility in opening trails.

Comment #	Letter #22 continued	Response
	judgments can be made about the relative trail erosion impacts of different users" (p.4). It goes on to declare that "In normal system trail use, trampling of vegetation is a minor factor. Trails facilitate travel in part because of their minimal vegetation and bare ground. Bicycles generally remain on trails, in contrast to hikers and equestrians." [We take issue with that unsupported statement, submitting that equestrians generally do remain on designated trails – although we appreciate the privilege of being able to go off-trail occasionally!]. It acknowledges that "recreationists can introduce parasitic and exotic species" by the use of contaminated feed for pack stock (as in Banff), by the lack of cleanliness (as in muddy bicycle tires, hiking boots and clothing which may carry non-native species seed and spores in the transported soil); and by the importation of firewood ("as happened with the Dutch Elm Disease" [well, whoa there! are they claiming that Dutch Elm Disease was introduced by recreationists???]. One thing this work does not do is specifically point to horses as disproportionate or even primary vectors for noxious weeds, even though it refers to the work described below [as by Benninger-Traux, a citation error curiously – coincidentally? – perpetuated in the USFWS Rocky Flats document]. In summary, this study has some valid contents, but we feel that overall it is flawed and lacks objectivity.	**22-9.** Thank you for your comment.
22-12	The work by Benninger-Truax (1993) has similar flaws with regard to objectivity. The author initially conducted this study as as a student in Ohio in 1989 and reworked it for later publication. She collected horse manure [referred to derogatorily in the study as "scat"] from stables and trails outside and inside Rocky Mountain National Park, was successful in finding some viable seeds therein, observed weeds growing along trails in greater (but unmeasured) abundance near the trails than elsewhere, and concluded that horses are dispersal agents for weeds. The report contains no acknowledgement that other studies have been conducted which yielded far more ambivalent results, nor any recognition that other vectors may have been responsible for any perceived increase in weeds along horse trails. Fortunately, the management of Rocky Mountain National Park chose to ignore this report in any of the subsequent revisions of its management plan!	**22-10.** The Service has received mixed support for equestrian access and has concerns about the potential ecological impacts related to additional weed sources, increased trail erosion, and user conflicts. For these reasons, the Service's limitation of equestrian access in Alternative B is intended to provide a separation of uses and to be conservative with regard to ecological impacts. **22-11.** The Service is aware that there are many divergent opinions and conflicting studies regarding the specific impacts of various trail uses on the environment. As noted, there is a "paucity of objective data about the effects of recreation trail users on trail sustainability." In preparing the DEIS, the Service was careful to acknowledge that the context and conditions of specific studies may or may not apply to the Rocky Flats environment. However, the types of general effects that are possible as a result of various trail uses, as described in Section 4.4, appear to be a reasonable assessment. Given the general effects that may occur, the EIS concludes that the proposed trail uses would result in "localized, long term effects" that could be mitigated by appropriate trail maintenance and visitor use management. This discussion has been revised to better reflect the general nature of the types of potential effects, and the specific impacts that are likely to result from the alternatives.
22-13	BCHA would like to refer the US Fish & Wildlife Service and its consultants, instead, to the Colorado Department of Agriculture Weed Coordinator, Eric Lane (303-239-4100). We have worked extensively with him on the subject of horses and noxious weeds, and are in the process of publishing a brochure on this subject for statewide distribution. He is extremely clear that horses are not a disporportionate vector for the spread of noxious weeds, either in their hair coats or in their manure. Indeed, Lane points to the wind, the water, the wildlife, and truck tires as being far more responsible for the spread of noxious weeds in Colorado. He also believes that any increase in nitrogen content along horse trails from manure is insignificant and does not contribute a favorable environment for seed germination; that it is the initial trail construction disturbance itself that may create a temporarily weedy situation, which subsides rapidly upon establishment of the trail. Indeed, Lane asserts strongly that you shouldn't restrict equestrian access to any Rocky Flats trails based on a generalized fear of horses spreading weeds there (personal communication, March 11, 2004).	**22-12.** While there is disagreement in the scientific and recreation community about the extent that recreationists in general and equestrians in particular contribute to the dispersal of noxious weeds along trails, the Service believes that it is reasonable to assume, as stated in the EIS, that bicycles and horses have the potential to carry and disperse weed seeds. The Benninger-Truax (1992) article describes observations that noxious weeds were more concentrated along trails. Other studies have confirmed this observation. The Service does not find reason to validate speculation in these or other articles that equestrians or any other particular trail users are more or less responsible for weed dispersal. The Service has taken relevant observations from the articles cited and is not inclined to speculate on the policy intentions or the adequacy of the methods used in these or other studies.
22-14	There are many ways to reduce or eliminate introduction of weeds related to horses, including a requirement that only certified weed-free hay be brought onto the Reserve (as is currently enforced by the National Park Service and by the USDA Forest Service, and recommended by various city and county open space agencies). The Colorado Department of Agriculture has a Certified Weed-Free Hay program whose products can easily be verified.	**22-13.** Mr. Lane has been actively involved in CCP/EIS process, and has provided useful comments to the DEIS.

Comment #	Letter #22 continued	Response
22-15	The Draft CCP&EIS acknowledges that weeds are already a problem thoughout the Reserve, even now when there are no trails and no public access (e.g. p.103). Therefore, we are perplexed as to why the Draft CCP&EIS singles out horses and suggests that equestrian access be "contingent" on working out commitments from equestrian groups to pick up manure from the trails twice monthly. We believe this proposal is excessive and not supported by the data; we urge you to eliminate this aspect of the plan. Instead, we urge you to replace it with voluntary adopt-a-trail commitments whose participants would be responsible for weed control in general along all trails they adopt – not just equestrians. Gather quanitative baseline data now, monitor the situation for a reasonable period; then use adaptive management to correct problems if they arise. Please don't start out with excessive restrictions. Don't fix it if it ain't broke!	**22-14.** The use of weed-free hay on the Refuge would be encouraged through education and outreach. The Service believes that due to limited resources and the proximity of the site to many potential horse users, it would be difficult to enforce a weed-free requirement. Therefore, the Service believes that education and outreach would be more effective. **22-15.** The Service acknowledges that weeds have become a serious ecological issue at Rocky Flats in the absence of equestrian or any public use. While natural resource protection is a priority of Refuge management, equestrian or bicycle access are not priority public uses of the Refuge. The inclusion of equestrian use, as a mode of access, would be permitted with the stipulation that equestrian groups would remove horse manure on a volunteer basis. This stipulation is given in the interest of protecting native habitat from increased weed dispersal. While the Service recognizes the debate about whether horse manure is indeed a vector for weed dispersal, natural resource protection is a higher priority than equestrian access so the Service has elected to take a conservative approach. Another concern about equestrian access is the aesthetic impact of horse manure on trails. Extensive amounts of manure on trails can increase user conflicts and complaints from other Refuge visitors. This is another reason why equestrian use would be permitted with the stipulation that equestrian groups would remove horse manure on a volunteer basis.
22-16	We want this Reserve to be a healthy ecological community – and a good neighbor to adjacent landowners -- as much as anyone else. Controlling weeds is an essential part of this relationship. Therefore, we urge you to allocate more budget and more designated (or even seasonal) personnel to winning the weed war at Rocky Flats -- not by restricting visitors.	**22-16.** Weed management would be a critical component of any Refuge management scenario. The Service believes that the proposed weed management budget in Alternative B would be sufficient to achieve the weed reduction targets described in Objective 1.5.
	CONCLUSIONS	
22-17	Although it is not specifically stated in the mission of the Fish and Wildlife Service, providing benefits to people is a very important part of the equation in public land management in the United States. We are part of the ecosystem, and we want to have meaningful access to public lands for the enhancement of our mental and physical well-being. Only by being able to get out there personally to appreciate nature will we be able to continue supporting public land acquisition and management programs.	**22-17.** Thank you for your participation.
22-18	Attached please find a summary of a new book written by Michael Manfredo, a professor at CSU, entitled "Wildlife Viewing: a management handbook." It provides an excellent model for achieving harmony among public land managers, recreationists, and environmental protectionists, based on emphasizing the benefits provided by public land management programs. We urge all involved to read the book and to consider its implications.	**22-18.** Thank you for your comment.
22-19	Also attached please find a map of a modified Alternative B trail system for the Rocky Flats National Wildlife Refuge as we would like to see it.	**22-19.** The attached map was reviewed by the planning team. Its consideration is addressed in the responses to comments 22-5, 22-6, and 22-7.
22-20	Thank you for your consideration of our input. We look forward to working with you on this important project. Suzanne Webel **Suzanne Webel** External Vice President, Trails & Public Lands Chair RKYFLTS3.LET	**22-20.** Thank you for your input.

Comment #	Letter #22 continued	Response
	ROCKY FLATS NATIONAL WILDLIFE REFUGE  --- Multi-use trail incl. equestrian MODIFIED ALT. B PROPOSAL BOULDER COUNTY HORSE ASSOC. 3/11/04	

Comment #	Letter #23	Response
	(303) 469-2534 (303) 469-1873 CHURCH RANCH 10050 Wadsworth Blvd. Westminster, CO 80021 Fax: (303) 469-4293 RECEIVED MAR - 9 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR February 25, 2004 Laurie Shannon Planning Team Leader US Fish and Wildlife Service Rocky Mtn Arsenal Building 121 Commerce City CO 80022 RE: Rocky Flats CCP/EIS Dear Laurie: Thanks for getting me a copy of the Rocky Flats CCP/EIS so quickly. Preliminarily I would like to make the following suggestions: 23-1 Page 118 Please expand this map to include OU-11. See example of map modification with notations. Mineral Rights – include the West Spray Field OU-11 area 23-2 Page 119 Water Rights - The Smart Reservoir system includes both ponds D-1 & D-2, and the ponds work in tandem. They are know by us as the upper and lower Church Ponds. As I continue to review I will make more comments. Very truly yours, CHURCH RANCH Charles C. McKay CCM/krm cc: Gregg Bradbury Perry McKay Bruce Nickerson	**23-1.** Figure 19 and the discussion in Section 3.8 of the FEIS have been revised to reflect the approval of the West Spray Field mining permit. **23-2.** Thank you for your comment.

Comment #	Letter #23 continued	Response
23-3	(303) 469-2534 (303) 469-1873 10 CHURCH RANCH 10 10050 Wadsworth Blvd. Westminster, CO 80021 10 Fax: (303) 469-4293 RECEIVED APR 26 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 22, 2004 Laurie Shannon Planning Team Leader Rocky Flats National Wildlife Refuge US Fish and Wildlife Service Rocky Mtn. Arsenal, Building 121 Commerce City, CO 80022 RE: CCP/EIS Dear Laurie: Thank you for your work on the CCP/EIS. We support Plan B as outlined in the draft EIS for the Rocky Flats National Wildlife Refuge since this land is owned by the tax payers, there should be public trail access to the property. Yours very truly, Charles McKay CCM/krm enclosure	**23-3.** Thank you for your comment.

Comment #	Letter #23 continued	Response
	(303) 469-2534 (303) 469-1873 CHURCH RANCH 10050 Wadsworth Blvd. Westminster, CO 80021 Fax: (303) 469-4293 February 20, 2004 RECEIVED FEB 24 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Laurie Shannon Planning Team Leader US Fish and Wildlife Service Rocky Mtn Arsenal Building 121 Commerce City CO 80022 RE: Rocky Flats CCP/EIS Dear Laurie: 23-4 As a neighboring landowner I would like to request a copy of the Rocky Flats CCP/EIS when it becomes available. After I reviewed your planning update I agree with the service identification of Alternate B with a moderate level of public use. 23-5 Please do not remove interior truck trails as they will be needed to access private water rights, points of diversion, head gates, etc.. Very truly yours, CHURCH RANCH Charles C. McKay CCM/krm	**23-4.** Thank you for your comments. **23-5.** The proposed access roads have been designed to provide reasonable access to ditches, utility easements, and other private property rights on the Refuge. The Service would work with Church Ranch to ensure reasonable access to those facilities.

Comment #	Letter #24	Response

RECEIVED
APR 6
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

Colorado Wildlife FEDERATION

April 22, 2004

Rocky Flats National Wildlife Refuge
Attn: Laurie Shannon
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal Bldg. 121
Commerce City, CO 80022

Dear Ms. Shannon:

24-1 The Colorado Wildlife Federation has reviewed the draft Comprehensive Conservation Plan & Environmental Statement for the Rocky Flats National Wildlife Refuge. Congratulations on a well-written, comprehensive document.

24-2 The CWF strongly endorses the Proposed Action (Alternative B – Wildlife, Habitat, and Public Use), which covers these three important goals: "Implement extensive habitat and wildlife management and conservation focused on the restoration to pre-settlement conditions. Accommodate wildlife-dependent public use. Facilitate compatible scientific research that focuses on habitats, wildlife, and public use."

24-3 The proposed practices that we endorse include (a) using a variety of management techniques (including prescribed fire and grazing) to restore disturbed areas, (b) conserving native plant communities and wildlife (including re-introduction of native fish and sharp-tailed grouse), (c) reducing coverage of invasive weeds, (d) using a graduated approach to allowing various public uses (e.g., hiking, biking, horse riding), (e) teaching environmental education to high school and college students, (f) using partnerships to address habitat conservation across boundaries, (g) implementing a volunteer program to assist refuge staff, (h) maintaining stock fences, and (i) instituting a organized youth/disabled hunting program.

24-4 We think the hunting program is particularly important to institute as a management tool because we already have situations on the Front Range (e.g., Rocky Mountain National Park and Rocky Mountain Arsenal NWR) where the deer and elk populations are too high. The result has been habitat destruction for themselves and other wildlife. As we have learned at the Arsenal, non-hunting forms of control are expensive, management intensive, and often ineffective. Furthermore, we promote increasing opportunities for youth to learn how to hunt under a managed situation. Most youth, especially in urban environments, are not learning about this important heritage and the enjoyment of being outdoors and participating in ethical chase. In addition, there is a real need to increase opportunities for disabled who like to hunt.

445 Union Blvd., Suite 302, Lakewood, Colorado 80228 (303) 987-0400 Fax (303) 987-0200
www.coloradowildlife.org • E-Mail cwfed@coloradowildlife.org

24-1. Thank you for your comments.

24-2. Thank you for your comments.

24-3. Thank you for your comments.

24-4. The Service agrees that public hunting would be a safe and positive form of wildlife dependent recreation on the Refuge, and would complement other tools for managing ungulate populations. Objective 1.6 – *Deer and Elk Management*, and Objective 2.10 – *Hunting Program*, have been revised to better correlate the establishment and analysis of target population size and public hunting programs, and to clarify that hunting would be used as both a population management tool and a form of wildlife-dependent public recreation. The Final CCP/EIS has been revised to propose only archery and shotguns for deer/elk hunting. The proposal to allow the use of muzzle-loading rifles has been removed in consideration of safety comments received during the public review of the Draft CCP/EIS.

Comment #	Letter #24 continued	Response
24-5	We suggest that the objective of reducing coverage of invasive weeds be changed to elimination of invasive weeds. These species pose one of the biggest threats to wildlife habitat in our country. The Refuges Program has an obligation to set a standard for other public land managers, such as the mangers of the Corps' reservoirs in Denver, city and county open space, BLM lands, and forests. The goal should be elimination even if it is practically impossible to reach without spending a lot of money.	**24-5.** Noxious weed infestations at Rocky Flats are among the greatest natural resource concerns on the site. The Service supports that philosophical goal of eliminating weeds at Rocky Flats during the 15-year life of the CCP. However, one of the Service's guidelines for writing management objectives is that the objectives are achievable. To that end, the Service believes that an incremental approach to weed reduction resulting in a 60 percent total reduction in 15 years would be achievable, and would have significant ecological benefits.
24-6	Your report recognizes the potential impact of mining in the headwaters of the drainages on the refuge lands. Such recognition does not go far enough. As we discussed in correspondence to the Congressional delegation from this state before the refuge authorizing language was passed, the Department of Energy needs to support a special appropriation for acquisition of the mining rights on this property as part of the costs of closing the facility and turning it over to the USFWS. Why should the USFWS be burdened with this problem? Please subtantiate this funding need in the final documents.	**24-6.** The Service agrees that potential additional surface mining on Refuge land in the headwaters of the Refuge streams would have an adverse impact on the management of the Refuge and its resources, and would not be compatible with the purposes of the Refuge or the NWRS. As the DEIS and FEIS discusses under Mineral Rights of Section 3.8, the Service will not accept the transfer of administrative jurisdiction of lands subject to mining until the United States owns the associated mineral rights, or until mined lands have been reclaimed to native grasslands.
24-7	We were pleased to see research emphasized because it is key to adaptive management. For example, monitoring your efforts to protect and improve riparian habitat for the Preble's Meadow Jumping Mouse is important. While it isn't clearly spelled out in the report, we assume such monitoring will include hydrological studies. Determining effects in changes in hydrology for the mouse as well as the Ute Ladies'-Tresses could also provide important information for recovery efforts elsewhere and help evaluate effects of future mining.	**24-7.** If funding becomes available, the Service is interested in pursuing research and monitoring related to potential hydrological changes related to ongoing mining activities at Rocky Flats.
24-8	Another hydrological aspect that needs to be considered is maintaining a sufficient number of the existing monitoring wells. Because groundwater can move slowly, future monitoring will be important to ensure that cleanup operations were successful and to collect baseline data before additional mining is begun on the bench in the headwater area.	**24-8.** As part of the DOE's long-term stewardship responsibilities, all monitoring equipment, including groundwater monitoring wells, will remain in place. This applies to wells throughout the lands that will become the Refuge, in addition to the DOE retained area.
24-9	We recognize that during the Rocky Flats clean up the U.S. Fish and Wildlife Service is in a position far different than its role in the Rocky Mountain Arsenal clean-up. With respect to the Arsenal, the Service was privy to the progression of projects and conferred regularly with the Army and Shell Oil Company. At Rocky Flats, the Service should be assured that it possesses adequate information to assess the risk to human health in the buffer zone before making decisions on public use. This is just one reason why we stated above that we support continued research and a graduated approach to allowing access.	**24-9.** Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies DOE has completed cleanup and closure. The Service is not a decision-maker in matters regarding cleanup.
24-10	Thank you for the opportunity to comment. If you have questions about this letter, please contact Dennis Buechler, Emeritus Board Member and former Chair, at (303) 627-0997 or at his email address: wetlandsandwater@comcast.net. Sincerely, Wayne East Wayne East Executive Director 2	**24-10.** Thank you for your comment.

Comment #	Letter #25	Response
	THE LEAGUE OF WOMEN VOTERS *JEFFERSON COUNTY, COLORADO* RECEIVED APR 21 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 8, 2004 Mr. Dean Rundle Refuge Manager, Division of Refuge Planning Region 6, Fish and Wildlife Service Box 25486, Denver Federal Center Denver, CO 80225-0486 Dear Mr. Rundle, The Jefferson County League of Women Voters has had a long interest in the Rocky Flats Clean-up Process. We have a strong position on Environmental Planning and Management. Having attended the recent hearings on the DRAFT Comprehensive Conservation Plan and Environmental Impact Statement, we wish to comment on the proposed alternatives for the wildlife refuge.	
25-1		**25-1.** Thank you for your comments.
25-2	There remains a great deal of concern about the safety of the site. The refuge should not be opened to the public until extensive and thorough monitoring of air, water, soil, vegetation, and animals has taken place over a length of time. Consistent, negative results are needed for some time before people can use the site.	**25-2.** Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies DOE has completed a cleanup and closure. The FEIS includes additional discussion of cleanup-related issues in Section 1.8.
25-3	Access to the DOE industrial area is another real concern and careful planning needs to be of the highest priority if Alternatives B or D are chosen and this area remains unfenced. Responsible use of the refuge will be absolutely essential. Therefore, good trail placement and signage must be carefully considered. In addition, the public must be informed. Full use of the media in this regard is important. A Visitor's Center for Alternative B as well as D is important so that visitors can be informed and kept out of the DOE industrial area.	**25-3.** All public use would be managed though a combination of signage, education, and law enforcement. These methods have proven to be effective at other Refuges and in many open space areas. In the DEIS, the Service recommended that the demarcation of the DOE retained area be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. Section 1.8 of the FEIS was revised to indicate that the Service believes that a four-strand barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands would be closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.
25-4	Our understanding is that a private firm owns the mineral rights to about 1/4 of the acreage at Rocky Flats. This is unfortunate, and although we know that the Service cannot change that, it is our hope that the U.S. Government will be able to purchase the mineral rights so that that land might be usable by the public in the future. Thank you for giving us the opportunity to participate in this very important process. Sincerely, Flodie Anderson Flodie Anderson, President Jefferson County League of Women Voters 1425 Brentwood Street, Suite 7, Lakewood, CO 80214 ◆ 303/238-0032 ◆ www.lwvjeffco.org	**25-4.** The Service believes that surface mining of Refuge land would have an adverse impact on the management of the Refuge and its resources, and would not be compatible with the purposes of the Refuge or the NWRS. As the DEIS and FEIS discusses under Mineral Rights of Section 3.8, the Service will not accept the transfer of administrative jurisdiction of lands subject to mining until the United States owns the associated mineral rights, or until mined lands have been reclaimed to native grasslands.

Comment #	Letter #26	Response
	NATIONAL WILDLIFE FEDERATION® *People and Nature: Our Future Is in the Balance* Rocky Mountain Natural Resource Center NATIONAL WILDLIFE FEDERATION® www.nwf.org® RECEIVED APR 27 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 26, 2004 Rocky Flats National Wildlife Refuge Attn: Laurie Shannon, Planning Team Leader United States Fish & Wildlife Service Rocky Mountain Arsenal, Building 121 Commerce City, CO 80022 Subject: Draft Comprehensive Conservation Plan & Environmental Impact Statement for Rocky Flats National Wildlife Refuge Dear Ms. Shannon:	
26-1	The National Wildlife Federation (NWF) respectfully submits our comments on the Draft Comprehensive Conservation Plan & Environmental Impact Statement for Rocky Flats National Wildlife Refuge. As the nation's largest member-supported conservation education organization, the National Wildlife Federation unites people from all walks of life to protect nature, wildlife, and the world we all share. NWF has educated and inspired families to uphold America's conservation tradition since 1936. Our common sense approach to environmental protection brings individuals, organizations, and governmental agencies together to ensure a brighter future for people and wildlife. The NWF strongly favors Alternative B – *Wildlife, Habitat, & Public Use* (Proposed Action). We agree with the approach of emphasizing both wildlife and habitat conservation along with a moderate level of wildlife-dependent public use. We are especially pleased that the Plan addresses efforts to restore xeric tallgrass prairie, the removal and restoration of 25 miles of roads, and the restoration of riparian areas. However, we do have some comments relating to the proposed action. We will present these comments below: **Wildlife and Habitat**:	**26-1.** Thank you for your comments.
26-2 26-3	Concerning the management of the Preble's meadow jumping mouse and its habitat, we encourage you to consider not putting trails within Preble's habitat. We would encourage you to accelerate the schedule for restoration of the xeric tallgrass prairie. We would request that Objective 1.2 be revised to read, "Maintain the total number of native species to be at least **100 percent** of the . . . plant species . . . in the tallgrass community. . . . 2260 Baseline Road, Suite 100, Boulder, CO 80302 Tel: 303-786-8001	**26-2.** The proposed trails were carefully planned to avoid impacts to Preble's habitat. To that end, all of the proposed trails within Preble's habitat would use existing roads and road crossings, and most would be subject to seasonal closures to protect the mouse. The Service believes that these measures, coupled with Preble's habitat restoration, would not adversely affect the species. **26-3.** The Service supports the philosophical goal of managing for 100 percent native species composition in the xeric tallgrass communities during the 15-year life of the CCP. However, one of the Service's guidelines for writing management objectives is that the objectives are achievable. To that end, the Service believes that an incremental approach to weed reduction and xeric tallgrass management resulting in a 80 percent native species composition in 15 years would be achievable, and would have significant ecological benefits.

Comment #	Letter #26 continued	Response
	Rocky Flats National Wildlife Refuge April 25, 2004 Page 2	
26-4	The map for Alternative B does not clearly identify the area for restoration of the mixed grassland prairie. Is the area identified as the disturbed area the area for restoration?	**26-4.** The area identified as "disturbed area" in the DEIS maps would be restored to mixed grassland prairie. The maps in the FEIS have been revised.
26-5	We are encouraged by the efforts to restore and revegetate roads. The Plan states these will be restored within the life of the CCP, but does not indicate if these roads will be closed in the first year. We encourage you to close these roads immediately to avoid them being used by Refuge staff and the public, which will make them more difficult to close later.	**26-5.** With the exception of the main access road, none of the roads would be accessible to the public for motorized vehicle use. Some existing roads would be converted for use by the public as pedestrian or non-motorized multi-use trails. Objective 2.2 – *Public Access* has been revised to clarify this point. Other roads that would be restored would be closed as soon as possible, but may not be closed immediately following Refuge establishment due to funding constraints.
26-6	Concerning weed management, we recognize the need for using all methods listed in the CCP. However, we are concerned about the use of grazing by goats and especially cattle. Our prime concern is the impacts these animals can have on riparian areas. Also, it would be important that these animals be quarantined prior to entering the Refuge to prevent the introduction of additional noxious weeds.	**26-6.** Besides grazing prescriptions as part of an Integrated Pest Management (IPM) program, intense, short-rotation cattle grazing may be prescribed to restore natural ecological processes. In that instance, cattle would be used to emulate the bison grazing to restore the natural disturbance regime required by a healthy grassland. The Service anticipates that grazing programs would require a system of temporary electric fences to manage livestock, including exclusion of cattle from Preble's habitat, riparian areas, and other sensitive habitats such as tall upland shrubland communities. Grazing programs will be designed and managed to minimize the introduction of additional weeds to the Refuge. Specific strategies would be outlined in a step-down IPM plan.
26-7	As you note, the black-tailed prairie dog is a controversial species on the forefront of conservation in the United States. Since the population in the Refuge has been so drastically reduced by plague, we do not agree that prairie dogs should be controlled to facilitate human recreation. We believe that the USFWS mandate for "wildlife first" should be followed.	**26-7.** The primary purpose of plague control on the Refuge would be for the protection of human safety and prairie dog populations. The language of Objective 1.7 – *Prairie Dog Management* has been revised to clarify those priorities. The Service does not propose to control prairie dogs to facilitate recreation. However, the Service will manage prairie dogs to facilitate resource conservation and maintain the protectiveness of cleanup facilities. The black-tailed prairie dog is a short-grass prairie species. It would be unnatural and detrimental to native ecosystems to encourage or allow prairie dog colonization of sensitive plant communities such as the xeric tallgrass community or riparian areas. Although the Service will not be responsible for management of DOE retained lands, the Service will work with DOE to reduce the potential for prairie dogs and other burrowing animals to invade and compromise the remedy by burrowing in DOE areas of residual subsurface contamination.
26-8	We are encouraged by the proposed action including the reintroduction of species including the sharp-tailed grouse, northern redbelly dace, and common shiner. We would encourage you to consider working cooperatively with the Colorado Division of Wildlife (CDOW) to reintroduce pronghorn to the Refuge.	**26-8.** The Service consulted with CDOW in preparation of the Draft CCP/EIS and discussed the issue of pronghorn reintroduction. At this time, CDOW is not in favor of pronghorn reintroduction at Rocky
26-9	We support the removal of interior stock fencing for facilitating wildlife movement within the Refuge. However, since the perimeter of the Refuge is currently fenced, the USFWS should explore ways to mitigate the impacts the fences have on the movement of wildlife. Also, if Highway 93 is improved and/or expanded, the USFWS should work with the Department of Transportation to install wildlife crossings to decrease wildlife/human conflicts. We feel this is extremely important in light of the fact that elk currently cross Highway 93 and the installation of wildlife underpasses or overpasses would greatly minimize wildlife related accidents and improve public safety.	
26-10	**Public Use, Education and Interpretation** We support your plan for a limited youth and/or disabled hunting program on the Refuge. Hunting is an important management tool which will aid in the population dynamics of the mule deer herd.	
26-11	Because of the history of the site, we recommend the USFWS moving cautiously with opening the Refuge to public use and should only be opened when reasonable assurance that post-cleanup soil levels meet standards set to ensure public safety on the property.	

	Flats due to a lack of sufficient unfragmented habitat and proximity to highways and urbanized areas. The Service defers to CDOW in this matter and will not consider pronghorn reintroduction without the cooperation of CDOW.

Comment #	Letter #26 continued	Response
	Rocky Flats National Wildlife Refuge April 25, 2004 Page 3	
26-12	We would discourage the use horses in the Refuge as they would be a potential source for the spread of noxious weeds.	
	Working with Others	
26-13	We are encouraged by the Refuge's desire to work closely with Jefferson County, City of Boulder, Boulder County, City and County of Broomfield, City of Westminster, Town of Superior, City of Arvada and CDOW to coordinate habitat management and resource conservation strategies. The Refuge should seek formal agreements with these entities to work efficiently and cost effectively on such issues as noxious weeds and other resource management issues that cross Refuge boundaries.	
	Research	
26-14	We support your approach of advancing knowledge about the resources of the Refuge through research. We encourage the Refuge to establish cooperative working relationships with universities and other resource agencies, such as CDOW and USGS.	
26-15	Thank you for this opportunity to comment. If you have questions about this letter, please contact Dyanne Singler, Land Stewardship Manager, at 303/786-8001 x23 or singler@nwf.org.	
	Sincerely, Stephen C. Torbit, Ph.D. Center Director & Senior Scientist	

26-9. The Service believes that the existing barbed-wire boundary fence, which is proposed for all alternatives, would not pose a barrier to the movement of wildlife. With regard to nearby transportation improvements, Section 4.16 includes an expanded discussion that outlines the Service's potential concerns that the Service would have related to any transportation improvements along Indiana Street, Highway 128, and Highway 93, and recommendations for mitigating potential impacts.

26-10. Thank you for your comment.

26-11. The CCP/EIS is written under the premise that the land will be remediated and certified prior to the establishment of the Refuge. The Service is not a decision-maker in matters regarding cleanup, but the EPA and CDPHE have indicated that all activities proposed in the CCP would be safe (Appendix D). However, the Service also acknowledges the concerns of many members of the public regarding the location and level of residual contamination on lands that will become the Refuge. For this reason, an additional discussion of contamination issues has been added in Section 1.8.

26-12. While there is common speculation that horses can contribute significantly to the spread of weeds, the Service also recognizes that there is disagreement within the scientific and recreation communities on that point. Recognizing this uncertainty, the Service proposes to allow limited equestrian access under the conditions outlined in the Compatibility Determination (Appendix B).

26-13. The Service would support opportunities to collaborate with other jurisdictions in matters regarding regional resource management issues.

26-14. The Service is looking forward to working with researchers from a variety of organizations to advancing our knowledge of refuge resources.

26-15. Thank you for your comments.

Comment #	Letter #27	Response

April 26, 2004

RECEIVED
APR 2 6 2004
U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

PLAN JEFFCO

Laurie Shannon, Planning Team Leader
CCP/EIS, US Fish & Wildlife Service
Rocky Mtn Arsenal, Bldg 121
Commerce City, CO 80022

Dear Ms. Shannon:

27-1 Several PLAN Jeffco members are actively following the plans for a wildlife refuge at Rocky Flats, and PLAN Jeffco has long supported preservation of the native prairies in the Rocky Flats area. PLAN Jeffco is a citizen organization established in 1971 to create the Jefferson Co. Open Space system; we continue to serve in an oversight capacity, working with the Open Space staff and others to provide citizen review of plans, acquisitions, and other issues. We are pleased to provide the following general comments on some aspects of the alternatives proposed. At the end, we have indicated which alternative(s) we support for each Refuge goal (table attached).

27-2 First, we would like to establish clearly that when we refer to "Rocky Flats" throughout this letter, we are referring to the buffer zone areas that are to be included in the Refuge, and NOT to the contaminated plant site that will be retained in DOE ownership. We certainly would not support any public use of the latter area, and urge that you take any steps necessary to preclude public use, even by accident. We understand that this falls into DOE jurisdiction at this time, and fully expect that USFWS will ensure that any lands made accessible are safe for the public. Our comments further rely on your statements that USFWS will not take control of the areas to be included in the Refuge until EPA deems the cleanup complete on those lands. While the primary responsibility for public safety rests with EPA and DOE, the Service will also have to ensure itself that it is safe to proceed with the plans for the Refuge.

27-3 As a general comment, we'd like to mention that Open Space has found it valuable, when establishing a new park or acquiring a new area, to clarify the primary use(s) for which an area is intended. Some sites are protected with an eye to maintaining their values as natural areas, while others are intended for development of recreational facilities, including creating ballparks and building recreation centers. We believe the evidence of the last several years (Colorado Natural Heritage Program report, 1993; Rock Creek Reserve establishment documents; Grassland studies reports by David Buckner, ESCO Assoc.) has shown the incredible value of the Rocky Flats area as an ecosystem connector, wildlife corridor, and a significant remnant native prairie with important wildlife habitat. **We note that you have strongly stated that these natural values are central to the significance and purpose of the new refuge (DEIS, p 3), as noted in your "Wildlife First" interpretive theme as well, and urge that these statements be established as a legal mandate for management of the property.** If these are to be the core purpose and value of the Refuge, we believe that intensive or uncontrolled recreational use, as proposed in Alternative D, is not supportable. As detailed below, we support elements of Alternatives A, B and C that allow limited use while ensuring adequate protection for all ecosystem components.

Recreational use

27-4 We do believe that *very limited* recreational use, in the buffer zone only, could be appropriate if properly managed. Large areas of native grassland and the riparian drainages on the western part of the buffer zone have not been subject to plowing or other soil disturbance and thus are unlikely to represent a health risk to the public. Any areas that are questionable as to contamination should, of course, be restricted completely; we believe adequate fencing is necessary to restrict public access to the non-Refuge (DOE maintained) areas.

27-5 Very limited peripheral trails, especially through trails, are acceptable as connectors with regional trail systems. Trails should be, as proposed, along existing roads or other access routes, avoiding additional ground disturbance, and as close as possible to the north and south boundaries. We think that the trail density and open use allowed under Alternative B is excessive: we strongly recommend that there be no "off-road" area, and that unguided public access be allowed only on the through trails, e.g., on the north and south sides of the area. Soil disturbance, such as that caused by off-trail use or additional trail construction, could mobilize any contaminants that may be present, and thus should be avoided.

27-1. Thank you for your comments.

27-2. The Service agrees with your assumptions.

27-3. The purposes of the Refuge and the priorities by which it should be managed are established in the Rocky Flats National Wildlife Refuge Act of 2001 (Appendix A), and the National Wildlife Refuge Improvement Act of 1997. This policy guidance is described in section 1.1. The Service designed all alternatives, including Alternative D, to fulfill the letter and intent of those policies. The Service disagrees with the assessment that Alternative D provides either "intensive or uncontrolled" recreational use. While the impacts of recreational use would be greater in Alternative D, they are still compatible with the Refuge purposes and goals. Additional analysis (Table 14) has shown that the length of trail per acre in Alternative D would be lower than other nearby open space facilities.

27-4. The EPA and CDPHE have indicated that all of the lands that will become the Refuge would be safe for all of the proposed Refuge management activities, including public use. To minimize the impacts of public use on native grassland, riparian areas, and other sensitive natural resources, most of the trails would be converted from existing roads.

With regard to the delineation of the DOE retained area, the Service recommended in the DEIS that the demarcation be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. Section 1.8 of the FEIS elaborates that the Service believes that a barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands are closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.

27-5. The Service agrees that the re-use of existing roads would provide an opportunity to avoid additional ground disturbance. To that end, 72 % of the proposed trails would be converted from existing roads. The Service believes that the proposed trail locations and density of Alternative B would best balance habitat preservation and public use, and does not agree that the trail density would be

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27-6	There are two other reasons why we believe vehicular use (even bicycles) and off-trail use should be prohibited on the Refuge. The first is that all too often, smaller forms of wildlife tend to be neglected in management plans. Insects, spiders, snakes, lizards, salamanders, and even small mammals are important ecosystem components on these prairies. The presence of ground-nesting birds and a variety of other wildlife means that off-trail use, especially by bicycles and motorized vehicles, will be extremely disruptive of wildlife—and of the vegetation on which all wildlife depends. An "off-road" area is a sacrifice area, incompatible with the purpose of a Refuge protecting wildlife and prairie. The "charismatic megafauna" always gets full consideration; let's not forget the equally valuable, but often overlooked, microfauna.	"excessive." As shown in Table 14, the trail density in Alternative B would be similar to, or less than other nearby open space areas including Jefferson County's White Ranch Park and the City of Boulder's Mesa/South Boulder Creek open space area. With regard to seasonal off-trail use, the Service believes that the potential localized impacts of off-trail use would be minor and would not adversely affect vegetation communities or wildlife. In regard to specific concerns about residual contamination, the EPA and CDPHE have indicated that any proposed public uses, including off-trail use, would be safe (Appendix D). In addition, the proposed off-trail use areas (Figure 23) are outside of the DOE retained area and other areas of residual soil contamination (Figure 4).
27-7	The second is that proliferation of access trails fragments habitats and increases the spread of noxious weeds. For the latter reason, we also question the potential use by horses. Horses are great at disseminating weeds, which pass undigested through their systems. There are many other areas of Open Space in the region where horses are allowed. It seems unnecessary to make the Refuge accessible also. The potential for damage from off-trail use by horses and bicycles is high, especially as level grasslands offer ready temptation to explore off the trails. Trails need to be monitored for weed invasion in any event, and any tendency for social footpaths and bikepaths to develop should be discouraged. The best way to prevent such excursions is to ensure that only guided trips are allowed beyond the peripheral trails, with strict signage—and enforcement—prohibiting off-trail activities.	**27-6.** With the exception of Service access for resource management purposes, motorized vehicles would not be permitted on any Refuge trails in any alternative. Objective 2.2 – *Public Access* has been revised to clarify that point. Off-trail use would be limited to pedestrian access only, on a seasonal basis, as to avoid disturbance to ground-nesting birds and other wildlife species. With these restrictions, the Service does not agree that the off-trail use area would be a "sacrifice area," but rather it would provide a reasonable opportunity for amateur naturalists, wildlife photographers, and others to access their subjects and would be compatible with the purposes of the Refuge and the NWRS.
	Protection of grasslands and other sensitive areas	
27-8	We support the public access strategy outlined in Alternative C, that is guided tours only and limited facilities placed only in previously disturbed areas. We do not support development of a public trail in the Rock Creek drainage or to the Lindsay Ranch area. We believe public use in sensitive areas, such as the historic ranch buildings and the ecologically important Rock Creek drainage, should not be encouraged, except on guided trips where visitors can be closely monitored by Refuge staff. The Nature Conservancy has long restricted access to its sites in this way, with the concept that the ecosystem is primary and public use is secondary, as your statement of significance and purpose suggests. This is a good way to ensure that historical groups, birders, botanists, ecologists, biologists, geologists, and others with an interest, professional or general, can be allowed to see or study these areas. This would have to be accomplished while ensuring that the natural values of the Refuge are protected and unmonitored access and potential disturbance do not occur.	The Service agrees that insects, reptiles, and other "microfauna" are often underrepresented in management plans. In consideration of these and other species, the Service has taken the approach that the conservation and restoration of native habitat communities on the Refuge would benefit the native species that depend on them, including microfauna. While such species were considered in the impacts analysis, the text relating to "smaller species" on page 157 has been revised to be inclusive of all microfauna.
27-9	Although we consider the native grasslands of critical importance here, we do not support returning the entire site to "pre-settlement" condition. The historical record will not be served by removal of certain remnants of long-ago occupancy, such as the surviving apple trees. In keeping with your interpretive theme of historic use, some evidence should remain. Restoration needs to be carefully and selectively applied, with an emphasis on preventing further degradation. That is, focus on control of knapweed, smooth brome, and noxious weeds—a critical need—before undertaking massive revegetation to pre-settlement condition.	**27-7.** As explained in response to comment 27-6, off-trail access would be open for pedestrian use only. Under existing conditions, there are about 55 miles of roads in the area that would become the Refuge. In Alternative B, about 25 miles of roads would be revegetated, while another 15 miles of roads would be converted and reduced in width to trails. The length of newly constructed trails would be about 1.5 miles. While the Service agrees that trails can
27-10	High trail density, in addition to improving weed migration, will increase the potential for wildlife disturbance by bringing more trail users in conflict with wildlife and provoking more frequent flight reactions. Again, if this large, relatively undisturbed ecosystem and corridor is to be protected intact, we should focus primarily on **managing the visitors** to ensure the goals of the Refuge are met!	
	Weed management and prescribed fire	
27-11	Prescribed fire is an important management tool. It helps maintain native prairies in good condition. The buffer zone grasslands, due to decades of protection from grazing, have major buildups of plant litter that are choking out the very native prairie the Refuge is established to protect. These areas are long overdue for prescribed fire or other appropriate management. EPA has indicated that, based on results of the test burn in 2000, they foresee no need to restrict the use of prescribed fire. We agree that such controlled fires pose little or no hazard to the public, especially noting that the native grasslands of primary interest and management need are west (upwind) of the contaminated areas. We support the use of fire as a management tool. Proper timing of fire can also help suppress cool-season introduced species where appropriate.	
27-12	Likewise, dormant season grazing has been shown to help maintain the native warm-season grasslands at Rocky Flats. We support limited, carefully monitored, grazing for management purposes where the goal is to improve the overall health of	

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27-13	the ecosystem. The amount of forage removed and the season of grazing should be monitored to ensure that adequate mass is left to sustain the production and reproduction of native vegetation. Grazing should be restricted in the summer and fall when warm-season grasses are actively growing and producing seed, and used to help control expansion of introduced cool-season grasses, such as Canada bluegrass (*Poa compressa)*, at the expense of native warm-season species. Heavier grazing in the early spring months will help reduce competition from the more undesirable species. **In summary,** we appreciate and support your focus on the overriding interest here—that of preserving an incredible complex of grassland communities and native wildlife species in a wildlife refuge setting. We endorse the management tools necessary to accomplish this in the face of pressure for increased public use. Fire, grazing, and other weed control techniques will be imperative, but limiting public use will also be a substantial challenge. Because this special ecosystem needs to be an exception to the heavily used parks we see elsewhere, we recommend that "people management" be your primary tool for maintaining the Refuge as, indeed, a REFUGE—for wildlife of all kinds, and for plant species and grassland communities that rarely occur elsewhere, and thus must be preserved here. Thank you for your consideration of our comments. Please contact Sally White (sally_white@msn.com) if you have questions or need clarification. Sincerely, John Litz, Vice-President **Summary Table of Plan Jeffco Recommendations** **Objective:** / **We support strategies as in** Preble's habitat management — Alternative C Xeric Tallgrass management — Alternative B, C Mixed Grassland management — Alternative B, C Road restoration and revegetation — Alternative C Weed management — Alternative B, C Deer and Elk management — Alternative A Prairie dog management — Alternative D Species reintroduction — Alternative A Public access — Alternative A or C Interpretation — Alternative A, C Environmental education — Alternative A, C Hunting — Alternative A, C Recreation facilities — Alternative A, limited C Staff safety — Alternative A, B, C Visitor safety — Alternative A, C Conservation — Alternative B, C Research — Alternative B, C Volunteer program — Alternative A, C (no strong position on this; volunteers may be beneficial) Staffing — Alternative A Operation and Mngt facilities — Alternative A Cultural resource management — Alternative A or C	fragment habitats, the extent of proposed trails in Alternative B would be compatible with Refuge goals, and the extensive restoration of existing roads would have a net benefit on wildlife habitat. In regard to noxious weed impacts, the Service recognizes that public use can increase the spread of weed species along trails. While there is common speculation that horses can contribute significantly to the spread of weeds, the Service also recognizes that there is disagreement within the scientific and recreation communities on that point. Recognizing this uncertainty, the Service would allow limited equestrian access under the conditions outlined in the Compatibility Determination (Appendix B). **27-8.** As established in the National Wildlife Refuge System Improvement Act of 1997, one of the goals of the NWRS is to provide the public with compatible, wildlife-dependent public use. When it is deemed compatible, this public use guidance applies to all members of the public, not just organized groups. The Service believes that the level of access presented in Alternative B would be compatible with the habitat protection goals of the Refuge, and would best balance resource conservation and the provision of wildlife-dependent recreation. **27-9.** With the exception of the Lindsay Ranch structures, no other historical resources would be removed under any of the alternatives. There are no structures remaining associated with the apple orchard near Woman Creek – in Alternative C the orchard would be allowed to die off over time. **27-10.** The Service believes that the proposed level of trail use would not have any significant impacts on natural resources on the Refuge. See responses to comments 27-5, -6, and -7 for more specifics. **27-11.** The Service agrees with your assessment of grassland management and prescribed fire, and appreciates your comment. **27-12.** The Service agrees with your assessment of grassland management and the utility of managed grazing, and appreciates your comment. **27-13.** Thank you for your comments.

Comment #	Letter #28	Response
	PRAIRIE PRESERVATION Alliance RECEIVED APR 27 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 26, 2004 Rocky Flats Refuge National Wildlife Refuge DRAFT Comprehensive Conservation Plan &/Environmental Impact Statement Laurie Shannon, Planning Team Leader U.S. Fish and Wildlife Service Rocky Mountain Arsenal - Building 121 Commerce City, CO 80022 **Re: DRAFT Comprehensive Conservation Plan & Environmental Impact Statement** Dear Ms. Shannon:	**28-1.** Thank you for your comments. **28-2.** See responses to the specific comments that follow. Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies DOE has completed the cleanup and closure. The Service is required by the Refuge Act to complete a CCP by December 31, 2004.
28-1	Thank you for accepting these comments on behalf of the members and affiliates of Prairie Preservation Alliance (PPA). We sincerely appreciate the opportunity to provide the U.S. Fish and Wildlife Service (FWS) with our concerns during this public process. We feel that the scope of the Comprehensive Conservation Plan & Environmental Impact Statement (EIS) is incapable of achieving this step of the process without more complete information concerning the cleanup of the Refuge. Regardless, we offer the following ideas and input.	
	Summary	
28-2	The goal of the DRAFT Comprehensive Conservation Plan & Environmental Impact Statement (DCCP) is to "guide management of Refuge operations, habitat restoration and visitor services for the next 15 years. Guidance will be provided in the form of goals, objectives, strategies and compatibility determination." (DCCP, p. 1.) While we agree with the need to plan for the time when the Refuge will be placed under the management of the FWS, we believe it is impossible to plan to the level of detail contained in the DCCP until cleanup activities reach a point where documentation is available that clearly defines the amounts of contamination that remain and the precautions that must be taken to ensure the safety of the public.	
	P.O. Box 12485 • Denver, CO 80212-0485 • (303) 638-4672 www.prairiepreservationalliance.org	

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	At this time, and with the amount of necessary information regarding the effects of the contamination that will remain after cleanup activities are completed, the alternative that is most acceptable to PPA is ALTERNATIVE C/"Ecological Restoration". The addition of Multiple Use Trails on the periphery would be acceptable, but hunting, grazing, on site interpretive programs and all other public uses must not be permitted.	
	Comments	
	Comments will be divided into general and specific. General comments will address Goals that are included in multiple Alternatives, and are relative to the DCCP as a whole. Specific comments will be offered for each Objective, in order to give as much structure as possible to them.	
	General	
28-3	Cleanup. Goal 3, Safety, states that the Refuge will be managed "in accordance with the final Rocky Flat's cleanup decision documents"(DCCP, p.4.) and yet those documents do not yet exist. Until they are published, we feel it is impossible to submit a plan that complies with those findings.	**28-3.** While many of the cleanup decision documents have not been finalized, the Service has worked closely with the RFCA parties to develop a plan that is consistent with the anticipated cleanup results. The CCP/EIS is written under the premise that the land will be remediated and certified prior to the establishment of the Refuge. Should the assumptions regarding the general nature, location, and safety of the Refuge land prove incorrect prior to the finalization of cleanup documents, the Service would revise the CCP appropriately.
28-4	Figure 2, Comprehensive Conservation Planning Process (DCCC, p. 5.) does not include the cleanup process or the findings that will result. While we understand that the authors of the DCCP are not involved in cleanup of the area, the implications to human health and safety must be available before the planning process can proceed to the part D, the development of and analysis of reasonable alternatives. PPA strongly suggests that the planning process remain in Part C, which includes the determination of significant issues, until final cleanup documents are available. Surely the safety and health of Refuge visitors and staff must be determined and ensured before alternatives can be proffered.	**28-4.** See response to comment 28-3. The Service is not a decision-maker in matters regarding cleanup, but the EPA and CDPHE have indicated that all activities proposed in the CCP would be safe. However, the Service also acknowledges concerns regarding the location and level of residual contamination on lands that will become the Refuge. For this reason, we have added an additional discussion of contamination issues in Section 1.8.
28-5	Correspondence from the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE), and included in the DCCC, repeatedly warns the FWS to minimize or prohibit soil disturbances. (DCCC, pp. 235-238.) Until the levels of plutonium and americium can be positively stated, no activity that possibly disturbs the soil should be permitted. This would include driving, walking, horseback riding, bicycling, hunting, and scientific research—mainly all active and passive activities that can take place in the interior of the Refuge.	**28-5.** In their 2003 letters that are included in Appendix D, the EPA and CDPHE advise the Service to minimize soil disturbances in areas with between 7 and 50 picocuries/gram of soil contamination. As shown in Figure 4, these areas are almost entirely contained within the DOE retained area, and do not contain any areas that are planned for public use, scientific research, or other Refuge management activities. Section 3.2 – *Geology and Soils* contains an expanded discussion of residual soil contamination levels.
28-6	Public Use and Species Conservation. Goal 1, Wildlife and Habitat Management, and Goal 2, Public Use, Education and Interpretation may be mutually exclusive goals. Goal 1 strives to conserve the unique mountain/prairie interface "with particular consideration given to threatened and endangered species" (DCCP, p. 4.). It is unclear what documents	**28-6.** The Service believes that both goals can be achieved at the Refuge without compromising one another. The alternatives were developed considering the input and professional experience of Service biologists, planning team members, the Colorado Division of Wildlife, and representatives from local government agencies.

Comment #	Letter #28 continued	Response
	Ms. Laurie Shannon. Comments on Rocky Flats National Wildlife Refuge Draft Comprehensive Conservation Plan & Environmental Impact Statement April 26, 2004 and biology were used to guarantee their protection. Neighboring Boulder City and County manages thousands of acres of protected grassland. Have their management practices been tapped as a tool that may enable the Refuge to be operated in the manner that most effectively cares for the plant and animal species there?	
28-7	Refuge is defined as "safe or sheltered from pursuit, danger, or trouble." (The New Oxford American Dictionary 2001, p. 1433.) Hunting, interior trails for hikers, bikers, and horses, scientific research, and prescribed fire do not provide for a safe or sheltered environment for the flora and fauna that do/will use the site as a refuge. If these activities are to be allowed, then we recommend the name be changed to the Rocky Flats National Recreation Area.	**28-7.** A National Wildlife Refuge is not necessarily the same thing as a dictionary definition of a "refuge." As established in the National Wildlife Refuge System Improvement Act of 1997, one of the goals of the NWRS is to provide the public with compatible, wildlife-dependent public use. Congress has determined that such uses should be provided for if they are compatible. The Service believes that the level of access presented in Alternative B would be compatible with the habitat protection goals of the Refuge, and would best balance resource conservation and the provision of wildlife-dependent recreation.
28-8	Most threatened and endangered species are in danger of becoming extinct because of loss of habitat and consumptive use. By allowing trails, prescribed fire, and consumptive uses in the Refuge, additional habitat is made unavailable to those who seek refuge there—increasing, rather than decreasing the threats to extinction. Allowing for the natural return to a balanced ecosystem will create a healthier, more fully functional prairie preserve. Wildlife would then remain for the enjoyment of those wishing to view or photograph them from the periphery.	**28-8.** The Service disagrees with the assessment that the proposed trails and use of prescribed fire would increase, rather than decrease the threats to species extinction. The trails were carefully planned to use existing roads to the greatest extent possible, and trails in the most sensitive habitat areas would be subject to seasonal closures. In addition to using existing roads, most of the trail development includes reducing the width of the roadbed to the width of a trail (about 8 feet), and restoring the adjoining areas. Prescribed fire is widely recognized as an important tool for grassland restoration, and would be used to improve the overall health and function of grassland communities at Rocky Flats.
28-9	Vision: The vision for the Refuge is laudable. We agree that it can provide "opportunities to appreciate the Refuge resources in an urbanized area through compatible wildlife-dependent public uses and education" (DCCP, p. 4.). PPA recommends the use of the 2001 U.S. Fish and Wildlife Service National Survey of Fishing, Hunting, and Wildlife-Associated Recreation to strengthen the vision. The survey found that wildlife watchers spent $38 billion, and increase of 5% over their 1996 survey. On the other hand, hunters spent $21 billion, a decrease of 7% over their 1996 survey. We recommend the optimization of opportunities that allow for passive interaction with wildlife through viewing and photographic experiences. Viewing and photographing from the periphery will ensure the wildlife remains comfortable occupying all portions of the interior and also ensure that grasses are free from human disturbance and more able to proliferate.	**28-9.** See responses to comments 28-6 and 28-7. In addition, the Service believes that the limited hunting program in Alternatives B and D are unlikely to affect wildlife viewing opportunities.
28-10	Passive recreation from the periphery will also increase the probability of a visit free from the effects of contamination. 3	**28-10.** See response to comments 28-3 and 28-4.

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	Ms. Laurie Shannon. Comments on Rocky Flats National Wildlife Refuge Draft Comprehensive Conservation Plan & Environmental Impact Statement April 26, 2004 **Specific**	
28-11	1. Preble's Habitat Management. In the opinion of PPA, Preble's habitat management is comprehensively addressed. We agree with the objectives and strategies as presented.	**28-11.** Thank you for your comment.
28-12	2. Xeric Tallgrass Management. PPA disagrees with the use of prescribed fire, grazing, and other tools. Manipulative management practices have resulted in catastrophic events in the past (e.g., the Dust Bowl) simply because the results of the actions could not be foreseen. Here now is an opportunity to allow the natural forces to chart the course of events. Yellowstone National Park accepted the challenge of managing the Park without suppressing natural wildfires, prescribed fire and grazing. Although people may not agree with the non-invasive management practices used, still a rather complete range of flora and fauna is represented in the Park. Mowing is the agricultural equivalent to natural ungulate and rodent grazing. We recommend only natural strategies be employed to clip grasses in the Refuge. While we reluctantly agree that goats can sometimes be beneficial, we strongly disagree with the strategy of using domesticated cattle to achieve grazing. Our reasons for recommending against cattle grazing are contained in the next paragraph.	**28-12.** While most of the Refuge area has been undisturbed by human activity in the last 30 to 50 years, the combined effects of road construction, site management, adjacent mining activities, and historical grazing have left its grasslands in a distressed condition that are increasingly vulnerable to noxious weed infestations. Managed grazing, mowing, and prescribed fire are commonly accepted grassland restoration tools that, if carefully applied, would reduce noxious weeds and stimulate native plant growth. All wildfires would be suppressed, since the use of "natural fires" in an urban environment like Rocky Flats would be a greater hazard to public safety than prescribed fire would be. Adaptive management would be a critical component of any grassland management regime to ensure that any management tools would not have catastrophic effects.
28-13	Grazing is addressed in AGRO's Comments on BLM's Grazing Program as follows: Livestock grazing has degraded the West. Sheep and cattle are ubiquitous on BLM lands although they are not native and they cause profound environmental problems such as diminishment of forage required by native grazers and browsers. When that forage is gone, native wildlife's food supply and hiding places are substantially reduced. In the Southwest, cattle have been overwhelmingly implicated in the historic and continued conversion of desert grasslands to scrub. In particular, it is well documented that livestock destroy riparian areas, the lifeblood for countless species in the arid West. Livestock remove stabilizing and shading plants, promoting erosion and problems with instream flows—increasing flood events but stopping summer flow and reducing the water table. Some 80% of vertebrates in Arizona and New Mexico use riparian areas for some of their life history needs and over half of vertebrates in these states are riparian obligates. Three-quarters of wildlife across the West depend on riparian areas. Riparian areas are disappearing rapidly and as a result, the number of species in the West has also plummeted in diversity and richness. Livestock's excrement and carcasses foul water. They deposit bacteria into streams that increase nutrient 4	**28-13.** See response to comment 28-12. In addition, the use of grazing at Rocky Flats would be highly managed, for short periods of time, to emulate the effects of grazing by bison under which the native grasslands evolved. This type of management would not result in the types of ecological damage that is referenced in the comment.

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	Ms. Laurie Shannon. Comments on Rocky Flats National Wildlife Refuge Draft Comprehensive Conservation Plan & Environmental Impact Statement April 26, 2004 content, water turbidity, and water temperatures—all of which lead to impacts on cold-water fishes and other species. (Grazing Comments, pp. 2-3.) In the face of such evidence, it would be unconscionable to move forward with plans to include cattle grazing on the Refuge. Moving cattle in and out of the Refuge must surely be accompanied by the influx of noxious weed seeds, resulting in further degradation of the native landscape.	
28-14	3. Mixed Grassland Prairie Management. PPA agrees with the objectives and strategies in this section with the exception noted in 2. above, regarding prescribed fire and mowing, and the suppression of all natural wildfires.	
28-15	4. Road Restoration and Revegetation. PPA agrees with the objectives and strategies presented in this section.	
28-16	5. Weed Management. We recommend against employing the Integrated Pest Management (IPM) approach because it uses cultural and chemical tools to address a problem that was created in part by the use of these tools and is becoming an ever-increasing problem. The same cultural and chemical tools have been unsuccessful in the past and will be unsuccessful in the future in managing noxious weeds. Reverting to natural tools such as biological approaches ensures that additional chemicals and toxins are not added to those already in the soils. We urge the creation of a comprehensive IPM plan that includes only biological strategies along with grub and handpull. The construction of fences to catch tumbleweeds are not acceptable since they may interfere with the movement of wildlife from one side to the other.	
28-17	6. Deer and Elk Management. We disagree with the objectives and strategies presented in this section. It is unrealistic to assume the CDOW can establish target populations for deer and elk. The CDOW has been unable to protect deer and elk from chronic wasting disease, increase fawn to doe ratios in mule deer herds, accurately inventory mountain lion populations, or control coyote populations. The FWS can certainly work with the CDOW to inventory populations of all wildlife populations in the Refuge, but not for purposes of seeking their direction regarding management practices, since these methods have proven unsatisfactory in the past. 5	**28-14.** See response to comment 28-12 and 28-13. **28-15.** Thank you for your comment. **28-16.** Due to the extent of noxious weed infestations at Rocky Flats and the effect that weeds have on native ecosystems, the Service believes it would be important to retain a full suite of pest management tools, including chemical herbicides, grazing, mowing, prescribed fire, biological controls, temporary fencing, and grubbing and handpulling. Each of these tools would be used as appropriate to reduce noxious weed infestations while minimizing adverse environmental effects. Often a combination of tools is required for weed control. **28-17.** The Service is confident in the ability of Service biologists, along with the Colorado Division of Wildlife, to establish target populations that would be appropriate for Refuge management.

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	Ms. Laurie Shannon. Comments on Rocky Flats National Wildlife Refuge Draft Comprehensive Conservation Plan & Environmental Impact Statement April 26, 2004 Population targets are not realistic since populations fluctuate from month to month depending on conditions such as weather, disease, forage, predation, disease, etc. To attempt to see into the future may cause irreparable damage.	**28-18.** The Service believes that limited public hunting would be compatible with Refuge purposes and management, and that it would provide an additional management tool for deer and elk populations.
28-18	Hunting as a management strategy is addressed in the general section on pages two and three above. In addition, we wish to state here that no hunting should be allowed on the Refuge. There are thousands of acres in the State of Colorado that are open to hunting of all sorts. The State can afford to create a refuge that does not allow consumptive use of the resources on this public property.	
28-19	7. Prairie Dog Management. The objective for prairie dog management must be increased to include the entire 2460 acres of identified habitat (DCCP, p. 21.). In this way, prairie species will enjoy the many benefits that prairie dogs provide the prairie ecosystem: food, shelter, improved soil aeration, more nutritious vegetation, etc. (John L. Hoogland, The Black-Tailed Prairie Dog, 1995.) Allow the black-tailed prairie dog to expand naturally into the 2460 available acres to achieve a fully functional prairie.	**28-19.** In Alternative B, the Service proposes limiting prairie dog expansion to a threshold of 750 acres. About 10 acres of prairie dog colonies currently exist at Rocky Flats. While the Service recognizes the important role that prairie dogs play in the grassland ecosystem, it is also important to manage prairie dog populations in balance with other wildlife species and vegetation communities. A sustainable expansion of prairie dog colonies would contribute to the health and diversity of grasslands, but an overpopulation of prairie dogs across the entire Refuge would threaten the viability of other native species, as well as the rare xeric tallgrass community in the western portions of the Refuge. Alternative B would allow for a 5000% increase over the current population size, which the Service believes would be sufficient for a sustainable and dynamic prairie dog population. Another reason that the Service intends to restrict unlimited expansion of prairie dog colonies is due to concerns related to residual, subsurface contamination within the DOE retained area. The EPA and CDPHE have indicated that subsurface contamination does not exist in the area that will become the Refuge. However, the DOE will be responsible for the protection of the remedy facilities within the portions of the DOE retained area where subsurface contamination will remain, which includes preventing prairie dogs or other burrowing animals from accessing subsurface contamination. While the Service would not be responsible for prairie dog management within the DOE retained area, and while subsurface contamination should not be an issue on the Refuge, as a management partner with the DOE it is prudent for the Service to maintain a sustainable prairie dog population and to keep those populations away from the retained area.
28-20	Strategies for managing prairie dogs should not include any lethal methods, including extermination, or donations to ferret or raptor foundations. The use of barriers to control the dispersal of prairie dogs into sensitive habitat areas should be employed, rather than trapping and relocating animals within the Refuge.	**28-20.** Prairie dog populations would be managed using visual barriers, on-site relocation, and other non-lethal methods.
28-21	Prairie dogs from off-site locations should be accepted until its carrying capacity of 18000 animals is achieved (75% of 2400 acres = 1800 acres X 10 prairie dogs per acre = 18,000). This figure allows for 25% expansion over time. The carrying capacity may be extrapolated over a multi-year period since it is probably impossible to translocate that many animals in a lesser time frame.	**28-21.** In Alternative D, the Service would evaluate the suitability of accepting unwanted prairie dogs from other jurisdictions. In the other alternatives, including the Proposed Action, the Service would not accept prairie dogs from off site. As discussed in the response to
28-22	Visitors should never be allowed to enter areas occupied by prairie dogs. By applying this criterion, plague will not be an issue for visitors. The DCCP states that management will include the informal monitoring for plague. PPA would like the statement to be defined more clearly, as it is difficult to understand how one "informally monitors plague". Additionally, "plague control methods" (DCCP, p.41.) are mentioned but not defined. Please expound on the strategy in future documentation. 6	

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	Ms. Laurie Shannon. Comments on Rocky Flats National Wildlife Refuge Draft Comprehensive Conservation Plan & Environmental Impact Statement April 26, 2004 8. Hunting. Under no circumstances should hunting be allowed on the Refuge! There is no way to guarantee the animals are free of contaminants. There is no way to guarantee the young or disabled are not more susceptible to the contaminants that remain on-site than the general public. In summary, Prairie Preservation Alliance sees much value in the Comprehensive Conservation Plan for Rocky Flats National Wildlife Refuge. We would like to see less orientation toward active recreation and more concern over the cleanup activities and schedule before proceeding further with the Plan. We would like to see the Refuge allow prairie-dog relocations from off-site locations. Finally, we strongly disagree with the recommendation to allow hunting on the Refuge. It is not necessary and will greatly detract from the overall experience of the Refuge. It is not a management tool in the true sense of the word (and may be detrimental to the participants), but a form of recreation that serves an ever-decreasing portion of the population. To pander to their wishes at the expense of the 61 million people who spend $38.6 billion annually in the pursuit of wildlife viewing and photography flies in the face of reason. Sincerely, Judy Enderle Prairie Preservation Alliance judy@prairiepreservationalliance.org Timothy Schneider Timothy Schneider Friends of Native Ecosystems timsfam@indra.com 7	comment 28-19, the Service proposes to allow natural expansion of existing and adjacent prairie dog populations in a manner that is ecologically sustainable. **28-22.** Any outbreaks of plague in prairie dog colonies would be monitored through the observation of on-site Refuge staff. Informal monitoring is relatively simple, as outbreaks of plague in prairie dog colonies are readily and quickly apparent.
28-23		**28-23.** Tissue samples, including edible meat tissues, of deer harvested at Rocky Flats in 2002 have been analyzed for contaminants. The results of the analysis indicate that there is no significant uptake of contaminants by deer or other wildlife species at Rocky Flats. The EPA and CDPHE have indicated that all of the proposed Refuge management objectives, including hunting, would be safe for the public.
28-24		**28-24.** Thank you for your comments.

Comment #	Letter #29	Response
	Rocky Flats Citizens Advisory Board *An Advisory Board to the U.S. Department of Energy* RECEIVED APR 5 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 1, 2004 Ms. Laurie Shannon Planning Team Leader U.S. Fish and Wildlife Service Rocky Mountain Arsenal Building 121 Commerce City, CO 80022 Dear Ms. Shannon:	
29-1	The Rocky Flats Citizens Advisory Board (RFCAB) is pleased to submit the following comments related to the draft Comprehensive Conservation Plan / Environmental Impact Statement (CCP/EIS) for the Rocky Flats National Wildlife Refuge. As you know, RFCAB is a federal advisory committee chartered to provide advice and recommendations to the Department of Energy, the regulators and others on matters related to the cleanup and closure of the Rocky Flats site. Our membership represents a diverse cross-section of the community. The Board develops it recommendations by consensus, which when considering the diversity of our membership represents a careful balance of the views and opinions shared by our members.	
29-2	In considering the information presented in the draft CCP/EIS, the Board does not have consensus on whether one of the proposed alternatives, A, B, C, or D, should be chosen for future management of the refuge. Further, nothing in this letter should be construed to imply that the Board has reached consensus on whether there should be public access to the refuge. We do have agreement, however, on certain aspects of the overall management plan irrespective of whatever management alternative is ultimately selected and offer them as follows.	
29-3 29-4	1) No dogs should be allowed on the refuge.	
29-5	2) In the event that an alternative is chosen that allows public access, there should be no motorized vehicles allowed except in public parking areas or for site maintenance.	
29-6	3) The Board supports the overall goal of ecological restoration at the site, particularly the protection and development of the tall-grass prairie ecosystem.	
	4) In order to prevent access to the DOE-retained portions of the site, there should be a permanent and clearly demarcated boundary. The U.S. Fish and Wildlife Service should be an active decision-maker in the establishment of this boundary. Members of the community should also be involved in the decision.	
	10808 Highway 93, Unit B, Building 60, Room 107B Golden, Colorado 80403 (303) 966-7855 ♠ Fax (303) 966-7856 ♠ Email: rfcab@indra.com	

29-1. Thank you for your comments.

29-2. Thank you for your comments.

29-3. Dogs would not be permitted on the Refuge in any alternative.

29-4. Motorized vehicles would not be permitted on the Refuge except for designated parking/access areas, Refuge maintenance and fire access, and access to utility easements, ditches, and private mineral rights. Objective 2.2 – *Public Access* has been revised to specify that motorized vehicles would not be permitted on Refuge trails and roads except for the above uses.

29-5. The Service agrees that ecological restoration and the protection of the xeric tallgrass ecosystem are important components of any Refuge management plan.

29-6. The final configuration of the DOE retained area, as well as the nature of any fencing or structures demarcating its boundary with the Refuge will be decided by DOE and the other RFCA parties. The Service is not the final decision-maker in these matters. However, the Service will continue to provide input to the RFCA parties.

In the DEIS, the Service recommended that the demarcation be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. Section 1.8 of the FEIS elaborates that the Service believes that a four-strand barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands are closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.

Comment #	Letter #29 continued	Response
29-7	5) It is important to preserve the history of ranching as part of the story of the Rocky Flats land, but preservation of the actual remaining ranching structures is not a top priority for the Board.	**29-7.** The Service agrees that the preservation of the actual Lindsay Ranch structures is not necessary to preserve the agricultural history of the site, or to meet the requirements of the Refuge Act. To that end, Alternative C calls for the removal of the structures and interpretation of the history of the site. However, the Service also acknowledges that there is public interest in the preservation of the structures, as well as the visual character that they add to the Refuge. For that reason, the Service recommends continued stabilization and interpretation of the Lindsay Ranch barn in Alternative B.
29-8	6) Because of its close association with the tall-grass prairie ecosystem, mining is not a compatible land use for the refuge. The Board supports the U.S. Fish and Wildlife position that no land be transferred into the refuge until the mineral rights have been acquired or after such time that mined lands have been reclaimed. The responsibility for resolving the outstanding issues related to the mineral rights remains with the Department of Energy.	**29-8.** The Service agrees that surface mining of Refuge land would have an adverse impact on the management of the Refuge and its resources, and would not be compatible with the purposes of the Refuge or the NWRS. The Service has expressed to DOE that it will not accept the transfer of administrative jurisdiction of lands subject to mining until the United States owns the associated mineral rights, or until mined lands have been reclaimed to native grasslands.
29-9	7) While not in agreement on the final location, the Board supports the development of a combined refuge interpretive center and museum related to Rocky Flats history.	**29-9.** The Service has expressed that it would prefer to co-locate Refuge offices and/or visitor facilities with the Cold War Museum, if such a museum is established and it is within close proximity to the Refuge entrance.
29-10	8) The Board supports a strong environmental education program focusing on the ecological resources at the refuge, but is not in agreement on whether these programs should include access to the site.	**29-10.** In the Service's preferred alternative, Alternative B, on-site environmental education would be targeted towards high school and college age students. On-site education programs would be implemented after 5 years of Refuge operations. The establishment of the Refuge and any ensuing public access is predicated by certification by the EPA that the cleanup is complete and proposed uses would be safe for the public. Cleanup decisions will not be made by the Service and are outside the scope of this EIS. However, due to public interest and concern, an expanded discussion of cleanup related issues is included in Section 1.8.
29-11	The Board is also forwarding to you the results of a survey on the refuge management alternatives and related issues completed by our members. These survey results do not represent any official position of the Board, but do provide an insight into the development of our comments outlined above. We thank you for the opportunity to provide our comments. Sincerely, Victor Holm Chair cc: Frazer Lockhart, DOE-RFPO Steve Gunderson, CDPHE Mark Aguilar, EPA	**29-11.** Thank you for your comments.

Comment #	Letter #30	Response
	Rocky Flats Cold War Museum RECEIVED APR 21 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 3, 2004 Laurie Shannon Planning Team Leader United States Department of the Interior Fish and Wildlife Service Rocky Flats National Wildlife Refuge c/o Rocky Mountain Arsenal, Bldg. 121 Commerce City, Colorado 80022 Dear Ms. Shannon,	
30-1	Thank you for the opportunity to comment on how the Rocky Flats Cold War Museum (RFCWM) can continue to work with the USFWS and the Department of Energy to create a significant and sustainable legacy for Rocky Flats after site closure. As with our previous input to the Rocky Flats Refuge planning process, our intention is to partner closely with the USFWS wherever our goals can be mutually advanced and our visitors optimally served.	**30-1.** Thank you for your comments and participation.
	As outlined in the museum's comprehensive feasibility study completed last August, there are several areas where we anticipate close cooperation with USFWS at the Rocky Flats. These include:	
30-2	• Collaboration on exhibit development and fabrication. The museum's mission, in addition to the cold war era and clean-up history, also addresses the natural history and the long-term stewardship of the site. We anticipate working closely with the USFWS during this process to insure that these exhibits also serve the anticipated needs of the Service.	**30-2.** The Service looks forward to opportunities to collaborate with the Museum, as expressed by Objectives 2.8, 2.9, and 6.5.
30-3	• Sharing physical space (either at the building 060/061 or at other locations depending on how the museum develops). The museum intends to undertake a capital campaign to secure or build its facility, portions of which could be leased back to other stakeholders. The museum, in response to feedback from the many community stakeholders who were interviewed during our feasibility study, would preferably be co-located with USFWS operations.	**30-3.** The establishment of the Cold War Museum is outside the jurisdiction of the Service and the scope of the CCP/EIS. However, the Service has expressed that it would prefer to co-locate Refuge offices and/or visitor facilities with the Cold War Museum, if such a museum is established and it is within close proximity to the Refuge entrance.

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30-4	• Working closely to develop environmental education and long-term stewardship activities. Perhaps most importantly, as an educational organization, the museum's exists to inform its visitors of the past, present, and future issues regarding Rocky Flats. In fact, the educational programs of the museum can eventually represent one of the institutional controls for the ongoing stewardship of the site—keeping citizens informed about the environmental state of Rocky Flats and nurturing future stewards. A wide variety of activities focusing on site monitoring, habitat restoration, and continuing community information about the ongoing legacy of Rocky Flats are being developed.	**30-4.** See response to comment 30-2.
30-5	The museum's lead role in undertaking a Historic Site Assessment of the Lindsey Ranch (now completed) is one example of the collaborative approach we hope for. The ranch holds promise as an important educational resource for the refuge. This in-depth assessment represents an important first step in considering how the ranch might be used in future public history or environmental education programming. Thanks to the collaborative efforts of the museum, USFWS, DOE, and the Colorado Historical Society, the ranch's heritage will not be lost.	**30-5.** The Service appreciates your efforts to preserve the history of the Lindsay Ranch. As outlined in Objective 6.5 – *Cultural Resources – Site History*, the Service looks forward to future partnership opportunities.
30-6	There is much to be decided in the coming years. As the clean-up progresses we hope to play an increasingly visible role in defining what the legacy of Rocky Flats will be. We continue to look to the USFWS as a critical partner in this work. Sincerely, Bryan C. Taylor, President, Board of Directors Rocky Flats Cold War Museum, Inc. Steven E. Davis, Executive Director Rocky Flats Cold War Museum, Inc	**30-6.** Thank you for your comments.

Comment #	Letter #31	Response
31-1	Rocky Mountain Peace and Justice Center RECEIVED APR 27 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Monday April 26, 2004 Laurie Shannon Planning Team Leader US Fish and Wildlife Service Rocky Mountain Arsenal NWR Building 121 Commerce City, CO 80022 Dear Ms. Shannon, The following pages are the final comments by the Rocky Mountain Peace and Justice Center on the Draft Comprehensive Conservation Plan and Environmental Impact Statement for the future Rocky Flats National Wildlife Refuge. The comments have been divided into two basic parts, general comments and specific comments. We would like responses to both sections. We have also included attachments that would be very useful in the final decisions made by the FWS for the site use and management of the RFNWR. They are: A. Risk from Plutonium in the Environment at Rocky Flats by Dr. LeRoy Moore, B. "The Evolution of Health Protection Standards for Nuclear Workers," from Closing the Circle on the Splitting of the Atom, DOE, January 1996, and C. The Executive Summary and recommendations of the Risk Assessment Corporation's 1999 report on sampling protocols at the RFETS. The decisions being made at this site are very important and could affect many lives. We believe that the FWS should utilize as many resources as possible when making decisions such as those in the CCP/EIS, including public comment and citizen expertise. If you have any questions regarding our comments or the additional resources provided at the end of our comments, please feel free to contact me. I will send two copies of our final comments; one copy will be faxed on April 26, 2004, the other copy will be mailed and postmarked by April26, 2004. I would request a response acknowledging receipt of our comments. Respectfully submitted, Erin Hamby Coordinator Rocky Flats Collective Rocky Mountain Peace and Justice Center 303-444-6981 veggirrrl@aol.com 1520 Euclid Avenue Boulder, CO 80302 Telephone: (303) 444-6981 Fax: (303) 444-6523 Post Office Box 1156 Boulder, CO 80306 working for nonviolent social change since 1983 *"Community Shares of Colorado Member Agency"*	**31-1.** Thank you for your comments. The documents referenced in the letter are part of the administrative record for the project.

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	The Rocky Mountain Peace and Justice Center is a non-profit organization, which represents a membership of over 2000 people in Colorado. We have acted as a voice for the community for 20 years on issues surrounding Rocky Flats. For 20 years we have sought to end the harm to people and the environment caused by nuclear weapons production and other activities at Rocky Flats. **General Comments:**	
31-2	Guidelines for National Wildlife Refuges and for the Rocky Flats Refuge In the Draft EIS/CCP, the FWS points out, "The [National Wildlife Refuge System] Improvement Act states that wildlife conservation is the priority of NWRS lands and that the Secretary of the Interior will ensure that the biological integrity, diversity, and environmental health of refuge lands are maintained. Each refuge must be managed to fulfill the **NWRS mission** and the specific **purposes** for which it was established (emphasis added)." The NWRS mission is, "[t]o administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States **for the benefit of present *and future* generations of Americans** (emphasis added)." The CCP/EIS also states, "The Refuge Act identified four purposes of the Rocky Flats NWR: • Restoring and preserving native ecosystems • Providing habitat for and population management of, native plants and migratory and resident wildlife • Conserving threatened and endangered species (including species that are candidate species under the Endangered Species Act) • Providing opportunities for compatible scientific research" **Neither the mission of the NWRS nor the purposes for which RFNWR was established requires or even mentions public use or recreation.** It is therefore in-line with the mission and purposes of the RFNWR to keep the site closed to recreation. Further, FWS states that, "[l]ands within the NWRS are different from federal multiple-use public lands, …in that that they are closed to all public uses unless specifically and legally opened." Compatibility Determinations are used to determine whether a refuge use should be allowed. While compatibility determinations for the RFNWRS show no significant "interference or detraction" from the Refuge and its mission, neither do they add any significant benefit. The RMPJC feels that the Compatibility Determinations provided in the Draft CCP/EIS are vague and do not provide the details one would require to make such serious decisions.	**31-2.** The Service agrees that excerpts from the mission of the National Wildlife Refuge System and the purposes of Rocky Flats National Wildlife Refuge are correctly quoted. It is quite clear from the language of the National Wildlife Refuge System Improvement Act of 1997, and the legislative history of that law, that the Secretary of the Interior is required to provide the six priority forms of wildlife-dependent recreation that are the priority public uses of the Refuge System, whenever those uses are found to be compatible with the purposes of the refuge and the mission of the Refuge System and are consistent with public safety. The Service believes that the public uses proposed in the CCP meet the compatibility and safety criteria and are, hence, required by the NWRSIA of 1997.
31-3	The question of recreational activities **The Rocky Mountain Peace and Justice Center and its members do not want to see recreation allowed at Rocky Flats.** It is our belief that the dangers and uncertainties around contaminant concentrations, locations, and stability within the environment are simply too great to justify opening the site to public access. We support the basic ideas behind the Refuge establishment. It is appropriate to deter development of these beautiful, yet contaminated lands. It is also appropriate to reclaim this land form its tragic history and allow it to serve a positive purpose. However, positive use of this beautiful land does not require the site be opened to the The Rocky Mountain Peace and Justice Center CCP/EIS Comments 1	**31-3.** In addition to the response to comment 31-2, the Refuge will not be established until it is certified by the EPA to be safe for any proposed activities.

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	public for recreation. In fact, opening the site to recreation would pose a health risk to those visiting the site, and, therefore, recreation should be considered a negative use.	
31-4	Scientific research on the site We believe that encouraging scientific research on the site, one of the four purposes for which the RFNWR was created, would be more beneficial to US citizens overall. Little is known about low dose radiation exposure, though some studies suggest small doses received over a period of time can be very harmful to one's health. We recommend that a focus be placed on studying the health effects of low level radiation, including cancer risks and possible genetic disturbances, on human and non-human organisms. We also suggest that Rocky Flats could be used for research in the development of better, more efficient remediation technologies for cleanup of plutonium contaminated sites. Care should be taken in any and all situations to prevent exposure to researchers and workers, as well as the public. Care should also be taken to prevent disturbance of wildlife and habitat, especially those considered to be endangered or threatened.	**31-4.** As described in Objective 5.3 – *Research*, all alternatives would allow for some level of compatible scientific research on the Refuge. Currently, the Service anticipates working with others to conduct research that has direct implications for Refuge management related to wildlife, habitat, and public use. The Service has no plans to conduct research on efficient remediation technologies for cleanup of plutonium-contaminated sites. There would be no need to do this since none of the lands coming to the Refuge will require any cleanup.
31-5	NEPA considerations We were very disappointed to be told that known contaminants that are being left behind on site at Rocky Flats are outside the scope of the CCP/EIS. We were also told that comments referring to such contaminants would not be considered "reasonable," and therefore not considered. . Not only is this irresponsible and inappropriate, we believe it violates the clear intent of the National Environmental Policy Act requirements for conducting an EIS. On this issue, we concur with and call your attention to the comments submitted on April 21, 2004, by the Sierra Club Rocky Mountain Chapter. FWS is aware that the site will not be cleaned up to the most stringent possible levels. FWS is also aware that large amounts of dangerous contamination will be left behind in the subsurface (below 3 feet) in the former industrial zone and that the surface soil in this portion of the site will contain up to 50 pCi/g of plutonium—assuming that the cleanup does not miss any hot spots and that soil sampling and analyses were adequate and accurate. Any assessment of risk is freighted with uncertainties. There is a substantial body of scientific literature (much of it cited in the attached paper on Risk from Plutonium in the Rocky Flats Environment; ***Attachment A***) that supports the conclusion that exposure to plutonium in even minuscule amounts can have adverse health effects, including effects that may be passed on to future generations. **Yet, despite the clear understanding that contamination will be allowed to remain on the site, the FWS refused to consider comments that addressed dangers posed by that contamination. It is unacceptable to limit public participation in this way. It is also irresponsible to manage the site as if it were pristine, when it is admittedly not.** The public has been asked to comment on a Draft Environmental Impact Statement while being told that remarks about environmental impacts will be ignored. In keeping with the foregoing, we believe FWS must do a Supplemental EIS on the refuge in which it presents a full description of the condition of the Rocky Flats [illegible] information. [illegible]	**31-5.** The Service is not a decision-maker in matters pertaining to cleanup, and the CCP/EIS is not a cleanup document. The EPA and CDPHE have indicated that all activities that are proposed in the CCP alternatives would be safe for both Refuge workers and visitors. The Refuge will not be established until this is certified to be the case. For these reasons, issues related to cleanup decisions are not within the scope of this EIS. However, in response to public interest and concern, an expanded discussion of issues related to site cleanup and residual contamination levels is included in Sections 1.8, 3.2, and 4.2.
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	environment and invites the public to comment on this information. No decisions regarding future use of the Rocky Flats National Wildlife Refuge should be made until FWS has fulfilled the whole of its obligations under NEPA.	
31-6	Lack of a national FWS policy for management of contaminated sites We understand that the USFWS was required to take over the closed site through federal legislation and that the Service could not refuse the ultimate acquisition of the site. As things stand now, neither the DOI nor the USFWS has a written or stated national policy or protocol for managing contaminated lands. This is unacceptable. The FWS was not designed to manage the uncertainties inherent in a site contaminated with radionuclides or other hazardous waste. Without the infrastructure in place to manage contaminated lands and the many problems and liabilities that could arise, the USFWS should not be asked to accept the management responsibility of such lands.	**31-6.** The Refuge was established by the U.S. Congress in the Rocky Flats National Wildlife Refuge Act of 2001. The Act requires the Service to manage those lands not retained by the DOE after the EPA certifies the cleanup is complete. The Draft CCP/EIS has been written in accordance with existing Service planning policies.
31-7	Lack of a national FWS policy for management of contaminated sites The FWS should be very concerned about managing a site that will knowingly continue to be contaminated with quantities of plutonium and other dangerous materials. While the FWS will not take control of lands not 'certified" by the EPA, the EPA will certify land as transferable with "allowable" levels of contamination. It should be noted that the standards for "acceptable" or "allowable" radiation dose to an adult human have decreased and changed several times in the brief period of less than 80 years since the first standards were created in 1925 (see the attached diagram on "The Evolution of Health Protection Standards for Nuclear Workers," copied from *Closing the Circle on the Splitting of the Atom*, DOE, January 1996; note that the standards on this diagram refer to nuclear workers; ICRP recommends that standards for the general public be set at 5% of what is permitted for workers; ***Attachment B***). These standards continue to be reviewed and revised as more is understood about plutonium. Who is to say that these standards will not change a few more times in the future, reflecting ever-lower allowable doses? What happens when the allowable dose standard is reduced to the point where it would be exceeded by a worker or visitor because the cleanup levels at Rocky Flats are no longer considered protective of human health and safety? Who will be responsible then for the remediation? For the harm caused to workers or visitors? It should be noted that the cleanup standards were not set to achieve the best possible clean-up. They were set to achieve a certain level of risk. In other words, an "acceptable" amount of risk (excess cancer deaths) was decided upon (not by the public being asked to assume that risk), and action levels were derived from this. Risk, in this sense, basically means that given a limit of acceptable harm, a dose is calculated to determine the highest amount of radiation exposure possible without exceeding the given level of predetermined acceptable harm. This form of determining a legally compliant level of risk is protective of industry liability, not of human health.	**31-7.** The Service is not qualified, mandated, or permitted to establish or challenge cleanup standards for contamination of any kind. These are the responsibilities of the EPA and the CDPHE, which have authority over the standards for cleanup at Rocky Flats. If the standards change, the five-year review under CERCLA will require DOE, EPA, and CDPHE to reevaluate cleanup efficacy and determine if additional work needs to take place. DOE will retain liability for any residual contamination.
31-8	The CDPHE standard for plutonium in soil off the Rocky Flats site The FWS should also be made aware of CDPHE's own standards for allowable levels of plutonium contamination in the soil off the Rocky Flats site. In response to revelations of major releases of plutonium to the offsite environment, in 1973 CDPHE promulgated the following state standard for plutonium in offsite soil. The Rocky Mountain Peace and Justice Center CCP/EIS Comments 3	**31-8.** See response to comment 31-7. CERCLA clean up levels are sometimes higher than standards for some programs. However, note that most of the buffer zone and the area that is likely to become the Refuge is below the CDPHE standard of 0.9 pCi/g. The background range for soil is between 0.04 and 0.09 pCi/g. The RFCA uses the value of 0.066 pCi/g for the background value. If the Service wishes to construct a residential building for any purpose, additional sampling would be needed and the regulators would need to give approval before such a building is constructed. None of the alternatives in the CCP include residential structures.

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	Contamination of the soil in excess of 2.0 disintegrations per minute of Plutonium per gram of dry soil . . . presents a sufficient hazard to the public health to require the utilization of special techniques of construction upon property so contaminated.[i] The quantity of plutonium in one gram of soil that decays at the rate of 2 disintegrations per minute is 0.9 picocuries, which is 22.5 times the 0.04 pCi/g average background deposit of plutonium from global fallout in the area. **The current surface soil cleanup level of 50 pCi/g for plutonium, is 55.5 times greater than the off-site standard, which according to CDPHE, "presents a sufficient hazard to the public health" to require special action before disturbing the soil.**	**31-9.** Site characterization is the responsibility of the DOE with oversight by the EPA and CDPHE. **31-10.** See response to comment 31-7. All public uses at the Refuge would be voluntary.
31-9	Contamination and risk regarding the land FWS will inherit We understand that the portion of the buffer zone FWS will receive from DOE will purportedly be contaminated with plutonium at levels of 7 or less pCi/g of soil (7 pCi/g is 175 times the 0.04 pCi/g average background deposits of plutonium from fallout). Of course, setting aside land contaminated at this level assumes that the characterization and sampling on which this calculation is made are adequate and accurate. We are attaching the Executive Summary of the Final Report on Sampling Protocols prepared in December 1999 by Rick Assessment Corporation for the Rocky Flats Radionuclide Soil Action Level Oversight Panel (***Attachment C***). Please review the twenty recommendations this report makes regarding how samples should be collected and analyzed to verify the cleanup at Rocky Flats. We do not believe that either the sampling done by DOE and the regulators or the additional sampling intended to be done by FWS meets the protocols defined by this set of recommendations. We urge FWS to insist that DOE and the regulators develop protocols for characterization and sampling to verify the cleanup that correspond with this list of recommendations. Their doing this would at least provide sampling results that could more easily be received with confidence by the affected public.	
31-10	The issue of risk, however, with respect to the danger from minuscule deposits of plutonium in the surface soil, is not simply a matter of having better sampling results. Plutonium, as we have pointed out repeatedly, is particularly dangerous in very small amounts. Several of the references on the attached sheet on Risk from Plutonium in the Rocky Flats Environment (see ***Attachment A***) indicate the potential harm from taking even a single particle of this material into the body. But, one might say, don't we all take risks? We all drive autos. Isn't driving itself a risk? Andrei Sakharov, the dissident Soviet nuclear physicist who received the Nobel Peace Prize, responded to those who compare the risk from low-dose radiation exposure to the risk from riding in an automobile. "The automobile," he said, "leads to accidents only in individual cases as a result of carelessness on the part of persons who are then legally responsible." By contrast, exposing people involuntarily to very low doses of radiation means "that the crime cannot be punished (since it is impossible to prove that any specific human death was caused by radiation) and…future generations" are left defenseless "against our acts."[ii] The issue of radiation and risk is very controversial. Even though the National Council on Radiation Protection and Measurements and the International Commission on Radiological Protection both assume that any exposure to radiation, no matter how small,	
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	is potentially harmful, these same bodies recommend standards for permissible exposure that allow some exposure and thus some harm. Since, as pointed out above, FWS is not obligated to allow public recreation activities at the future Rocky Flats National Wildlife Refuge, we urge the agency not to take the risk of needlessly endangering people. If the view that harm may result from exposure to radiation in very small amounts turns out to be incorrect, and FWS has not allowed public recreation at Rocky Flats, no one will have been harmed. But if FWS allows public recreation at the site and it is later irrefutably demonstrated that very low-dose radiation exposure can be harmful, who then can right the wrong or undo the harm? Specifics: 31-11 1. The RMPJC rejects management Alternatives B & D. 31-12 2. The RMPJC prefers an alternative that would not allow public access or recreation and favors and encourages research focused on low level radiation. 31-13 3. The RMPJC favors Alternative C above Alternative A because of the increased attention to environmental protection, conservation, and restoration. However, we do not support Alternative C if this means that FWS workers would be exposed to contaminants in the environment. If Personal Protection Equipment and routine radiation monitoring are not required or supplied to the workers, then the RMPJC favors Alternative A, as this would be the most protective for workers and the general public. 31-14 4. The RMPJC disapproves of the use of fire as tool for weed control and management. Fire not only has the great potential for re-suspending plutonium particles in the air, but it also has the potential to increase erosion, thus increasing the chance of exposing plutonium that lies beneath the top few inches of soil. 31-15 5. The RMPJC disapproves of any hunting allowed on site. In general, we do not feel that hunting is compatible with any NWRS. Specifically, the weapons pose a danger to near-by communities and road users. Also, the RMPJC feels that the uncertainties around plutonium body burdens in grazing animals are too numerous, and therefore, resident animals of Rocky Flats should not be consumed. If the meat is not being consumed there is no reason to allow public hunting. While the RMPJC does not necessarily support the culling of wild animals, if it is determined that ungulate populations must be thinned, we ask that this be done by professional marksmen employed by the FWS to ensure public safety and the minimization of suffering by the animals. 31-16 6. The RMPJC disapproves of any off-trail hiking. The risk to the hiker is too great. There is also an increased risk of accidental or intentional damage to some of the institutional controls being left in place by the DOE (water and air monitoring stations, caps, etc). 31-17 7. The RMPJC asks that the FWS actively participate in the discussion about how to demarcate the DOE retained lands. While we understand that the construction or implementation of any sort of barrier is the responsibility of the DOE. We also feel that the FWS has a responsibility to the public to clearly mark the boundaries of its property. Managing a site as a 'seamless space whose interior is restricted from the public will be very difficult. Thus, we recommend a fence that demarcates and The Rocky Mountain Peace and Justice Center CCP/EIS Comments 5	**31-11.** Thank you for your comment. **31-12.** Public use would be minimized in Alternatives A and C. **31-13.** The EPA and CDPHE have indicated that all of the proposed Refuge activities, in all of the proposed Refuge area, will be safe for both Refuge workers and the general public. **31-14.** The EPA and CDPHE have indicated that all of the proposed Refuge management activities, including prescribed fire, would be safe. However, in response to concerns about residual contamination, the Service does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 8). **31-15.** The Service believes limited public hunting would be compatible with the purposes and management of the Refuge, would be a compatible form of wildlife dependent public recreation on the Refuge, and would provide an additional management tool for deer and elk populations. The safety of participants and the general public would be a primary consideration in the design and management of the proposed hunting program. **31-16.** Off-trail, pedestrian use would be allowed in the area shown on Figure 23. These areas would be well outside of the DOE retained area, and would not contain any institutional controls related to the site cleanup. **31-17.** In the DEIS, the Service recommended that the demarcation be "seamless" with few obvious visual differences between the Refuge and the DOE retained area. The FEIS elaborates that the Service believes that a four-strand barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands are closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.

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	follows the entire boundary between the DOE retained lands and those to be managed by the FWS. This boundary should also have approach signage so that it is clear how far away the DOE land is. For example, a sign could be posted at 100 yards distance from the fence indicating one's proximity to the DOE lands.	
31-18	8. The RMPJC believes that visitors and workers should be made aware of the contaminants on site and the dangers they pose. If visitors are allowed, informed consent practices must be adopted and enforced.	**31-18.** The Refuge would include signs and displays conveying the history of the site, the location and nature of residual contamination, and relative risks associated with the Refuge.
31-19	9. The RMPJC believes FWS workers, as well as any researchers, should be provided with Personal Protection equipment. They should also receive training on hazardous and radioactive materials. They should also be monitored regularly by appropriate health and medical professionals to ensure that their health and well being is taken seriously.	**31-19.** The EPA and CDPHE have indicated that the area that will become the Refuge will be safe for all proposed Refuge activities, including scientific research. The contamination levels in the area to become the Refuge are currently safe enough (prior to cleanup) not to require any response actions. For these reasons, protective equipment would not be required in the areas that will become the Refuge.
31-20	10. The RMPJC is opposed to a full Visitor's Center for the RFNWR. The cost is too high, and the benefits too few. However, should the RFNWR be opened to public access, despite overwhelming comments asking for the opposite, the RMPJC feels that some sort of facility should exist to facilitate use of the Refuge only with informed consent and understanding of the nature of the site, its history, and its admitted contaminants.	**31-20.** The proposed action, Alternative B, calls for a visitor contact station rather than a full visitor's center at the Refuge. However, the Service has expressed that it would prefer to co-locate some visitor and/or office facilities with the Cold War Museum, if such a museum is established and it is within close proximity to the Refuge entrance.

[i] "Amendment to the State of Colorado Rules and Regulations Pertaining to Radiation Control, Subpart RH 4.21.1," Adopted Colorado State Board of Health, March 21, 1973.
[ii] Sakharov, "Radioactive Carbon from Nuclear Explosion Nonthreshold Biological Effects," *The Soviet Journal of Atomic Energy*, 4, 6 (June 1958): 761.

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Comment #	Letter #32	Response
	SIERRA CLUB FOUNDED 1892 RECEIVED APR 21 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR April 21, 2004 Rocky Flats Refuge Manager Rocky Mountain Arsenal- Building 121 Commerce City, CO 80022	
32-1	These comments represent the official comments of the Sierra Club Rocky Mountain Chapter to the Draft CCP/EIS for Rocky Flats National Wildlife Refuge. As these comments discuss, because FWS has not provided enough information to the public to make an informed decision about public access to Rocky Flats, the Sierra Club supports Alternative C (Ecological Restoration) which provides for the least amount of public access. Until such time as there is more publicly-available scientific information that provides support for FWS' proposal to allow significant public use of this site, the Sierra Club believes the area should be closed to visitor use. The Sierra Club urges FWS to delay any final decision until the clean up is complete and an EPA assessment of the site has occurred. At that time, environmental documentation relevant to the clean up's affects on public use of the Refuge should be provided to the public and analyzed by FWS in an updated DEIS.	**32-1.** Thank you for your comments. **32-2.** Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies DOE has completed the cleanup and closure. The CCP/EIS is written under the premise that the land will be remediated and certified prior to the establishment of the Refuge, and the establishment of the Refuge will not have a significant effect on the human environment. If post-cleanup conditions change this assumption, the cleanup will not be certified and the Refuge will not be established.
32-2	**1. FWS fails to consider whether the human uses proposed in areas of contamination and cleanup at Rocky Flats under the various alternatives will have a "significant effect on the quality of the human environment."** NEPA requires that environmental considerations be integrated into federal planning. Whenever a federal agency proposes a major federal action, it must consider whether that action will have a significant effect on the quality of the human environment. This means FWS must evaluate, among other things, the "degree to which the proposed action affects public health or safety." 40 CFR 1508.27. Regulations also require that when information on reasonably foreseeable adverse impacts is essential to a reasoned decision, the agency must secure the information if the cost is not exorbitant. 40 CFR 1502.22(a). "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken." 40 CFR 1500.1. NEPA has twin purposes: to obligate a federal agency to consider "every significant aspect of the environmental impact of the proposed action." And to ensure the public that the agency has indeed considered environmental concerns in its decisionmaking process. The purpose of an EIS is to educate the public and ensure the public that the agency has considered environmental concerns —including impacts on human health and the quality of the human environment—in its decisionmaking process. FWS has failed in both respects in this EIS.	In response to public interest and concern about contamination issues, the FEIS includes an expanded discussion of cleanup in Section 1.8, of residual soil contamination levels in Section 3.2, and any potential effects of Refuge activities on those soils in Section 4.2. This additional information demonstrates that environmental concerns, including the health of Refuge workers, visitors, and the general public, have been considered throughout the decision making process. Based on the cleanup assumptions that must be met prior to Refuge establishment, as well as the levels of residual contamination in the lands that will become the Refuge, the Service concurs with the EPA and CDPHE that the proposed Refuge activities will not have a significant effect on the quality of the human environment.
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	FWS states that "the EIS does not discuss the cleanup activities, because they are outside the scope of Refuge management activities considered in the CCP." (DEIS p.8). FWS assumes, without citing any document, statement or scientific study, that it need not consider soil contamination levels, residual contamination, and how they may be a source of harm to people and the environment when coupled with the activities proposed for these areas or other effects that historical contamination may have on proposed activities. The Sierra Club wholly recognize that FWS is not responsible for the clean up at Rocky Flats, including the methods used, the level of clean up, how quickly clean up occurs, or which areas are transferred and which are retained by DOE. <u>However, NEPA requires FWS to analyze the extent to which the human uses proposed under the DEIS when coupled with the contamination that remains after the DOE cleanup will impact human health and the quality of the environment.</u> FWS must ascertain and must provide to the public information about whether activities will have a "significant effect on the quality of the human environment." This evaluation necessarily must include information about, and a discussion of, the clean-up standard, the areas that will be cleaned, the soil depths where clean up will occur, and the impact to human health and the environment that any of these facts will have. FWS need not perform an EIS on the clean up itself. But it must perform an EIS on the impacts that the proposed activities will have on the quality of the human environment because those activities will occur on a site that has been severely contaminated and because there could be residual contamination that may be stirred up by the activities proposed by FWS. FWS avoids any analysis of effects to human health without a single statement as to how it can avoid such discussion. FWS does not cite a single study that evaluates effects to human activity. You do not cite any legal support for excluding such a central and critical discussion to its EIS. We believe it is impossible for this document to meet the obligations of NEPA unless there is a greater discussion of what the existing environmental conditions are of the area that is being discussed. FWS must evaluate whether the cleanup standard used by EPA (that of the refuge worker) will protect human health and the environment given the level of active recreation under each of the alternatives proposed by FWS. For instance, the CCP/DEIS never refers to the standard to which EPA will clean the Refuge. Independent research indicates that at least part of the Refuge will be cleaned to a level that will protect a Refuge worker. This standard raises several questions that FWS must address in its EIS, namely whether other groups, especially children, the elderly, or the infirmed or unhealthy visitor, will also be protected under this standard when that visitor participates in the activities proposed by the Refuge. Does this standard consider the proposed recreational activities and their resulting disturbances in determining whether the area is "clean enough?" The standard may protect the Refuge worker who operates machinery to blaze a new trail. However, as this trail erodes over time, will the average visitor still be safe? Moreover, will the interaction of wildlife (including burrowing wildlife such as prairies dogs) and humans cause dispersion And of toxic material that lies on or beneath the surface? Will such dispersion degrade the quality of the human environment downwind, down gradient and beyond the Refuge? 1806 Walnut Hollow Lane, Boulder CO 80302 720 406-8659 2	
32-3		**32-3.** An expanded discussion of contamination issues and cleanup levels is included in Section 1.8. The determination of cleanup standards is inclusive of all persons, including children, the elderly or infirm. The erosion or dispersion of soil by wind or water will not be a concern in the areas that will become the Refuge, because residual contamination levels in most of those areas will be at background or extremely low (below 1 pCi/g) (none of the contamination levels in lands to become the Refuge would be above 7 pCi/g – the cleanup standard at Rocky Flats is 50 pCi/g). The contamination levels in the area to become the Refuge are currently safe enough (prior to cleanup) to not require any response actions. The DOE will retain any areas where residual contamination is high enough to pose a concern due to erosion.

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32-4	**2. The CCP/EIS is premature given because (1) FWS will not inherit the site for many years, and conditions may change in the interim, and (2) FWS cannot accurately analyze the impacts of proposed alternatives until the nature and extent of residual contamination on the site is known—something that cannot be known until FWS receives jurisdiction of the site.** The DEIS states that a MOU between DOI and DOE "will guide the transition of Rocky Flat to its status as a National Wildlife Refuge." As of the date of these comments, this MOU has not been signed. The DEIS further points out that "the final size and configuration of DOE-retained lands will not be determined until the final remedy is completed and the area is agreed to by the Rocky Flats Cleanup Agreement (RFCA) Parties." How can FWS plan for management of the Rocky Flats Refuge without knowing what further or additional responsibilities it will have under the MOU, and what size and configuration the contaminated lands will ultimately have? Clearly, it cannot plan for management until these things are known as a baseline for the study. The CCP/DEIS is then, admittedly, incomplete and uncertain because FWS does not yet know what area it will be managing, and what its responsibilities for management will be. The progression of environmental documentation for clean up and ultimate management and use of the Refuge is very fractured and not easy to follow. The documents and reports addressing the clean up are disjointed, and yet they are critical to FWS' EIS and the public's ability to comment effectively. They are no where referred to or listed in this DEIS. It would be easier for the public, and would make better logical and planning sense to wait to plan for the Refuge until after the clean up and any EPA analysis are complete. Short of this, FWS should at a minimum provide a bibliography that details the relevant reports and information necessary to make a reasoned decision about what public uses should be permitted given the clean up efforts. Finally, FWS puts the cart before the horse. Considering public uses for the before the completion of the cleanup and any accompanying environmental analysis of the cleanup or any EPA assessment creates confusion for the public, means a less reliable decision, and is legally suspect.	**32-4.** The timing of the Comprehensive Conservation Planning process was directed by Congress in the Refuge Act. The Service has been in continued contact with the DOE during the CCP planning process and has been apprised of the approximate boundaries of the lands that will be retained by DOE for long-term monitoring and stewardship. While the exact boundaries are likely to change prior to Refuge establishment, the Service is confident that the general nature of the lands and resources that will be included in the Refuge will not change. For these reasons, the Service is confident that it is both reasonable and effective to complete the CCP process at this time. If post-cleanup conditions change the Service's assumptions, the CCP will be revised accordingly.
32-5	**3. The EIS leaves many specific questions unanswered.** The Rocky Flats Refuge Act The 2001 Rocky Flats Refuge Act mandates that the Refuge will be managed to restore and preserve native ecosystems, provide habitat for native plans and wildlife, and provide opportunities for compatible scientific research. How can FWS manage for native ecosystems without inquiring into the baseline levels of residual contamination that will still exist when it receives the property? 1806 Walnut Hollow Lane, Boulder CO 80302 720 406-8659 3	**32-5.** See response to comment 32-2.

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32-6	How can FWS plan for wildlife-compatible recreation without knowing whether that recreational activity runs a risk of disturbing potentially contaminated areas, and thus degrading the quality of the human environment?	**32-6.** See response to comment 32-2.
	Visitor Use	32-7. As indicated in response to comment 32-3, soil erosion or dispersion will not be a concern in the areas that will become the Refuge.
32-7	1) Will equestrian use disturb soils in a way that could expose radioactive material?	
32-8	2) Will a "seamless refuge" allow visitors to access sites that are not cleaned up to the same level as the refuge? Will the public be educated about the differences in clean up levels?	**32-8.** In the DEIS, the Service recommended that the demarcation between the Refuge and the DOE retained area be "seamless" with few obvious visual differences. Section 1.8 of the FEIS elaborates that the Service believes that a four-strand barbed-wire agricultural fence and/or permanent obelisks would demarcate the interior property boundary, keep any livestock out of the DOE lands, and clarify that the DOE lands are closed to public access. Such a fence would not adversely affect the movement of wildlife across the site, and would not be visually obtrusive. The Service has provided these recommendations to the RFCA parties.
32-9	3) Can burrowing wildlife, including prairie dogs, dig to a level in the ground that has not been cleaned up? What is this level? If so, how does this potentially affect re-distribution of certain materials to the surface? Can the public be exposed to radioactive materials as a result of animal disruption to soils? To what extent can toxic or radioactive material either transported or ingested by burrowing animals be moved up and down the food chain by the interaction of communities of animals sharing the same habitat?	The Service will provide signs and displays conveying the history of the site, the location and nature of residual contamination, and relative risks associated with the Refuge.
32-10	4) How will FWS monitor on-going impacts to human health and environment? IF FWS will not be monitoring the effects that visitor use may suffer, who will be monitoring?	
32-11	5) How will proximity to a DOE-retained Superfund affect the Refuge?	
32-12	6) What residuals will be left on the Refuge?	
32-13	7) How will any on-going cleanup activities or monitoring affect the proposed visitor use? How will it affect human health and the environment?	
32-14	8) Is DOE considering, as it cleans up the property, the uses to which the property will potentially be put? For instance, does DOE consider that some recreational activities, like horseback riding, could disturb contaminated soils and send particles into the air?	
32-15	9) There is absolutely no discussion of whether horse use, hiking, bicycle use, etc. could disrupt soil and dirt in a way that would release potentially dangerous particles in the air.	**32-9.** The EPA and CDPHE have indicated that subsurface contamination does not exist in the area that will become the Refuge. The DOE will be responsible for the protection of the remedy facilities within the portions of the DOE retained area where subsurface contamination will remain, which includes preventing prairie dogs or other burrowing animals from accessing subsurface contamination. While the Service will not be responsible for prairie dogs within the DOE retained area, and while subsurface contamination should not be an issue on the Refuge, as a management partner with the DOE it would be prudent for the Service to maintain a sustainable prairie dog population and to keep those populations away from the DOE retained area.
32-16	10) Various studies show that between 20-32% of children between the ages of 1 and 6 are pica children, meaning that they eat soil and other non-food items—up 8 oz per day. What hazards lie in store for such children who may visit the refuge with their parents.	
32-17	11) Please explain further the impacts on human health of a "seamless Refuge."	
	Transition from DOE to FWS	
32-18	FWS actions necessarily depend on DOE's clean up actions. How will FWS prevent exposure to hazardous materials and prevent disturbances to where cleanup has not been achieved? How does FWS plan to manage access to contaminated sites? And what is the validity of the level which forms the bright line above which land will be considered contaminated, but below which it will be considered an appropriate place for active recreation?What exactly does it mean to be a "seamless refuge" and does this action protect human health?	**32-10.** As directed by the Refuge Act, the DOE will retain jurisdiction over any response actions and will be responsible for the long-term monitoring that is required under CERCLA. However, as addressed in response to comments 32-2 and 32-3, the area that will become the Refuge is currently clean enough to not require any response actions and will include only those areas that are protective of human health on the Refuge.
	Impacts to Wildlife	
32-19	1) The DEIS states that "hunting to control wildlife populations would be permitted under all action alternatives." Hunting is not currently allowed at Rocky Flats. Can FWS point to any scientific data indicating that the deer population is not now currently optimum, given the size of the habitat, and self-regulating? If deer populations have remained stable and in an acceptable range, why is hunting necessary or even advisable? Is consumptive use of	

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32-20	fish and wildlife advisable given the history of Rocky Flats? Has FWS studied this question? 2) Has FWS evaluated the effect of burrowing animals in or near to clean up sites?	**32-11.** The proximity to a Superfund site within the DOE retained area will not appreciably affect the management of the Refuge. The Service will continue to work with the DOE to facilitate long-term monitoring, and coordinate habitat management issues and emergency response.
32-21	Impacts due to Fire Wildfires have not been allowed to burn and only one controlled burn has been conducted on Rocky Flats since 1972. (DEIS p. 103). FWS plans to have controlled burns. Has FWS or any other agency evaluated how controlled burns could effect residual contamination? Has FWS or any other agency evaluated the extent to which toxic material in contaminated soils would be exposed after a controlled burn, or would be dispersed into the environment during a burn?	**32-12.** See response to comment 32-3. **32-13.** See responses to comments 32-2 and 32-3.
32-22	**4. The Precautionary Principle supports limiting public access until further information is known, studies have been done to evaluate potential environmental impacts, the public is assured that the Refuge is safe for visitation, and that visitation will not cause further releases and dispersion of toxic material and radionuclides.** In summary, the DEIS is devoid of any information or discussion on the potential adverse effects from hazardous substances. Given this, it is virtually impossible for the public to adequately assess the impacts of the alternatives. The FEIS should summarize and reference information on the potential adverse effects from hazardous substances, and from the effects of human, wildlife and natural actions and interactions on these hazardous substances. The public needs more information regarding residual contamination after remediation and details about what monitoring will occur, who is responsible for it, whether it will occur on the Refuge or only on the DOE retained-lands, and how often it will occur. FWS cannot just assume that the site will be cleaned up to a level that makes any of the activities proposed under the various alternatives "safe" for the environment. If FWS is assuming that clean up poses no risk to human health and the environment, the EIS should say so, rather than pretend this is not a question at all. These questions must be addressed. Conclusory statements about the impact of these proposed activities do not meet the requirement of NEPA that FWS consider environmental impacts of the proposed federal action. Thank you for considering these comments. Sincerely, Kathleen C. Becker Sierra Club Rocky Mountain Chapter Rocky Flats Committee 1806 Walnut Hollow Lane, Boulder CO 80302 720 406-8659 5	**32-14.** The lands that will become the Refuge will not require any cleanup, because contamination levels are very low. The DOE will retain all of the areas that will be actively cleaned up, as well as areas subject to long-term monitoring. **32-15.** See responses to comments 32-3 and 32-12. **32-16.** See response to comment 32-3. **32-17.** See responses to comments 32-2 and 32-8. **32-18.** See response to comment 32-10. **32-19.** The Service does not believe that there is an "optimum" population size at which the deer population will be self-regulating. While the Service considers the deer at Rocky Flats to be "resident," they are part of a larger management unit that fluctuates annually based on habitat conditions and other factors. For this reason, the Service proposes to establish a target population range that would guide wildlife and habitat management on the Refuge. Hunting would be used as a management tool to control deer and elk populations. Hunting also would be a recreational activity that would be compatible with the purposes and management of the Refuge. Objective 1.6 – *Deer and Elk Management*, and Objective 2.10 – *Hunting Program*, have been revised to better correlate the establishment and analysis of target population size and public hunting programs, and to clarify that hunting would be used as both a population management tool and a form of wildlife-dependent public recreation. With regard to the consumption of deer and elk meat, tissue samples, including edible meat tissues, of deer harvested at Rocky Flats in 2002 have been analyzed for contaminants. The results of the analysis indicate that there is no significant uptake of contaminants by deer or other wildlife species at Rocky Flats.

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		32-20. See response to comment 32-9. **32-21.** See response to comment 32-2. The EPA and CDPHE have indicated that all of the proposed Refuge management activities, including prescribed fire, would be safe (Appendix D). However, in response to concerns about residual contamination, the Service does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 10). **32-22.** See response to comment 32-2.

Comment #	Letter #33	Response
33-1	*Steve C. Murdock* *Colorado Coordinator* *Wheelin' Sportsmen - NWTF* RECEIVED MAR. 22 2004 U.S. FISH & WILDLIFE SERVICE ROCKY MOUNTAIN ARSENAL NWR Ms. Laurie Shannon, Planning Team Leader Rocky Flats National Wildlife Refuge U.S. Fish and Wildlife Service Rocky Mtn. Arsenal, Building 121 Commerce City, CO 80022 Wednesday, March 17, 2004 Re: Proposed usage plan "B" for Rocky Flats Dear Ms. Shannon and USFWS Planning Team, I am writing to express the *strong* support of the Colorado Wheelin' Sportsmen-NWTF organization for your alternative management plan for Rocky Flats for Wildlife, Habitat, and Public Use (referred to as "Plan B"). I have reviewed each of your proposed management plans and am very excited about the prospects of "Plan B" and the possibility of increased outdoors opportunities for the disabled and youth of Colorado. If I may, I would like to tell you a little bit about our organization. *Wheelin' Sportsmen-NWTF* was founded in 1996 as an outreach program of the *National Wild Turkey Federation*. Currently, the Wheelin' Sportsmen organization includes some 10,000 disabled members nationwide, with nearly 300 members in Colorado. *Wheelin' Sportsmen-NWTF* is dedicated to the purpose of providing outdoor opportunities to ALL disabled people. As our parent organization, the *National Wild Turkey Federation* is a 500,000-member grassroots, nonprofit organization with members in 50 states, (including over 4,000 members in Colorado.) The *NWTF* supports scientific wildlife management on public, private and corporate lands as well as hunting as a traditional American sport The NWTF sponsors 3 nationwide outreach programs: *Women In The Outdoors*, *J.A.K.E.S.* (Juniors Achieving Knowledge, Ethics & Sportsmanship) and *Wheelin' Sportsmen-NWTF*. Approximately 50 million individuals in the United States live every day with some type of disability. Unfortunately, their opportunities to participate in outdoor activities are very limited and often nonexistent. At *Wheelin' Sportsmen-NWTF*, our emphasis is placed on providing opportunities through events and programs in a manner that would eliminate *no one* from participating in the great outdoors. Wheelin' Sportsmen's team concept of pairing the disabled participants with able-bodied partners is a process that provides opportunities and, at the same time, promotes awareness. Wheelin' Sportsmen events are designed to overcome barriers that prevent or limit the disabled from enjoying the outdoors. The activities we provide for the disabled community include hunting, fishing, camping, wildlife photography, hiking, boating, outdoors skills—and just about anything else that our participants desire to do in the great Colorado outdoors! Colorado is a veritable haven for persons with disabilities. Due to the active lifestyle and countless recreational opportunities to be found in Colorado (even for someone with a disability) Colorado acts as a "magnet" to draw disabled sportsmen and women to its borders. At the same time, too many Coloradoans are often faced with a sudden disability (either temporary or permanent) as a result of that active lifestyle. The Wheelin' Sportsmen organization generally deals with two types of disabled people— 1) those who have begun life as "able-bodied"—perhaps spending most of a lifetime enjoying outdoor pursuits like hunting, fishing, etc.—and suddenly find themselves acing great physical challenges in being able to enjoy the same things they did prior to their accident or illness. For that reason, many medical and therapeutic facilities often use hunting, fishing and other outdoor pursuits as a means to reacclimatize their patients to life with a newly-gained disability or impairment. An example of such is our Wheelin' Sportsmen partnership with the world-renown *Craig Rehabilitation Hospital* in Denver, which regularly hosts out-patient activities such as hunting and fishing as a rehab tool for patients in their *Therapeutic Recreation* department. Wheelin' Sportsmen makes it our business to help those folks *find a way* to regain their involvement in the outdoors to the greatest extent physically possible!	**33-1.** Thank you for your comments.

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	2) those who *(like me)* begin life with a physical challenge—a birth defect, an infant illness, or other malady that leaves them permanently disabled. In many cases, these folks *(no matter whether young or old)* have not had the same opportunities as the "able-bodied" to make that first exciting venture into the outdoors. *Those who have* are invariably in search of ways to make their time in the outdoors more rewarding and memorable! There is no way that I can describe to you the sense of awe and wonderment that brightens the face of a disabled outdoorsman the very first time that he or she touches the curved horn of a downed trophy bull elk or enjoys the splash of a glistening rainbow trout at the other end of a wetted line. The Wheelin' Sportsmen-NWTF organization works diligently to help make that possible.	
33-2	That's where you, the USFWS can help us! By adopting management plan "B" for Wildlife, Habitat, and Public Use at Rocky Flats, your organization can open a *tremendous* door for the disabled community in Colorado (and the nation) to enjoy outdoor activities such as hunting and fishing right here in our own backyard. And, please know that Colorado Wheelin' Sportsmen-NWTF will be fully committed to offering our services in any way that we can in order to help facilitate usage of the Rocky Flats properties by our disabled community. *It's that important to us*…to work not only for the conservation and preservation of our American natural resources, but just as much for *the conservation and preservation of people in our community*—disabled, youth, families—*citizens* who have experienced first-hand and understand the value and fragility of the wildlife and other natural resources that co-exist in a miraculous place like Rocky Flats. As a Coloradoan with a disability, a state board member of the *National Wild Turkey Federation* and a volunteer coordinator of the Wheelin' Sportsmen effort in Colorado, I am dedicated (along with thousands of others like me) to just *that* proposition.	**33-2.** Thank you for your comments.
33-3	Thanks very much for your time and attention. I have enclosed some additional publications about *Wheelin' Sportsmen-NWTF* as well as the other outreach programs of the *National Wild Turkey Federation* for your perusal. It is my hope that they will encourage you as to the potential positive effect that your decision can have on the lives of Coloradoans who share the same values as the USFWS. Please feel free to contact me if I can provide any further input into this process, as I would consider it a privilege to do so! Best regards…and thanks for all the USFWS does for our great country! Steve Murdock Colorado coordinator Wheelin' Sportsmen – NWTF 36844 Marlin Court Elizabeth, CO 80107 303-646-6454 (hm/ofc) 303-947-5113 cell email: CoWSNWTF@AOL.com www.cowheelinsportsmen.org	**33-3.** Thank you for your comments.

Comment #	Letter #34	Response
		34-1. Thank you for your comments. **34-2.** The Service has recommended for implementation a modified version of Alternative B. **34-3.** The Service believes that limited public hunting would be compatible with the purposes and management of the Refuge, and that it would provide an additional management tool for deer and elk populations. Objective 1.6 – *Deer and Elk Management*, and Objective 2.10 – *Hunting Program*, have been revised to better correlate the establishment and analysis of target population size and public hunting programs, and to clarify that hunting would be used as both a population management tool and a form of wildlife-dependent public recreation. **34-4.** As described in Section 1.9 *Future Planning*, a step-down Hunting Plan would be a component of a Visitor Services Plan. The Colorado Division of Wildlife would be an important partner in the development of a Hunting Management Plan, as well as the ongoing implementation of the hunting program.

Wildlife Management Institute

Len H. Carpenter, Field Representative
4015 Cheney Drive • Fort Collins, Colorado 80526
Phone (970) 223-1099 • Fax (970) 204-9198
lenc@verinet.com

ROLLIN D. SPARROWE
President
RICHARD E. McCABE
Vice-President

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U.S. FISH & WILDLIFE SERVICE
ROCKY MOUNTAIN ARSENAL NWR

March 30, 2004

Rocky Flats National Wildlife Refuge
Attn: Laurie Shannon
U.S. Fish and Wildlife Service
Rocky Mountain Arsenal, Bldg 121
Commerce City, CO 80022

Dear Ms Shannon:

34-1 I am the Southwest Field Representative for the Wildlife Management Institute. The Institute is a private, nonprofit, scientific and educational organization founded in 1911 and dedicated to the restoration, conservation, and sound management of natural resources, especially wildlife and their habitats, in North America. Following are my comments on the draft Comprehensive Conservation Plan (CCP) and EIS for the Rocky Flats National Wildlife Refuge.

First, planning team members are to be recognized for their work in preparing the draft plan. It is informative, organized well, and easy to read.

34-2 The Institute agrees that Alternative B should be the preferred alternative. This alternative presents the overall best balance between resource protection and visitor opportunity. The Institute also supports provisions of Alternative B allowing limited recreational hunting on the refuge. As indicated in the plan, it is highly probable that

34-3 deer and elk populations on the refuge will have to be managed to prevent degradation of other resources. The choice to provide limited public hunting is preferred to a culling activity.

34-4 It is suggested the list of plans to be prepared presented on page 9 be amended to include a Hunting Management Plan. It is stated later in the Plan that a hunting management plan would be prepared so it should be added to the list. It is also very important that the Colorado Division of Wildlife be a key participant in the drafting of the hunting plan.

Washington, DC Office: 1101 14th Street, NW • Suite 801 • Washington, DC 20005 • Phone (202) 371-1808 • FAX (202) 408-5059

Comment #	Letter #34 continued	Response
34-5	The preferred alternative should include aggressive plans to address invasive weeds. Alternative B includes development of an integrated Pest Management Plan and the use of both biological and chemical control methods. This is good and should be a priority in the CCP.	**34-5.** The Service agrees that aggressive weed management, including the development and implementation of an Integrated Pest Management Plan, should be an important component of the CCP. Alternative B includes the Services most aggressive weed management objectives and strategies.
34-6	The Institute supports plans in Alternative B for managing growth of black-tailed prairie dogs on the refuge. To minimize impacts to other resources and maximize restoration of degraded habitats it will be necessary from time to time to control growth of prairie dog towns. Restoration of native plant and animal species on the refuge is also supported by the Institute and should be encouraged. Consequently, we suggest that provisions for more extensive habitat restoration and monitoring currently included in Alternative C be integrated into the preferred alternative. We feel this could be done without significantly altering the intent of Alternative B.	**34-6.** The Service acknowledges that prairie dogs are an important component of the prairie ecosystem because of their contributions to community structure and ecosystem function. However, the Service also agrees with the Wildlife Management Institute that any unsustainable growth of prairie dog communities may need to be managed to prevent adverse impacts to other species or communities, for restoration of degraded habitats, or to prevent the spread of prairie dogs into the DOE retained area.
34-7		**34-7.** Anticipated funding levels do not allow for limited public use and the highest levels of habitat restoration and monitoring. However, the Service believes that the funding and programs in Alternative B will be sufficient to protect and enhance important wildlife habitat on the Refuge.
34-8	The Institute also supports inclusion of opportunities for compatible scientific research on the refuge. Opportunities for students at Universities and Colleges to conduct research on the refuge should be sought and supported.	**34-8.** The Service acknowledges the value of compatible scientific research opportunities on the Refuge, and would promote such opportunities.
34-9	On page 13, under provisions of Alternative C, it is proposed that any refuge facilities would be built for specific resource protection and management purposes. Because of this, office space would be leased off-site. We suggest this might be a worthy provision to include in the preferred alternative. We are concerned development of office and other associated administrative facilities will significantly reduce opportunities to reduce the footprint of development on this refuge. Please consider how necessary administrative facilities can be accommodated without unnecessary impacts on natural resources.	**34-9.** As described in Section 4.4 of the DEIS and FEIS, Refuge facilities, including public use and maintenance facilities, would effect 1.1 acres of the Refuge. The Service believes that the benefits of a management presence on-site outweigh the minor effects that the necessary facilities would have on Refuge resources. Because the Refuge would be part of the Rocky Mountain Arsenal National Wildlife Refuge complex, the necessary office space for Rocky Flats would be limited to the needs of on-site staff. The effects of these impacts would be minimized by co-locating office, maintenance, and public use facilities, and by constructing those facilities in areas that are already disturbed or degraded, and do not impact important wildlife habitat. Objective 6.2 – *Operations and Management Facilities* has been revised to include measures to minimize habitat disturbances. The Service has expressed an interest in co-locating Refuge offices and/or visitor facilities with the proposed Cold War Museum, if such a museum is established within close proximity to the Refuge entrance.
34-10	Finally, we concur that level of staff indicated in the preferred alternative is desirable. Federal budget restrictions make it doubtful that resources available to the refuge will be sufficient to staff at the maximum level. In fact, a concern we have is what level of activity within each alternative will be done if less than desired fiscal or human resources are received? In other words, we wonder what are the priority goals, objectives, and strategies? We suggest that the final EIS address this concern.	
34-11	Thanks for the opportunity for comment. Please be sure I receive future documents relating to this plan. Sincerely, Len H. Carpenter	

Comment #	Letter #34 continued	Response
		34-10. In accordance with the Service's "wildlife first" mission, those management objectives pertaining to wildlife and habitat management and protection would take precedence over public use activities. **34-11.** Thank you for your comments.

3. Responses to Individual Comments

This section includes general responses to individual comments, listed by the comment number in the following table. Each individual's comments are characterized in the following table (*Individual Comments on the Draft CCP/EIS*). Responses to substantive comments or comments that asked for specific clarification on the CCP/EIS begin on page 140. While the Service appreciates comments supporting the Refuge or individual components of the CCP/EIS, these comments are not substantive and are not included in the responses.

HOW TO FIND RESPONSES TO INDIVIDUAL COMMENTS

- Comments are organized by topic in the following table. Find the appropriate number for the comment.
- Numbers identified with a "*" are considered to be substantive. Only substantive comments have responses.
- Look up the numerical code for the substantive comment/issue of interest, beginning on page 140, to find the comment and the Service's response.

PUBLIC COMMENTS BY ISSUE

Substantive comments are indicated with an "*" and are responded to in the following pages. The number of comments received does not include petitions and form letters, which are addressed in Chapter 4.

Comment			Number of Comments	
1000	**Purpose and Need**			
1000	**Purpose and Need**			
	1005	Requests additional information regarding why Refuge is needed	2	<1%
	1006	Supports Refuge designation	11	4%
	1007	Does not support Refuge designation	9	3%
	1010	Comment about legal and policy guidance	8	3%
	1011	Comment that the Service should amend national policies to manage contaminated sites	2	<1%
	1020	Comment about Refuge Vision and Goals	3	<1%
2000	**Alternatives**			
2000	**Alternatives**			
	2001	General comment about alternatives	1	<1%
	2002*	Specific comment about alternatives	4	1%
2100	**Alternative Preference**			
	2101	Comment in support of Alternative A	37	12%

	2102	Comment in support of Alternative A, with modifications	2	<1%
	2104	Comment in support of Alternative B *(See also Form Letters)*	68	22%
	2105	Comment in support of Alternative B, with modifications	16	5%
	2107	Comment in support of Alternative C	18	6%
	2108	Comment in support of Alternative C, with modifications	4	1%
	2110	Comment in support of Alternative D	3	<1%
	2111	Comment in support of Alternative D, with modifications	1	<1%
2150	**Public Use Objectives**			
	2151	General comment about public use programs *(See also Form Letters)*	1	<1%
	2152*	Specific public use comment	19	6%
	2153*	Specific comment: "Keep Rocky Flats closed" *(See also Form Letters)*	11	4%
	2154*	Comment opposed to public access/use *(See also Form Letters)*	102	33%
	2155	Comment supporting public use	33	11%
	2156*	Comment suggesting longer time frame for public use	15	5%
	2157*	Comment suggesting shorter time frame for public use	3	<1%
	2158*	Comment opposing hunting program *(See also Form Letters)*	24	8%
	2159	Comment supporting hunting program	21	7%
	2160*	Comment proposing model glider use on Refuge	6	2%
	2161	Comment about types of permitted access/uses	9	3%
	2162*	Suggested revisions to public use programs	1	<1%
	2163*	General comment about trail and facility configuration	7	2%
	2165*	Comment suggesting north-south trail on east side of Refuge	7	2%
	2166	Comment suggesting north-south trail along west access road	3	<1%
	2167*	Comment suggesting north trail connection to City of Boulder/Boulder County trails	5	2%
	2168*	Other suggested revisions to trail and facility configuration	7	2%
	2169	Comment supporting equestrian access and facilities	11	4%
	2170	Comment supporting regional trail connectivity	10	3%
	2171*	Comment that visitors should be required to sign informed consent statement	3	<1%
	2172*	Comment opposed to use as a playground/play area for children	2	<1%
	2173	General comment about Visitor Center	1	<1%
	2174	Comment supporting Visitor Center at Refuge	8	3%
	2175*	Comment opposing equestrian access to Refuge	5	2%
	2176*	Comment opposed to off-trail use	2	<1%
2200	**Education and Interpretation Objectives**			
	2201	General comment about education and interpretation programs	1	<1%
	2202*	Specific comment about education and interpretation programs	1	<1%
	2203	Comment supporting proposed education and interpretation programs	3	<1%
	2204*	Comment opposing proposed education and interpretation programs	1	<1%
	2205*	Comment supporting signs or other means of conveying history of Rocky Flats	13	4%
	2206*	Suggested revisions to education and interpretation programs	1	<1
	2207*	Comment suggesting/supporting expanded education programs	5	2
2210	**Habitat Management Objectives**			
	2211	General comment about habitat management	5	2%

	2212*	Specific comment about habitat management	4	1%
	2213*	Comment about habitat restoration	18	6%
	2214*	Comment opposing the use of prescribed fire	11	4%
	2215	Comment supporting the use of prescribed fire	11	4%
	2216*	Comment opposing the use of managed grazing	5	2%
	2217	Comment supporting the use of managed grazing	6	2%
	2218	Comment about weed management	16	5%
	2221*	Comment advocating for minimal habitat fragmentation	2	<1%
	2226	Comment supporting revegetation of unused roads	5	2%
2230	**Wildlife/T&E Species Objectives**			
	2231	Comment about wildlife management	8	3%
	2232*	Specific comment about wildlife or T&E management	4	1%
	2233	Comment about Preble's habitat management	1	<1%
	2235	Comment about prairie dog management	6	2%
	2236*	Comment questioning the need to restrict prairie dog expansion	2	<1%
	2237*	Comment supporting prairie dog relocation from off site	6	2%
	2238*	Comment opposing prairie dog relocation from off site	2	<1%
	2239*	Comment that all living things, including wildlife, should be excluded from site	6	2%
	2240	General comment about species reintroduction	2	<1%
	2242	Question the need for culling	2	<1%
2250	**Safety Objectives**			
	2251	General comment about safety objectives	1	<1%
	2254*	Concern about safety signage	2	<1%
2260	**Communication, Partnerships, and Research Objectives**			
	2261	General comment about communication, partnerships, and research	1	<1%
	2263*	Comment suggesting a shared-use facility with Cold War Museum	6	2%
	2264	Comment supporting coordination with local jurisdictions/agencies	6	2%
	2265	Comment supporting ongoing research on Refuge	1	<1%
	2266	Comment about partnerships	1	<1%
2280	**Cultural Resource Objectives**			
	2282*	Specific comment about cultural resource objectives	3	<1%
	2284	Comment supporting removal of Lindsay Ranch structures	2	<1%
	2285*	Comment opposing removal of Lindsay Ranch structures	2	<1%
	2286*	Comment requesting Native American reburial access	1	<1%
2290	**Fencing**			
	2291*	General comment about fencing	1	<1%
	2293	Comment in support of proposed barbed wire boundary fence	1	<1%
	2294*	Comment proposing security fence at Refuge boundary *(See also Form Letters)*	19	6%
2300	**Staffing and Budgets**			
	2301	General comment about staffing and budgets	1	<1%
	2302*	Specific comment about staffing and budgets	2	<1%
	2310	Comment supports proposed staffing and budget	1	<1%

	2320*	Comment that proposed staffing and budget are insufficient	6	2%
2400	**Reasonably Foreseeable Activities**			
	2402*	Specific comment about reasonably foreseeable activities	6	2%
	2410*	Comment about adjacent urban development	6	2%
	2431*	General comment about mineral rights and mining	1	<1%
	2432*	Comment about the recognition of private rights to minerals	2	<1%
	2433*	Comment supporting federal acquisition of private mineral rights	3	<1%
	2434*	Comment about reclamation of mined lands	1	<1%
	2435*	Comment about private utility, ditch, and pond access	3	<1%
	2443	Comment about other open space and trails	6	2%
	2444*	Comment about regional open space conservation	8	3%
	2450	General comment about Cold War Museum	2	<1%
	2451*	Comment suggesting the protection of wildlife corridors	4	1%
3000	**Affected Environment and Environmental Consequences**			
3050	**Soils**			
	3052*	Specific comment about soils	1	<1%
	3053	Relevant comment about residual soil contamination levels	3	<1%
	3054*	Concern that recreational activities could re-suspend residual soil contamination	9	3
	3055*	Concern that prescribed fire could re-suspend residual soil contamination	1	<1%
	3060*	Concern about the effect of prairie dogs or other burrowing animals on contaminated soils	12	4%
3100	**Water Resources**			
	3102*	Specific comment about water resources	1	<1%
	3110*	Concern about surface water quality	2	<1%
3200	**Vegetation Communities**			
	3201	General comment about vegetation communities	2	<1%
	3202*	Specific comment about impacts to vegetation communities	4	1%
	3240*	Concern about weed management	3	<1%
	3260*	Concern about impacts of public use/facilities on vegetation	3	<1%
	3261*	Concerned that trails will excessively impact riparian habitat	1	<1%
	3262*	Concern about the impacts of off-trail use	2	<1%
	3263*	Concern about habitat fragmentation due to trails	1	<1%
3300	**Wildlife**			
	3302*	Specific comment about wildlife	3	<1%
	3303*	Comment about the effects of residual soil contamination on wildlife	3	<1
	3304*	Comment about the analysis of deer tissue	1	<1%
	3311*	Concern about impacts to mule deer	1	<1%
	3312*	Concern about impacts to raptors	1	<1%
	3330*	Concern about impact of trails and facilities on wildlife	6	2%
	3340	Concern about cumulative impacts on wildlife	1	<1%
	3341	Comment about deer tissue analysis	1	<1%

3500	**Cultural Resources**			
	3501	General concern about cultural resources	1	<1%
3600	**Recreation and Trails**			
	3610*	Concern about public use risk from prairie dog diseases	1	<1%
4000	**Draft Compatibility Determinations**			
4000	**Compatibility Determinations**			
	4002*	Specific comment about compatibility determinations	1	<1%
	4010*	General comment about hunting CD	3	<1%
	4011*	Believes that hunting is not compatible at the Refuge	2	<1%
5000	**Issues outside of Scope of EIS**			
	5010	Memorandum of Understanding	2	<1%
	5020	DOE Retained Area	42	14%
	5030	Site Characterization *(See also Form Letters)*	71	23%
	5031	Comment about the uptake of contamination by plants	1	<1%
	5040	Cleanup Standards/Risk Assessment *(See also Form Letters)*	60	19%
	5050	General Cleanup *(See also Form Letters)*	90	29%
	5051	Comment that the entire site should be fenced off and paved over or capped	5	2%
	5060	Long-term Monitoring and Stewardship	19	6%
	5061	Comment supporting additional research on effects of contamination on wildlife and plants *(See also Form Letters)*	12	4%
	5062	Comment favoring ongoing research on cleanup technologies *(See also Form Letters)*	3	<1%
	5070	Potential Health Effects *(See also Form Letters)*	31	10%
	5080	Cleanup principles/approach *(See also Form Letters)*	30	10%
	5090	Contamination History	55	18%
6000	**Comments about process**			
6000	**CCP/EIS process**			
	6011	General comment about CCP/EIS process	3	<1%
	6012*	Specific comment about CCP/EIS process	2	<1
	6020*	Comment about NEPA process	7	2%
	6030	Comment about agency consultation and coordination	1	<1%
	6040	Comment about public process	11	4%
	6302*	Specific comment about CCP/EIS	5	2%
	6303*	Comment that the Service appears to have already made its decision	10	3%
	6304*	Suggested changes to maps	2	<1%
6100	**Scoping Process**			
	6110	Comment on the format of public scoping meetings	3	<1%
6300	**Draft CCP/EIS**			
	6301	Comment about Draft CCP/EIS document	8	3%
	6303	Comment that the CCP/EIS appears to be pre-decisional	10	3%
	6310	Comment about public hearings on Draft CCP/EIS	3	<1%

1000 – PURPOSE AND NEED

Some of the comments addressed issues about the general purpose of National Wildlife Refuges, the designation of this particular Refuge, and Service policies governing Refuge management. None of these comments were deemed substantive because they did not specifically address the Draft CCP/EIS and dealt with issues that are outside of the scope of this CCP/EIS. Other comments about the vision and goals for the Refuge were noted, but are not responded to because they supported rather than questioned the vision and goals for the Refuge.

2000 – ALTERNATIVES

COMMENT 2002: SPECIFIC COMMENT ABOUT ALTERNATIVES

2002a: Only Alternatives A and C will enable the preservation of the rare and imperiled species and biological communities that have made the land worthy of Wildlife Refuge status.

Response 2002a: The Service believes that Alternatives B and D also would facilitate the protection of rare and imperiled species. Public use facilities were designed to avoid and minimize impacts to sensitive habitat areas. Due to a lack of pro-active management capacity, the Service believes that Alternative A provides the least protection to sensitive biological communities on the Refuge.

2002b: Please come up with a 5th alternative that reflects no public access.

Response 2002b: As described in Section 2.9 – *Alternative Considered But Eliminated*, a "custodial management" alternative, with no access by the public, was considered during the planning process, but was eliminated. Alternative A, the No Action Alternative, would not change the existing public uses, which is public access by pre-arranged, guided tours only.

2002c: Use the less pre-disturbed land as a complete wildlife refuge with no public access, while you use about 5% of the land for educational purposes, and a ranger station.

Response 2002c: All of the public use facilities would have minimal environmental impacts, and existing roads and disturbed areas would be used to the greatest extent possible. Public use facilities in Alternative B would encompass less than 1% of the total Refuge area.

2150 – PUBLIC USE OBJECTIVES

COMMENT 2152: SPECIFIC PUBLIC USE COMMENT

2152a: Voice control access for dogs would be nice, or off-leash dog areas.

Response 2152a: Dogs would not be permitted on the Refuge in any alternative.

2152b: Dogs should be on leash.

Response 2152b: Dogs would not be permitted on the Refuge in any alternative.

2152c: Considering the extent of groundwater contamination at the Flats, fishing is probably not a wise idea.

Response 2152c: DOE would retain most of the ponds at Rocky Flats for long-term monitoring. The Lindsay Ponds on Rock Creek are not contaminated, and would be managed for native fish restoration. Recreational fishing would not be permitted anywhere on the Refuge.

2152d: Since the biodiversity of the site is very sensitive to disturbance, public uses are not compatible with the mission of the National Wildlife System Administration Act, and should be denied.

Response 2152d: Proposed public use facilities have minimal environmental impacts on biological resources, while proposed restoration efforts would enhance those resources. The Service believes that the proposed public uses are compatible with the Refuge purposes and the mission of the NWRS.

2152e: I would like to see some restrictions on the mileage and usage of the proposed trails.

Response 2152e: Trails in the Rock Creek area would be restricted to seasonal use, in order to protect environmental resources. The trail density in Alternative B would be less than many of the other open space areas in the region (Table 14).

2152f: If there are no studies or other evidence (other than guesswork) indicating the need for culling, the FWS should let the mountain lions, coyotes, and the occasional bobcat do their jobs and keep the (deer) population in check.

Response 2152f: Culling by CDOW or Service staff would not be used unless deemed necessary to control populations and protect habitat. A limited hunting program is proposed in Alternative B, which would provide a compatible wildlife dependent recreational activity and would also be a population management tool. Public hunting would be managed so population levels would not be adversely affected, and would be used as a population management tool before culling is considered.

2152g: Equestrian use – a twice a month clean up is the contingency – via what means?

Response 2152g: The Draft Compatibility Determination for Alternative B stipulates that equestrian use would be contingent on volunteer service agreements with equestrian user groups to remove horse manure. Specific methods would be subject to future planning.

2152h: No horses…Horses damage the ecosystems by increasing erosion and they cause the spread of weeds through their scat.

Response 2152h: While there is disagreement in the scientific and recreation communities about the extent that equestrian use is responsible for erosion and the spread of weeds, the Service has taken these issues into careful consideration. In Alternative B, equestrian use would be limited to a portion of the trails with a stipulation that manure is picked up by user groups. The Service believes that, with these restrictions, limited equestrian use would not result in significant erosion or weed dispersal.

2152i: You shouldn't allow hunting if the population is getting too low.

Response 2152i: The proposed hunting programs would be limited, and would not be allowed to adversely affect population levels.

2152j: I note no opportunities for waterfowl hunting in the documents, but short and tall grass prairie environments are great opportunities for a planted bird scenario for upland game.

Response 2152j: Most of the ponds at Rocky Flats will be retained by the DOE for long-term monitoring, and are not suitable for waterfowl hunting. There is not an upland bird population at this time that is suitable for hunting, and the Service is not proposing to establish one for the purposes of providing hunting. Hunting opportunities that are proposed for the Refuge would be highly managed for the purposes of maintaining target deer and elk populations and the provision of wildlife dependent recreation.

2152k: The document forbids the presence of dogs in all alternatives. That is unfortunate as trained hunting dogs would be likely more under control.

Response 2152k: The Service does not believe that dogs would be compatible with the Refuge, as they may pose unnecessary environmental impacts and would not be needed for the proposed hunting program.

2152l: I suggest that the buildings (at the west entrance) could be used as an office/visitor center and could eventually be provided with more municipal type utilities.

Response 2152l: The buildings at the west entrance are privately owned, and are currently leased by DOE. The Service has expressed an interest in co-locating Refuge offices and/or visitor facilities with the proposed Cold War Museum, if such a museum is established within close proximity to the Refuge entrance.

2152m: I cannot find any statement regarding closures of, or restricted use of the off-trail area during nesting season.

Response 2152m: Objective 2.2 – *Public Access* stipulates that off-trail use would be prohibited, except between October and April.

2152n: Plan B will allow many visitors. How will water be provided?

Response 2152n: Potable water for Refuge operations and visitors would be imported to the Refuge by truck, and stored in an on-site cistern.

2152o: We'd like to see you allow equestrians on the main trail that goes along the northeast corridor.

Response 2152o: The Service has received mixed support for equestrian access and has concerns about the potential ecological impacts related to additional weed sources, increased trail erosion, and user conflicts. For these reasons, the Service's limitation of equestrian access in Alternative B is intended to provide a separation of uses and to be conservative with regards to ecological impacts.

COMMENT 2153: SPECIFIC COMMENT: "KEEP ROCKY FLATS CLOSED"

(Specific language from Form Letter A, or individual comments using the text of Form Letter A.)

Response 2153: This comment was made in the context of site cleanup issues that predicate Refuge management and is out of scope of the CCP/EIS. It is clear that the comment opposes public access or use of the Refuge, the response to which is addressed by comment 2154.

COMMENT 2154: COMMENT OPPOSED TO PUBLIC ACCESS/USE

(Comment generally made in reference to contamination issues, though some commentors were concerned about the impacts of public use on wildlife and habitat quality.)

Response 2154: The draft CCP includes four alternatives ranging from maintaining the existing minimal guided public access (Alternative A) to extensive open public use opportunities (Alternative D). The National Wildlife Refuge System Improvement Act outlines six priority public uses to be considered on refuges if they are determined to be compatible. Several of these uses, including hunting, wildlife observation and photography, and environmental education and interpretation are proposed in the draft CCP. As described in the Final Compatibility Determinations in the FEIS for Alternative B, hiking and access by bicycles or horses is considered to be a means of access by which visitors can engage in the priority public uses.

The environmental consequences of public access to the Refuge are anticipated to be minor to moderate, with the exception of some trail configurations in Alternative D, which may have major localized impacts to some wildlife species. The Service believes that the low level of anticipated impacts from public use facilities in Alternative B, the proposed action, would be an acceptable consequence of providing priority public uses.

In regards to concerns about residual contamination, the implementation of any alternative is predicated by the completion and certification by the EPA and CDPHE that the cleanup is sufficient to ensure the safety of any proposed public uses on the Refuge. An expanded discussion of issues related to cleanup and residual soil contamination is included in Section 1.8.

COMMENT 2156: COMMENT SUGGESTING LONGER TIME FRAME FOR PUBLIC USE

(Comment generally made in reference to contamination issues, or concerns about the impacts of public use on wildlife and habitat quality.)

Response 2156: The Service believes that 5 years would be a reasonable time frame to expand proposed public access beyond the Lindsay Ranch trail in Alternative B. Delaying extensive public use for 5 years would allow for initiation of restoration of roads and disturbed areas, continued noxious weed control, and continued monitoring of the effects of public use on vegetation and wildlife. DOE also would complete it's first 5-year review of post-cleanup monitoring with the EPA and the CDPHE. The Service would take an adaptive approach to facility development and access, and would extend the timeframe for Refuge-wide facility

development if new information suggests that it would be prudent to do so. Specific concerns about contamination issues are addressed in Section 1.8 of the FEIS.

COMMENT 2157: COMMENT SUGGESTING SHORTER TIME FRAME FOR PUBLIC USE

Response 2157: The Service appreciates the interest from some members of the public to both access the Refuge itself and use enhanced regional trail connections across the Refuge. However, the Service is also obligated to address ecological concerns related to noxious weeds and the revegetation of unused roads on the Refuge. By focusing staffing and budgetary resources on habitat restoration in the first 5 years, the Service would be able to reduce the severity of noxious weed infestations, and initiate road restoration before public trail use would introduce a new disturbance onto the landscape.

COMMENT 2158: COMMENT OPPOSING HUNTING PROGRAM

(Commentors were generally opposed to hunting in general, public hunting on the Refuge as a management tool, or had concerns about the safety of hunting at Rocky Flats.)

Response 2158: The National Wildlife Refuge System Improvement Act established hunting as a priority public use if it is compatible with the Refuge purposes. The Service believes that a limited, highly managed hunting program would be a form of wildlife dependent recreation on the Refuge, and would complement other tools for managing ungulate populations, if necessary. As described in the Final Compatibility Determinations in the FEIS for Alternative B, the proposed hunting program is compatible with the Refuge purposes. Objective 1.6 – *Deer and Elk Management*, and Objective 2.10 – *Hunting Program* have been revised to better correlate the establishment of target populations with the hunting program. In addition, in the interest of safety, the Service has made modifications to the type of weapons that would be allowed.

COMMENT 2160: COMMENT PROPOSING MODEL GLIDER USE ON REFUGE

Response 2160: The Service does not believe that model glider use would be compatible with the purposes of the Refuge or the NWRS. Consequently, model glider use was not incorporated into any of the alternatives.

COMMENT 2162: SUGGESTED REVISIONS TO PUBLIC USE PROGRAMS

2162a: [Prefer that] visitors will remain under the supervision of Refuge staff so no one harms animals.

Response 2162a: The Service is confident that visitors engaging in unsupervised, wildlife-dependent recreation on the Refuge would not adversely impact individual animals or wildlife populations. Wildlife harassment is against Service policies and would be addressed appropriately.

COMMENT 2163: GENERAL COMMENT ABOUT TRAIL AND FACILITY CONFIGURATION

(Generally concerned about environmentally sensitive trail design, and the overall magnitude of trails.)

Response 2163: In all alternatives, the Service designed a trail system that would avoid sensitive habitat and minimize impacts to the environment. Existing roads would be used for trails to the greatest extent possible, and trails through sensitive habitat areas would subject to seasonal closures. The trail density in Alternative B would be less than many of the other open space areas in the region (Table 14).

COMMENT 2165: COMMENT SUGGESTING NORTH-SOUTH TRAIL ON EAST SIDE OF REFUGE

(Such a proposed trail exists in Alternative D, but not in Alternative B.)

Response 2165: The Service considered the addition of a north-south trail along the east side of the Refuge, and has elected to not add such a trail to Alternative B. For several reasons, the proposed action does not include such a trail. These reasons include uncertainties surrounding

the potential transfer of land along Indiana Street for regional transportation improvements, the desired level of trail facilities that would be consistent with the Service's goal of balancing habitat protection and public use, and public perceptions and concerns about contamination issues.

The Service will continue to work with adjacent jurisdictions to encourage the establishment of trails that compliment the Refuge trails system in Alternative B. In addition, the Service will consult with CDOT and other agencies to incorporate trail connections into any future transportation improvements, and to mitigate the effects of those improvements on the Refuge.

COMMENT 2166: COMMENT SUGGESTING NORTH-SOUTH TRAIL ALONG WEST ACCESS ROAD

(Comment proposes a separated trail, about ¾ miles long, to ensure the safety of trail users by separating them from motorists.)

Response 2166: The Service has added to Alternative B and D a north-south trail adjacent to the access road between the south multi-use trail and the visitor contact station.

COMMENT 2167: COMMENT SUGGESTING NORTH TRAIL CONNECTION TO CITY OF BOULDER/BOULDER COUNTY TRAILS

Response 2167: The Draft CCP/EIS acknowledges that there is no proposed connection between trails in the Rock Creek portion of the Refuge, and the existing and proposed trails to the north of the Refuge along Highway 128. The rationale for not completing this connection is that the Rock Creek drainage is the most ecologically sensitive portion of the Refuge, and would only support seasonal, hiking-only trails. A multi-use through trail in this area would hamper the Service's ability to manage access and seasonal closures. In addition, a trail connection to the north would need to ascend steep slopes below Highway 128, and would compromise the Service's ability to manage trail access and use in the sensitive Rock Creek drainage. Other constraints to a trail connection in this area includes the potential for expanded mining operations, and safety issues related to the adjacent National Wind Technology Center.

COMMENT 2168: OTHER SUGGESTED REVISIONS TO TRAIL AND FACILITY CONFIGURATION

2168a: I would suggest that an ADA mounting ramp be included with trailhead parking plans.

Response 2168a: The Service has added a handicap-accessible mounting ramp to the proposed facilities at the visitor contact station in Alternatives B and D.

2168b: Include equestrian use for both north and south area trails.

Response 2168b: The Service's limitation of equestrian access in Alternative B is intended to provide a separation of uses, and to take a conservative approach to the potential ecological impacts of equestrian use.

2168c: Historically, it would be very fine to have at least part of one of the trails utilize segments of the (historical railroad grade)… a good segment candidate is in the minor drainageway northwest of Lindsay Pond #2.

Response 2168c: The historical railroad grade was considered during the trail planning process, but it was determined that grade does not run in an orientation where trail access is needed or desired.

2168d: My concern is the implication that horses or their riders are in some way more damaging or disturbing to the wildlife environment or other uses than bicyclists or pedestrians are.

Response 2168d: There is considerable disagreement in the scientific and recreational communities about the extent that recreationists in general and equestrians in particular impact the environment. Given that uncertainty, the Service believes that it is reasonable to discuss the potential effects that may result from equestrian or other uses, and does not intend to imply that equestrian use is always more damaging than other uses.

2168e: We recommend moving the northern most trail head west along Highway 128 on mile to where the Coalton Trail comes down to 128.

Response 2168e: The north trailhead was not located across from the Coalton Trail because the adjacent slopes are too steep for an ecologically sensitive trail connection onto the Refuge, any such trail would be subject to seasonal closures within the sensitive Rock Creek drainage, and the Service does not believe that it would be able to effectively enforce the seasonal and modal trail closures that would be necessary to protect those sensitive resources.

2168f: You should plan for a restroom at each parking lot.

Response 2168f: In Alternative B, restroom facilities would be provided at the main parking lot and visitor contact station. Outlying parking areas would not have restroom facilities.

COMMENT 2171: COMMENT THAT VISITORS SHOULD BE REQUIRED TO SIGN AN INFORMED CONSENT STATEMENT

(Comment made in the context of issues related to residual contamination.)

Response 2171: The CCP/EIS is written under the premise that the land to become the Refuge would be safe for the Refuge worker and visitor. The Refuge will not be established until the EPA certifies that the cleanup is complete and is safe. The FEIS includes an expanded discussion of cleanup issues and residual soil contamination in Sections 1.8 and 3.2. As shown in Figure 4, soil contamination levels in the areas that are likely to become the Refuge are currently low enough, prior to cleanup, to not require any response actions. Therefore, the Service would not require visitors to sign an informed consent statement. Informational signs would convey the history of the site.

COMMENT 2172: COMMENT OPPOSED TO USE AS A PLAYGROUND/PLAY AREA FOR CHILDREN

(Comment made in the context to concerns about contamination issues.)

Response 2172: None of the CCP alternatives include playground facilities. Alternative D includes an outdoor classroom, consisting of a primitive shelter over a hard surface, which would be used for interpretive and education programs for both children and adults. Alternative B, the Service's proposed action, would not include any programs for students below the high school level. It is acknowledged that this comment may have been made as a metaphor for any recreational use of the Refuge, which is addressed by comment 2154.

COMMENT 2175: COMMENT OPPOSING EQUESTRIAN ACCESS TO REFUGE

(Generally opposed to equestrian use on a philosophical basis or because of potential environmental impacts.)

Response 2175: While there is common speculation that horses can contribute significantly to the spread of weeds, the Service also recognizes that there is disagreement with the scientific and recreation communities on that issue. Many people expressed a desire to include equestrian access as a means to engage in compatible wildlife-dependent recreation on the Refuge and regional connectivity to other trail systems. The Service believes that it has taken a conservative approach in allowing equestrian access under the conditions outlined in the Compatibility Determination (Appendix B).

COMMENT 2176: COMMENT OPPOSED TO OFF-TRAIL USE

Response 2176: Off-trail use would be limited to pedestrian access only, on a seasonal basis, to avoid disturbance to ground-nesting birds and other wildlife species. The Service believes that the off-trail use area in the southern portion of the Refuge would provide a reasonable opportunity for amateur naturalists, wildlife photographers, and others to access their subjects and would not result in significant impacts to wildlife or their habitat.

2200 – EDUCATION AND INTERPRETATION OBJECTIVES

COMMENT 2202: SPECIFIC COMMENT ABOUT EDUCATION AND INTERPRETATION PROGRAMS

2202a: Is there already one, and is the interpretation and environmental education facility shown on the Alternative D map?

Response 2202a: The proposed environmental education facility is shown on the Alternative D map as an "Outdoor Education Center" adjacent to the Rock Creek overlook. It would be a new facility.

COMMENT 2204: COMMENT OPPOSING PROPOSED EDUCATION AND INTERPRETATION PROGRAMS

(Comment made in reference to contamination concerns.)

Response 2204: The EPA and CDPHE indicated that all of the proposed Refuge management activities, including education and interpretation, will be safe for the Refuge worker and visitors of all ages. The FEIS includes an expanded discussion of issues related to cleanup and residual soil contamination in Section 1.8.

COMMENT 2205: COMMENT SUPPORTING SIGNS OR OTHER MEANS OF CONVEYING HISTORY OF ROCKY FLATS

(Comment generally made in reference to contamination concerns, as well as the general history of the site.)

Response 2205: The Service acknowledges that, as a former nuclear weapons production facility, Rocky Flats has a rich and often controversial history. This controversy has extended to the nature and extent of cleanup efforts that will precede the establishment of the Refuge. The Service believes that is important to convey the history of the site as both an interpretive and as a safety tool.

COMMENT 2206: SUGGESTED REVISIONS TO EDUCATION AND INTERPRETATION PROGRAMS

2206a: Education facility should be open to student groups of all ages.

Response 2206a: As described in Objective 2.8 – *Environmental Education Planning*, the Service determined that there is less of a need for elementary and middle school environmental programs while there is a greater need for natural resource study sites for high school and college level research. The Service would continue to provide programs for younger students at the Rocky Mountain Arsenal NWR.

COMMENT 2207: COMMENT SUGGESTING/SUPPORTING EXPANDED EDUCATION PROGRAMS

(Comments that support education programs for younger students in Alternative D, and suggest that the programs in Alternative B should be expanded as such.)

Response 2207: As described in Objective 2.8 – *Environmental Education Planning*, the Service determined that there is less of a need for elementary and middle school environmental programs while there is a greater need for natural resource study sites for high school and college level research. The Service would continue to provide programs for younger students at the Rocky Mountain Arsenal NWR.

2210 – HABITAT MANAGEMENT OBJECTIVES

COMMENT 2212: SPECIFIC COMMENT ABOUT HABITAT MANAGEMENT

2212a: USFWS has not provided the public with a substantive definition of "pre-settlement" (conditions).

Response 2212a: The term "pre-settlement" condition is intended to imply a condition before livestock grazing and modern use and disturbance of the site. The FEIS has been clarified and a definition has been added to the glossary.

2212b: Monitoring "every few years" seems far too insufficient to maintain and oversee plant and animal communities.

Response 2212b: Service biologists would have an ongoing management presence at the Refuge and would be constantly "informally" monitoring ecological conditions. Some resources would require a scheduled monitoring program, but the Service believes that it is premature to commit to a scheduled monitoring program. The Service would conduct some monitoring as part of refuge operations, but on most refuges, wildlife are not always monitored.

2212c: The use of toxic herbicides seems dangerous to the Rocky Flats environment.

Response 2212c: Due to the extent of noxious weed infestations at Rocky Flats and the effect that weeds have on native ecosystems, the Service believes that it would be important to retain a full suite of pest management tools, including chemical herbicides. Chemical herbicides are commonly used to control noxious weeds, and if they are applied properly, the benefits of weed reduction would outweigh the effects of herbicide application on native plants and animals.

COMMENT 2213: COMMENT ABOUT HABITAT RESTORATION

(Generally comprised of comments supporting the concept of restoration efforts.)

Response 2213: Comment noted. Due to issues related to noxious weed infestation, existing disturbances, and road revegetation, habitat restoration would be an important component of all alternatives.

COMMENT 2214: COMMENT OPPOSING THE USE OF PRESCRIBED FIRE

(Generally due to concerns about residual soil contamination.)

Response 2214: Prescribed fire would be one component of a comprehensive vegetation management strategy that may be used, in concert with other techniques, to restore native grasslands, reduce the risk for unplanned wildfire, and where appropriate, reduce weed infestations. Both the EPA and CDPHE have indicated that the use of prescribed fire outside of the DOE retained area would not pose a significant risk to firefighters, Service personnel, or the general public (Appendix D). The Service does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 8). In accordance with Service policy, any unplanned wildfires would be aggressively extinguished.

COMMENT 2216: COMMENT OPPOSING THE USE OF MANAGED GRAZING

(Comments generally opposed to the principle of grazing on the Refuge.)

Response 2216: The use of grazing by cattle or sheep would be used as a management tool for weed management and/or ecological restoration. Grazing would be managed to minimize adverse ecological impacts.

COMMENT 2221: COMMENT ADVOCATING FOR MINIMAL HABITAT FRAGMENTATION

Response 2221: Habitat fragmentation is recognized by many biologists to be one of the primary threats to habitat quality and biological diversity. However, the effects of fragmentation depends on the species. An insect or small mammal could be impacted by fragmentation from a road or a trail, while deer and other species may not. Under present conditions, Rocky Flats is a highly fragmented landscape with over 70 miles of roads traversing the site. For this reason, it is the goal of the Service to reduce habitat fragmentation by removing and revegetating unnecessary roads throughout the Refuge, and by reducing the width of road impacts where roads are to be converted to a trail. Using average habitat patch

size as an indicator of fragmentation, fragmentation in all alternatives would be less than existing conditions (Table 11).

Another factor influencing the effects of fragmentation is the location and use of proposed trails. During the planning process, the Service sought to locate trails along existing roads to the greatest extent possible, and in locations where trail use would not fragment sensitive habitat. The trail density in Alternative B would be less than many of the other open space areas in the region (Table 14). While the Service acknowledges that Alternative C would minimize habitat fragmentation, Alternative B, the proposed action, would reduce habitat fragmentation on the Refuge while allowing for a moderate level of wildlife dependent public use.

2230 – WILDLIFE/THREATENED AND ENDANGERED SPECIES OBJECTIVES

COMMENT 2232: SPECIFIC COMMENT ABOUT WILDLIFE OR THREATENED AND ENDANGERED SPECIES MANAGEMENT

2232a: If the (deer) population must be controlled, use techniques such as herding or fencing off or sharpshooters.

Response 2232: The Service would retain a variety of tools for managing the deer and elk population. If the population is to be reduced, the Service would prefer reducing the population through the proposed limited hunting program before staff sharpshooters would be used.

COMMENT 2236: COMMENT QUESTIONING THE NEED TO RESTRICT PRAIRIE DOG EXPANSION

Response 2236: In all alternatives, the Service has set thresholds for the maximum area of prairie dog expansion that would be allowed on the Refuge. While 2,460 acres of potential prairie dog habitat exist on the Refuge, the Service proposes to limit prairie dog expansion to 750 acres in Alternative B, 500 acres in Alternative C, and 1,000 acres in Alternative D. About 10 acres of prairie dog colonies currently exist at Rocky Flats. While the Service recognizes the important role that prairie dogs play in the grassland ecosystem, as well as their status as a candidate for listing under the ESA, it is also important to manage prairie dog populations in balance with other wildlife species and vegetation communities. A sustainable expansion of prairie dog colonies can contribute to the health and diversity of grasslands, but an overpopulation of prairie dogs across the entire Refuge could threaten the viability of other native species, as well as the rare xeric tallgrass community in the western portions of the Refuge. Alternative B would allow for a large increase over the current population size, which the Service believes is sufficient for a sustainable and dynamic prairie dog population.

Another reason that the Service intends to restrict unlimited expansion of prairie dog colonies is due to concerns related to residual, subsurface contamination. Any subsurface contamination would be limited to the portions of the DOE retained area that will not become the Refuge. The DOE will be responsible for the protection of the remedy facilities within the portions of the DOE retained area where subsurface contamination will remain, which includes preventing prairie dogs or other burrowing animals from accessing subsurface contamination. While the Service is not responsible for prairie dogs within the DOE retained area, and while subsurface contamination should not be an issue on the Refuge, as a management partner with the DOE it is prudent for the Service to maintain a sustainable prairie dog population and to keep those populations away from the retained area.

COMMENTS 2237 AND 2238: COMMENT SUPPORTING/OPPOSING PRAIRIE DOG RELOCATION FROM OFF SITE

Response 2237: In Alternative D, the Service would evaluate the suitability of accepting unwanted prairie dogs from other jurisdictions. In the other alternatives, including the proposed action, the Service would not accept prairie dogs from off site. As discussed above in

the response to comment 2236, the Service proposes to allow natural expansion of existing and adjacent prairie dog populations in a manner that is ecologically sustainable.

The Service would not consider prairie dog relocated from off site to be a reintroduced species, because they are not extirpated from the site.

COMMENT 2239: COMMENT THAT ALL LIVING THINGS, INCLUDING WILDLIFE, SHOULD BE EXCLUDED FROM THE SITE

(This comment was made in the context of contamination issues.)

Response 2239: The Service would not exclude wildlife or other biota from the Refuge. The EPA and CDPHE have indicated that all of the proposed Refuge management activities would be safe for the Refuge worker and visitor. The FEIS includes an expanded discussion of issues related to cleanup and residual soil contamination in Section 1.8.

2250 - SAFETY OBJECTIVES

COMMENT 2254: CONCERN ABOUT SAFETY SIGNAGE

(Comment made in reference to concerns about contamination.)

Response 2254: The Refuge would include signs and displays conveying the history of the site. These would be developed in a step-down Visitor Services Plan.

2260 – COMMUNICATION, PARTNERSHIPS, AND RESEARCH OBJECTIVES

COMMENT 2263: COMMENT SUGGESTING A SHARED USE FACILITY WITH COLD WAR MUSEUM

Response 2263: The Service has expressed that it would prefer to co-locate Refuge offices and/or visitor facilities with the Cold War Museum, if such a museum is established and it is within close proximity to the Refuge entrance.

2280 – CULTURAL RESOURCE OBJECTIVES

COMMENT 2282: SPECIFIC COMMENT ABOUT CULTURAL RESOURCE OBJECTIVES

2282a: (Favor preservation of) rock structure near the Woman Creek/Indiana Street intersection.

Response 2282a: In all alternatives except for Alternative C, the rock structure would be left intact. However, the rock structure is within or adjacent to the right-of-way for transportation improvements described in the Refuge Act (see Section 4.16), and could be destroyed by future transportation improvements along the Indiana Street corridor.

2282b: The Antelope Springs Ranch (and stagecoach stop?) should be noted and made accessible to the public, just like the Lindsay Ranch area.

Response 2282b: In Alternatives B and D, interpretation of the cultural resources at Antelope Springs from the trail would be considered in a step-down interpretive component of a Visitor Services Plan. No additional facilities are planned to provide physical access to the area.

2282c: At a minimum, a historic marker…should be placed at the (historical) railroad fill.

Response 2282c: Interpretation of the historical railroad grade would be considered in a step-down interpretive component of a Visitor Services Plan.

COMMENT 2285: COMMENT OPPOSING REMOVAL OF LINDSAY RANCH STRUCTURES

Response 2285: In Alternative C, the Service would remove all Lindsay Ranch structures to restore the site to a pre-settlement condition. In Alternative B, the barn would be stabilized while the other structures could be removed. After evaluating the condition of the other structures, the Service has concluded that the farm house is deteriorated beyond repair, and

that appropriate restoration would significantly detract Refuge resources away from other management needs.

As stated in the rationale for Alternatives A, B, and D under Objective 6.4, the Service would be willing to work with partners and consider stabilizing the house if resources could be found through partnerships or grants to undertake such a project. Even if the house does not remain, the Service believes that the house can be interpreted through a variety of media such as interpretive panels. The EIS has been revised to reflect this. The Service is concerned about the house becoming an attractive nuisance if it is fenced off, and the type of security fencing that would be required to keep visitors away could detract from the visual qualities of the area.

COMMENT 2286: COMMENT REQUESTING NATIVE AMERICAN REBURIAL ACCESS

Response 2286: The Refuge is to be managed in accordance with Service policy and the purposes expressed in the Refuge Act. Native American reburial is not compatible with these purposes and will not be pursued under any of the alternatives.

2290 – FENCING

COMMENT 2291: GENERAL COMMENT ABOUT FENCING

(Comment that cattle fencing should be part of Alternative B.)

Response 2291: In all alternatives, the existing barbed-wire boundary fence would remain.

COMMENT 2294: COMMENT PROPOSING SECURITY FENCE AT REFUGE BOUNDARY

(Comment generally made in the context of contamination concerns and the exclusion of all public and/or wildlife access.)

Response 2294: During the planning process, the Service considered the feasibility and environmental impacts of installing a 6-foot chain-link security fence around the perimeter of the Refuge (see Section 4.15–*Fencing Considerations*). The Service did not recommend a security fence for any alternative because of the estimated cost ($4 million), its impacts on wildlife movement and habitat conditions, and its visual impacts.

2300 – STAFFING AND BUDGETS

COMMENT 2302: SPECIFIC COMMENT ABOUT STAFFING AND BUDGETS

2302a: Concerned about having hunting at the Refuge two weekends a year for a grand total of 20 people at an estimated cost of $250 per person.

Response 2302a: The Compatibility Determination on Hunting (Appendix B) estimates that the hunting program would cost about $5,000 per year to operate. This cost estimate is based on the staff time that would be allocated to the program and would not result in additional costs or staffing. The estimated cost of the hunting program is less than 1% of the estimated annual operations budget for the Refuge. The Service believes that this is a reasonable expense to provide a priority public use on the Refuge.

2302b: It seems that a per-use fee would be a logical means by which to help support use of the facility.

Response 2302b: While the Service may consider incorporating a fee-based access system in the future, such a system will not be pursued during this CCP.

COMMENT 2320: COMMENT THAT PROPOSED STAFFING AND BUDGET ARE INSUFFICIENT

(Generally concerned that staffing would not be sufficient for fire monitoring or restoration programs, or law enforcement would not be able to protect visitors from contaminated areas.)

Response 2320: The Service believes that the proposed staffing levels would be sufficient to implement the proposed Refuge management activities. Fire management would have it's own staff and budget that is separate from the general Refuge budget. The Service does not anticipate a constant law enforcement presence on the Refuge. The EPA and CDPHE have indicated that public access to all portions of the Refuge, not just the trails, will be safe.

2400 – REASONABLY FORESEEABLE ACTIVITIES

COMMENT 2402: SPECIFIC COMMENT ABOUT REASONABLY FORESEEABLE ACTIVITIES

2402a: For Section 16, you should strongly suggest to the Colorado State School Land Board that they do no more gravel pitting, coal mining, or claystone extraction.

Response 2402a: The Service does not have jurisdiction over the management of adjacent state lands.

2402b: Section 16 (should) become permanently part of the Rocky Flats Refuge.

Response 2402b: While the disposition of Section 16 or any other lands are outside of the Service's jurisdiction, the Service will work with local governments in support of regional conservation opportunities.

2402c: When highways have more increased traffic, you should consider having underpasses or better fences at 93 and Indiana for wildlife.

Response 2402c: The Final CCP/EIS includes recommendations, such as wildlife crossings and fencing, that could minimize or mitigate the effects of transportation improvements surrounding the Refuge (Section 4.16).

2402d: I understand that sand and dust from mining is damaging various lands in the wildlife refuge. I would recommend immediate action…to stop this from occurring.

Response 2402d: The Final CCP/EIS explains that the Service would work with the mining operators and the appropriate regulatory agencies to minimize and mitigate the effects of windblown soil deposition on the Refuge.

COMMENT 2410: COMMENT ABOUT ADJACENT URBAN DEVELOPMENT

(Wildlife corridors as more development occurs, and impacts due to development in the south.)

Response 2410: The FEIS includes an expanded discussion of urban development that is anticipated to occur near the Refuge, including the planned Vauxmont development to the south. The potential impacts of this development to the Refuge are included in the cumulative impacts discussions in Chapter 4.

COMMENT 2431: GENERAL COMMENT ABOUT MINERAL RIGHTS AND MINING

(Concern about impacts of adjacent mining to Refuge.)

Response 2431: See response to comment 2433. In addition, the cumulative impact discussions in Chapter 4 include a discussion of potential impacts to the Refuge from adjacent mining. Groundwater and air quality on the Refuge are protected by stipulations in the mining permits. The Service will work with the mining operators and regulatory agencies to minimize the impacts of adjacent mining on the Refuge and its resources.

COMMENT 2432: COMMENT ABOUT THE RECOGNITION OF PRIVATE RIGHTS TO MINERALS

Response 2432: The Refuge Act (Appendix A) specifies that the establishment of the Refuge would not limit any valid, existing property right at Rocky Flats that are owned by any person or entity, including, but not limited to mineral rights, water rights or related easements, or utility facilities or rights-of-way. The Service acknowledges the existence of these private property rights and intends to allow continued reasonable access to those areas. For example, the layout of the proposed Refuge access roads in all alternatives is designed to facilitate future

access to existing easements and other property rights on the Refuge. The Service would continue to coordinate with outside entities to best facilitate reasonable access to private property rights in a manner that minimizes impacts to Refuge resources and/or operations. (See response to comment 2433 for a more specific discussion of mineral rights.)

COMMENT 2433: COMMENT SUPPORTING FEDERAL ACQUISITION TO PRIVATE MINERAL RIGHTS

Response 2433: As recognized in the Refuge Act (Appendix A), most of the subsurface mineral rights associated with lands along the western edge of Rocky Flats are privately owned. Most are permitted for surface mining, and some are being actively mined. These private mineral rights are in an area where their full development would adversely affect the rare xeric tallgrass community and wildlife movement corridors. These effects are discussed in various locations in Chapter 4 under *Cumulative Impacts*.

The final disposition of the lands associated with private mineral rights is still under discussion. As described in Section 3.8 of the FEIS, it is the Service's position that because of the adverse effects that surface mining would have on the Refuge, the Service would not be able to manage the Refuge to meet the requirements of the Refuge Act if those areas are included in the Refuge. Therefore, the Service would not accept those lands into the Refuge until the mineral rights are secured, or those areas have been fully reclaimed following mining operations.

COMMENT 2434: COMMENT ABOUT RECLAMATION OF MINED LANDS

Response 2434: See response to comment 2433. In addition, reclamation of mined lands is governed by stipulations in the mining permits that are issued by the State of Colorado.

COMMENT 2435: COMMENT ABOUT PRIVATE UTILITY, DITCH, AND POND ACCESS

Response 2435: The Service would allow reasonable access to all private property rights on the Refuge. See response to comment 2432 for a more detailed discussion.

COMMENT 2444: COMMENT ABOUT REGIONAL OPEN SPACE CONSERVATION.

Response 2444: The Service appreciates that Rocky Flats is surrounded by open space on three sides, and that the conservation of Rocky Flats to a National Wildlife Refuge plays a pivotal role in tying together the efforts of multiple jurisdictions towards regional open space conservation. Recognizing the importance of the Refuge in a larger context, the Service is committed to work with neighboring jurisdictions to coordinate natural resource management and public use opportunities. This commitment is illustrated throughout the Goals and Objectives in Chapter 2.

COMMENT 2451: COMMENT SUGGESTING THE PROTECTION OF WILDLIFE CORRIDORS

(Concerns related to nearby transportation improvements.)

Response 2451: The FEIS includes a discussion in Section 4.16 that provides recommendations to protect wildlife corridors and other Refuge resources that could be affected by nearby transportation improvements.

3000 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3050 – SOILS

COMMENT 3052: SPECIFIC COMMENT ABOUT SOILS

3052a: (The Service) must be extremely careful when it considers road obliteration and revegetation.

Response 3052a: The EPA and CDPHE have indicated that all proposed Refuge activities, including road removal and restoration, will be safe for Refuge workers and visitors. Sections

1.8 and 3.2 include expanded discussions of issues related to cleanup and residual soil contamination. As shown on Figure 4 none of the area that will become the Refuge is contaminated to the extent that cleanup will be required.

COMMENT 3054: CONCERN THAT RECREATIONAL ACTIVITIES COULD RE-SUSPEND RESIDUAL SOIL CONTAMINATION

Response 3054: The EPA and CDPHE have indicated that all of the proposed Refuge activities, including recreational activities, will be safe for both Refuge workers and visitors. The contamination levels in the area to become the Refuge are currently low enough (prior to cleanup) to not require any response actions. In response to public interest and concern, the FEIS includes an expanded discussion of issues related to site cleanup and residual soil contamination in Section 1.8 and 4.2.

COMMENT 3055: CONCERN THAT PRESCRIBED FIRE COULD RE-SUSPEND RESIDUAL SOIL CONTAMINATION

Response 3055: See response to comment 3054. In addition, the Service does not propose using prescribed fire on the eastern portion of the Refuge between Walnut Creek to the north and Woman Creek to the south (Figure 8).

COMMENT 3060: CONCERN ABOUT THE EFFECT OF PRAIRIE DOGS OR OTHER BURROWING ANIMALS ON CONTAMINATED SOILS

Response 3060: The EPA and CDPHE have indicated that subsurface contamination does not exist in the area that will become the Refuge. The DOE will be responsible for the protection of the remedy facilities within the portions of the DOE retained area where subsurface contamination will remain, which includes preventing prairie dogs or other burrowing animals from accessing subsurface contamination. While the Service will not be responsible for prairie dogs within the DOE retained area, and while subsurface contamination should not be an issue on the Refuge, as a management partner with the DOE it would be prudent for the Service to keep prairie dog populations away from the DOE retained area.

3100 – WATER RESOURCES

COMMENT 3102: SPECIFIC COMMENT ABOUT WATER RESOURCES

3102a: I would recommend working with Arvada to get water up to (the Refuge).

Response 3102a: At this time, the Service does not plan to pursue the extension of municipal facilities to the Refuge because the costs of purchasing water. The Service believes that we would be able to meet Refuge needs as outlined in the CCP. The Service will retain the existing raw water pond, as well as the water line between the pond and Building 60, in the event that water is purchased at a future date.

COMMENT 3110: CONCERN ABOUT SURFACE WATER QUALITY

(Concerns about surface water contamination, and potential impacts from adjacent development.)

Response 3110: The EPA and CDPHE have indicated that all of the area to become the Refuge, including surface water, will be safe for Refuge visitors and workers. Potential impacts to surface water from nearby development are discussed in the cumulative impacts section of Chapter 4.

3200 – VEGETATION COMMUNITIES

COMMENT 3202: SPECIFIC COMMENT ABOUT VEGETATION COMMUNITIES

3202a: Why were the recommendations in Essington, et al. 1996 and Kettler, et al. 1994 not used more fully in developing the alternatives and in describing the consequences of each alternative.

Response 3202a: Both of the referenced Colorado Natural Heritage Program reports were very useful in understanding the resources of the Refuge, as described in Chapter 3 – *Affected Environment*, and were closely considered in developing the alternatives and evaluating the effects of those alternatives. However, other factors that influenced the alternatives included the Refuge purposes, Service policies, and knowledge gained from other studies and management.

3202b: The deficiencies of the Draft are apparent throughout Chapter 4. Relevant research is also neither cited nor used to reach evidence-based conclusions.

Response 3202b: The evaluation of impacts in Chapter 4 is based on the Service's understanding of site conditions described in Chapter 3, the professional knowledge and experience of Service and planning team staff, knowledge gained from DOE's site management, and best available scientific studies on particular types of impacts (such as public use impacts). Scientific studies were cited appropriately when they were available to support impact assessment. The biological resources of the Rocky Flats site have been thoroughly studied over the last 20 years. For that reason, no additional empirical studies were conducted to prepare the FEIS.

3202c: Despite the USFWS's plans to restore/revegetate areas and take actions to enhance wildlife habitat, Alternatives B and D will only "partially satisfy" (the wildlife and habitat management) goal.

Response 3202c: The Service believes that the overall effects of public use in Alternatives B would be minor, and would not diminish the ability of Alternative B to satisfy the wildlife and habitat management goal. The proposed public use facilities, including trails on existing roads, would affect less than 1 percent of the Refuge area.

COMMENT 3240: CONCERN ABOUT WEED MANAGEMENT

(Comment specific to whether horses are more or less responsible for the spread of weed seeds.)

Response 3240: While there is common speculation that horses can contribute significantly to the spread of weeds, the Service also recognizes that there is disagreement with the scientific and recreation communities on that issue. However, the Service believes that it is a reasonable assessment to assume that horses are among the potential vectors for weed dispersal. Recognizing this uncertainty, the Service proposes to allow limited equestrian access under the conditions outlined in the Compatibility Determination (Appendix B).

COMMENT 3260: CONCERN ABOUT IMPACTS OF PUBLIC USE/FACILITIES ON VEGETATION

Response 3260: All of the public use facilities were located considering ecological impacts, and existing roads and disturbed areas were used to the greatest extent possible. The proposed public use facilities, including trails on existing roads, would affect less than 1% of the Refuge area, and the anticipated effects from the use of those facilities would be minor.

COMMENT 3261: CONCERN THAT TRAIL WILL EXCESSIVELY IMPACT RIPARIAN HABITAT

Response 3261: During the planning process, the Service planned trail configurations to avoid and minimize impacts to riparian habitat. Of the 16.2 miles of trails that are planned for Alternative B, 0.4 miles, or 3 percent of trail would be within riparian habitat areas. Most of those trails would be located on existing roads, and subject to seasonal closures.

COMMENT 3262: CONCERN ABOUT THE IMPACTS OF OFF-TRAIL USE

Response 3262: The Service believes that the potential impacts of off-trail use would be minor and would not adversely affect vegetation communities or wildlife. Any indications of overuse or impacts to sensitive resources would be mitigated through education, signage, and/or closures as appropriate. The service believes that seasonal off-trail use provides reasonable access for naturalists, wildlife photographers, and others to engage in compatible wildlife-dependent public uses.

COMMENT 3263: CONCERN ABOUT HABITAT FRAGMENTATION DUE TO TRAILS

Response 3263: See response to comments 2221 and 3260.

3300 – WILDLIFE

COMMENT 3302: SPECIFIC COMMENT ABOUT WILDLIFE

3302a: No information is available about current populations of deer and elk that inhabit the property beyond the discussion of population targets. Likewise, you make no comments about any predators or any other limiting factors on these big game populations.

Response 3302a: Current populations of deer and elk, as well as their anticipated predators are described in Section 3.5 – *Wildlife Resources*.

3302b: We also have clear evidence…that both raptors and songbirds are negatively impacted by trail use.

Response 3302b: The Service is aware of the potential effects of trail use on raptors and songbirds. These impacts were considered during the trail planning to minimize these potential impacts by avoiding riparian habitat areas and by using existing roads to the greatest extent possible. Some trails in the Rock Creek area and off-trail use would only be open during the winter months, which would greatly reduce the potential for impacts to both raptors and songbirds. Other closures may be implemented as needed to reduce impacts to wildlife.

COMMENT 3303: COMMENT ABOUT THE EFFECTS OF RESIDUAL SOIL CONTAMINATION ON WILDLIFE

Response 3303: The Service does not believe that residual soil contamination has adversely affected wildlife at Rocky Flats. See also the response to comment 3304.

COMMENT 3304: COMMENT ABOUT THE ANALYSIS OF DEER TISSUE

Response 3304: Tissue samples, including edible meat tissues, of deer harvested at Rocky Flats in 2002 have been analyzed for contaminants. The results of the analysis indicate that there is no significant uptake of contaminants by deer or other wildlife species at Rocky Flats.

COMMENT 3311: CONCERN ABOUT IMPACTS TO MULE DEER

(Concern related to the effects of hunting.)

Response 3311: See response to comment 2158.

COMMENT 3312: CONCERN ABOUT IMPACTS TO RAPTORS

(Concern related to the impacts of off-trail use.)

Response 3312: The Service believes that the density and frequency of off-trail use would be low enough to not adversely affect the use of potential raptor nest areas in the southern portion of the Refuge. None of the proposed trails impact known raptor nest sites. If such a conflict occurs in the future, the Service would evaluate whether further actions are needed to reduce impacts to nesting raptors.

COMMENT 3330: COMMENT ABOUT IMPACT OF TRAILS AND FACILITIES ON WILDLIFE

Response 3330: See response to comment 3260. In addition, the Service is confident that visitors engaging in unsupervised, wildlife-dependent recreation on the Refuge would not adversely impact individual animals or wildlife populations.

3600 – RECREATION AND TRAILS

COMMENT 3610: CONCERN ABOUT PUBLIC USE RISK FROM PRAIRIE DOG DISEASES

Response 3610: Service staff will monitor prairie dog colonies for outbreaks of plague. If outbreaks occur, the Service would take appropriate measures to protect both the prairie dogs and any visitors who may come into close proximity to the affected colonies.

4000 – DRAFT COMPATIBILITY DETERMINATIONS

COMMENT 4002: SPECIFIC COMMENT ABOUT COMPATIBILITY DETERMINATIONS

4002a: Multiple public uses… may harm fragile wildlife found at the site, suggesting that any public use is incompatible, and shall not be allowed.

Response 4002a: The Service believes that the overall effects of public use in Alternative B would be minor, and would be compatible with the purposes of the Refuge. The proposed public use facilities, including trails on existing roads, would affect less than 1 percent of the Refuge area, and the anticipated effects from the use of those facilities would be minor. The Service acknowledges that most public uses would result in some resource impacts. Stipulations have been made in each Compatibility Determination to reduce and mitigate for unacceptable impacts, but impacts alone do not make a use incompatible.

COMMENT 4010: GENERAL COMMENT ABOUT HUNTING CD

(Comments generally opposed to hunting.)

Response 4010: See response to comment 2158.

COMMENT 4011: COMMENT THAT HUNTING IS NOT COMPATIBLE WITH THE REFUGE

Response 4011: See response to comment 2158.

5000 – ISSUES OUTSIDE OF SCOPE OF EIS

During the public comment process, there was considerable interest and concern about issues related to present contamination at the Rocky Flats site, and the cleanup process that is underway. These issues are outside the scope of this EIS. The CCP/EIS was written under the premise that the area to become the refuge will be certified to be safe prior to the establishment of the Refuge and the implementation of the CCP. The EPA and CDPHE have indicated that all of the proposed Refuge activities will be safe for the Refuge worker and visitor. If post-cleanup conditions change these assumptions, then the CCP will be revised accordingly prior to any public use of the facility.

In response to concerns about issues related to cleanup and residual soil contamination, the FEIS includes an expanded discussion of cleanup in Section 1.8, of residual soil contamination levels in Section 3.2, and any potential effects of Refuge activities on those soils in Section 4.2. Comments about issues related to cleanup and contamination were grouped into the following categories, but are not considered to be substantive.

6000 – COMMENTS ABOUT CCP/EIS PROCESS

COMMENT 6012: SPECIFIC COMMENT ABOUT CCP/EIS PROCESS

6012a: (The Vegetation Management Plan and Fire Management Plan) should be finished and presented to the general public for review and approval.

Response 6012a: The Service would complete step-down management plans after the Refuge is established, and will consider a public review process during the completion of each. Both the Vegetation Management Plan and the Fire Management Plan would go through a public review and comment period.

COMMENT 6020: COMMENT ABOUT NEPA PROCESS

(Concern about whether NEPA process was followed, whether it is appropriate to complete the CCP/EIS prior to final cleanup decisions, and if the EIS sufficiently analyzed effects to the human environment.)

Response 6020: The Service is confident that all aspects of the CCP/EIS process have followed NEPA requirements. Congress directed the CCP process in the Refuge Act. The Service has collaborated with the DOE during the CCP planning process and has been apprised of the approximate boundaries of the lands that will be retained by DOE for long-term monitoring and stewardship. While the exact boundaries are likely to change prior to Refuge establishment, the Service is confident that the general nature of the lands and resources that will be included in the Refuge (including levels of contamination, if any) will not change. For these reasons, the Service is confident that it is both reasonable and effective to complete the CCP/EIS process at this time.

In response to concerns about issues related to cleanup and residual soil contamination, the FEIS includes an expanded discussion of cleanup in Section 1.8, of residual soil contamination levels in Section 3.2, and any potential effects of Refuge activities on those soils in Section 4.2. Environmental concerns, including the health of Refuge workers, visitors, and the general public, have been considered throughout the decision making process. Based on the cleanup assumptions that must be met prior to Refuge establishment, as well as the levels of residual contamination in the lands that will become the Refuge, the Service concurs with the EPA and CDPHE that the proposed Refuge activities will not have an adverse effect on the quality of the human environment.

6300 – DRAFT CCP/EIS

COMMENT 6302: SPECIFIC COMMENT ABOUT DRAFT CCP/EIS

6302a: [Regarding species list] there should be a long-tailed weasel; where are the invertebrates – such as butterflies, moths, and beetles?

Response 6302: The species list has been updated to include a more comprehensive inventory of plant and animal species. While the Refuge is within the overall range of the long-tailed weasel, it has not been identified at Rocky Flats and is not on the species list. Over 1,000 invertebrate species have been identified at Rocky Flats. While these species are not listed in the EIS, the Service does have a database that includes all of them.

6302b: The EIS has to evaluate the effects of this particular action on the human environment. The Draft EIS fails to do that.

Response 6302b: Under the Refuge Act, no portions of the site can become a Refuge until the EPA certifies DOE has completed a cleanup that will be protective of the future Refuge worker and visitor. The CCP/EIS is written under the premise that cleanup and certification will occur prior to Refuge establishment. However, residual soil contamination levels in the lands that are most likely to become the Refuge are already low enough to not require any active cleanup. In response to public interest and concern about contamination issues, the FEIS includes an expanded discussion of cleanup in Section 1.8. The Service concurs with the EPA, CDPHE,

and DOE that environmental concerns, including the health of Refuge workers, visitors, and the general public, have been considered throughout the decision-making process and that the proposed Refuge activities would not have a significant effect on the quality of the human environment.

COMMENT 6303: COMMENT THAT THE SERVICE APPEARS TO HAVE ALREADY MADE ITS DECISION

(Regarding concerns about the identification of a Proposed Action early in the EIS process.)

Response 6303: In accordance with NEPA, the Service developed a range of alternatives responsive to the issues and concerns identified during scoping. All four alternatives were given equal merit and consideration in the FEIS. The Service identified Alternative B as its Proposed Action. Service planning policy requires that a Proposed Action be identified early in the planning process, to give the public an early indication of the Service's preferences. However, the identification of a Proposed Action does not change the consideration of public comments, or further analysis or consideration of the other alternatives. The Record of Decision will document the Service's decision on the CCP alternative.

COMMENT 6304: SUGGESTED CHANGES TO MAPS

6304a: The amoeba on all the maps gives the impression that no part of the property retained will be suitable for any use and has no wildlife refuge value.

Response 6304a: In the DEIS, the DOE retained area was shown as an opaque polygon to illustrate that those areas will not become part of the Refuge and will not be subject to the management plans outlined in the CCP. However, the Service also acknowledges that the lands and resources within the retained area are inextricably linked to the future refuge lands. The mapping has been revised to include a transparent polygon for the DOE retained area that gives a better indication of resources in that area.

6304b: (Regarding Welton Reservoir…) Information indicates that it is Fortune Reservoir. Also, it is no longer "dry."

Response 6304b: The Consolidated Mutual Water Company website indicates that it is "Welton Reservoir", though some documents prior to the completion of the project referred to it as "Fortune Reservoir." The maps have been updated to reflect that it is no longer dry.

4. Petitions and Form Letters

The Service received four different kinds of mass correspondence commenting on the Draft CCP/EIS:

1. No Public Use
2. Object to Hunting
3. Support Alternative B
4. Keep Rocky Flats Closed

FORM LETTER 1: NO PUBLIC USE

The Service received this form letter with the following language, "My reasons for no public use of the Rocky Flats Wildlife Refuge:

1. The whole Rocky Flats site is contaminated…
2. Plutonium in the environment is a permanent danger…
3. No one knows how contaminated the site is…
4. A cheap cleanup endangers lives…
5. The best possible cleanup is not happening…
6. Cleanup to wildlife refuge standards endangers future generations…
7. Local people reject the cleanup being done…
8. Risk-based cleanup is dead wrong…
9. Genetic effects of plutonium on wildlife are poorly understood…
10. A contaminated environment is a high price to pay for open space…"

Four recommendations from the Rocky Mountain Peace and Justice Center on future use of the Rocky Flats Wildlife Refuge:

a. Moratorium on public use…
b. Research on health effects…
c. Technology development…
d. Citizen oversight…"

The Service received four copies of this letter, which was assigned the following issue codes:

- 2154 Comment opposed to public use
- 2270 Call for citizen oversight of Refuge activities
- 5030 Site characterization
- 5040 Cleanup standards/ risk assessment
- 5050 General cleanup
- 5061 Comment supporting additional research on effects of contamination on wildlife and plants
- 5062 Comment favoring ongoing research on cleanup technologies
- 5070 Potential health effects
- 5080 Cleanup principles/approach

FORM LETTER 2: OBJECT TO HUNTING

This petition was circulated with the following language, "The following object to any recreational sport hunting at the Rocky Flats National Wildlife Refuge!"

The Service received this petition with 89 signatures. There were 23 signatures with incomplete or illegible names. Form Letter 2 was assigned the following issue code:

- x 2158 Comment opposing hunting program

FORM LETTER 3: SUPPORT ALTERNATIVE B

This petition was circulated with the following language, "The following individuals support the U.S. Fish and Wildlife Service's Proposed Action (Alternative B) for the Rocky Flats National Wildlife Refuge…We are also confident that the cleanup and closure of Rocky Flats will be fully protective and safe for the proposed future land use described in Alternative B."

The Service received this petition with 25 signatures, which was assigned the following issue codes:

- x 2104 Comment in support of Alternative B
- x 2151 General comment about public use programs
- x 5040 Cleanup standards/ Risk Assessment

FORM LETTER 4: KEEP ROCKY FLATS CLOSED

The Service received numerous form letters with the following language, "I am writing to express my opposition to allowing recreation at Rocky Flats. Just clean it up, fence it off and keep Rocky Flats closed."

The Service received 815 copies of this letter. There were 178 letters with incomplete or illegible names. Form Letter 4 was assigned the following issue codes:

- x 2153 Specific comment: "Keep Rocky Flats closed"
- x 2154 Comment opposed to public access/use
- x 2294 Comment proposing security fence at Refuge boundary
- x 5050 General cleanup

5. Public Hearing Testimony

PUBLIC HEARING ON

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

AND COMPREHENSIVE CONSERVATION PLAN

FOR THE ROCKY FLATS NATIONAL WILDLIFE REFUGE

Wednesday, March 10, 2004
6:30 p.m.

at
Front Range Community College
College Hill Library
3645 West 112th Avenue
Westminster, Colorado

Panel Members: Richard Trenholme
Mike Hughes
Laurie Shannon
Dean Rundle
Jody Erikson

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MR. HUGHES: Let me begin by thanking all of you for attending tonight's public hearing on the Draft Environmental Impact Statement and Comprehensive Conservation Plan for the National Fish & Wildlife Service.

My name is Mike Hughes and I'm part of the planning team. And I want to say just a couple of words about tonight's agenda, before I turn the floor over to Laurie Shannon, and tell you a couple of things about the formal public hearing. We have a court reporter behind me, as you see, so that we can create a verbatim transcript of the comments that people make about the Draft Environmental Impact Statement and the Draft plan.

Given that it's a formal hearing, what we're trying to do is provide an equal opportunity for everyone who has issues to speak and limit as to how much time everyone receives as they speak. So we're going to ask, in terms of ground rules, that you give everyone the same opportunity to be heard that you will want when you step to the microphone.

In order for us to manage that, we ask that you sign up to speak. We have a speaker sign-up sheet in the back, we'll be reading the names for that sign-up sheet, we'll ask you to come to the microphone and we want, as you're listening, to respect the opportunity for that person to have their say by not interrupting them, and then those

of you who are at the microphone, respect the time of the person behind you by staying to the time allotment, which is three minutes. So we've allotted three minutes of time for each person to speak.

What we ask that you do, as you make your comments, is focus on the plan itself. So again, this is a hearing in response to the Draft, we ask that you bring your comments to the content of the Draft. If there are specific places in the Draft where you have information that is divergent from the information that's in the Draft, we'd like to have that information and want to make sure that you point that out to us.

The adequacy of the analysis, if there's any place where you believe the analysis needs to be deepened before the final Draft Environmental Impact Statement or final plan, we ask that you make the comment in that way.

Laurie will talk in just a few minutes about the alternatives. We would like, if it's your wish, to have you speak to the alternatives, and obviously, particularly, the proposed act, the preferred alternative.

So with that, the agenda will include questions, but we'll be focusing primarily on those public comments.

I want to say, before we get to tonight's comments on the Draft, that this is not the only means to

provide input to the Draft by any stretch, so we're not limiting you to three minutes, we're just asking you to limit yourselves to three minutes tonight. There are many other ways to communicate your concerns about or questions about or comments on the Draft.

The comment period itself is open until April 26th. You can submit your comments in writing on the forms that we have here tonight, so if you didn't get one on the table outside and wish to have one, we'll make sure that you have one, and we'll just ask that we have it by the 26th.

Also, there is the opportunity for those of you who have access to computer resources to do so online. So the website is here on your agenda and so you can go to that website and make your comments and have those downloaded. Also it's on the green sheet you have as well.

So with respect to questions, my hunch is, from the number of sign-ups I've seen so far, is we'll have time to do that. It's possible that in one of the four meetings that we'll be doing for public hearings we'll be doing, we'll have so many people that wish to speak that the three minutes will exhaust our agenda. However, for a group of this size and the number of sign-ups, it's quite likely that we will be able to have a question and answer period, so I will give the floor to Dean at that point and then we'll open up the possibility of questions.

Let me talk a little bit about the agenda in that light and then a bit about how we'll do that. I'm going to give the floor to Laurie Shannon in just a second who is going to present the highlights of the Draft Comprehensive Conservation Plan and Environmental Impact Statement, focusing particularly on what has changed since you last saw the alternatives in the public forum when we all came together to do that, for those of you who have been with us over and over again.

We want to highlight particularly the key elements of the preferred alternative, but also any changes that have been made that are of significance and then we'll turn to the public comment period.

Jody, sitting right here in the front, is the one that's going to help us with time. So she'll be standing there next to you reminding you that your three minutes is up and remind you to have a seat. And again, we've got some guidelines for you with respect to the comments.

As you can see from the italicized item there, if there is time for questions, and again I think that there will be, what we will do is make sure we document the question itself so that we can retain the question itself that you're asking. What we ask that you not do is use that time to add to the three minutes you already had.

So I'm going to ask that you not preface your question with a speech, and then the foundation for the question, simply ask the question and we'll get to it. That's again in the interest of fairness so that everyone has the same amount of time.

And again, we're expecting larger meetings, we'll exhaust the time with the three minutes. We will end the meeting at 8:30 and that takes care of the agenda.

One of the things that we've talked about on the planning team that is a focus of a great deal of attention in the comments we've received online or individual conversations we've had with many of you, cause us to want to go through this explanation. And so I'm just going to spend a couple of minutes talking about the steps by which a refuge in established, and this is in the act that started this Comprehensive Conservation Plan and Environmental Impact Statement process.

First of all, the Fish & Wildlife Service completes its final Comprehensive Conservation Plan and Environmental Impact Statement and then issues a record of decision. That's the first decision point that takes us down this path.

The second one is that the Department of Energy completes its site cleanup, except for its ongoing OM, its ongoing operation and maintenance of the retained

areas or any of the activities, the monitoring that it will do on site, et, cetera, et cetera, but completes its cleanup efforts at the site. And then EPA and the Colorado Department of Public Health and Environment certify the completion of that cleanup. That's another key decision point that must be passed for the possibility of a refuge to exist.

At that point it is then possible, under the legislation for the DOE, Department of Energy, to transfer that land to the Department of the Interior so that the refuge can be created. And then with that the Department of Interior would establish the refuge officially and then the Service would then begin its management.

The key item in all of that chronology is this; that the EPA certification is required before the site can become a refuge. So the Comprehensive Conservation Plan and the Environmental Impact Statement has been written in the context of a certified site, written as if that decision were made, and therefore, then how to operate the refuge, and will not take effect until the certification itself is complete.

So there have been lots of question about how the Department of Interior and the Fish & Wildlife Service attended to the site's current state and the DOE cleanup operation and that's how it's being done. The Environmental

Impact Statement is written in that context. So with that, Laurie.

MS. SHANNON: Thanks, Mike. Good evening. I want to just spend a couple of minutes going over the four alternatives. And I know that many of you probably know them very well, but in case we have some that are not as familiar and everybody knows what we're here to discuss, I'm just going to highlight the four alternatives, and particularly I want to go over what has changed since we presented them last May to the public.

So to begin, I'm going to start with our proposed action, because that's what we are proposing here, and we'll move on to the other ones. Some of the things that we heard from the public last May, a couple of key things, is that the public told us that they wanted to see some horseshoes on the site. We had only proposed that in Alternative D and they had asked that there be some allowances for horse access. So one of the changes that we made was in the southern part of the site is that we have provided for some horse access down here. The northern part of the site would stay the same.

This multiple use trail that's up here, that would be bikes and pedestrians only. The trails down here would be for horse, bike and pedestrians, and then off to the north it would continue to be pedestrian only. And some

of even this far northern site would be a seasonal trail, depending on the needs of wildlife.

The other thing that the public -- we heard from the public was that they wanted to see some increased connectivity. So we made some attempts down here to make a loop and also try to improve the connectedness down here.

The other thing that we heard from many people who said that they wanted us to focus more on restoration of the site before we provided public use. So in that respect, what we are proposing now is that after refuge establishment, we would open a trail down to the Lindsay Ranch soon after establishment. But for the first five years we would focus our efforts on restoration of the site, wildlife habitat management and try to get our budget established before we would begin to implement the use of the public program. But by year 15 all of the public use program would be implemented.

One other thing I want to point out, a lot of people wanted us to make this connection in the annum, the north-south connection, and we still feel very strongly that if there is an improvement to the road corridor along Indiana, that we would like to see that connection made in that process or made by the communities to the east, and not so that we're trying to squeeze in a trail between the DOE retained lands and the transportation corridor and that sort

of thing.

Under this alternative we are proposing a contact station as opposed to a full-fledged visitor center, which would be in Alternative D. The other change that we made under this alternative is with respect to hunting. And it currently still is as we presented it in May. There would be a very limited hunting program open to youth and disabled and it would be highly managed two weekends out of the year and the rest of the refuge would be closed. It would be low-impact weaponry, such as archery, muzzle loading and shotgun shells and that would still stay, but what we did change was, after two years we would at least look at whether we could open the program to abled hunters. And the reason for that is that -- that's so if we're not meeting our target population goals for deer and elk, we could do that.

Let me think if there's any other major changes. The other things that we did, we tried to look at the restoration of the stream crossing and tried to improve those so they fit the goals of each alternative. We added -- kind of figured out what we're doing about fire management under all the alternatives and recognized what we needed to do there. We better define the prairie dog habitat out on the site, and as I explained, the hunting program.

The other thing about the Alternative B that I should have mentioned is that we call this alternative the wildlife habitat and public use alternative. And that has what we -- how we define that is it has a real strong emphasis on wildlife and habitat management while allowing the moderate amount of use and also providing for some compatible scientific research that's focussed on wildlife habitat and public use.

And we feel that this is the alternative that best meets both our agency, the National Wildlife Refuge system missions and goals, it meets what we -- how we interpret the refuge legislation and also it reflects what we heard from the public during the comment period to date.

Alternative A is what we call the no action alternative. And under this alternative it would be basically continuing the current management regime with most of our focus of wildlife and habitat being in the Rock Creek area, which is the northern part of the site. There would be almost virtually no public use, except for very limited VIP-type tours. And as you can see, there are no facilities shown there.

Alternative -- oh, one change that we made with Alternative A that is different is that we used to have a chain-link fence around Alternative A when we presented it back in May, and since then, after looking at it a little

bit deeper, we have taken that out of that alternative, primarily because it changes it into an action alternative. And after looking at it, we decided that it was not something that we really felt like was something we wanted to do. It's very expensive, it precludes wildlife movement corridors and we didn't really find a lot of support in the community for it by putting up a big chain-link fence around the site.

Alternative C is what we call the ecological restoration alternative. And that alternative is trying to maximize wildlife and habitat restoration and management to the degree possible and providing just for a minimal amount of public use on the site and also providing for, again, compatible scientific research that's focussed strictly on wildlife and habitat.

So as you can see, this is the public use part of it. It would only entail having a very short trail that would go out to an overlook, and that would be a guided -- it would be again a very small usage of the site during the year.

Under all the alternatives, the only access by vehicle would be through the west through Highway 93. That's what this line is, where these four, B, C and D. Okay.

Alternative C is the one alternative where we

take out the Lindsay Ranch and obliterate that. And we would record that with photographs and recordation for it in terms of preserving it.

Alternative D is what we call the public use alternative. And this is again trying to say we're going to have a strong emphasis on wildlife and habitat management, but we're going to maximize the amount of public use that we can put on this site that we can feasibly do as our agency. So this one has about 19 miles of trails whereas Alternative B has about 16. What you see the differences are are in the types of facilities. Alternative D has a visitor center, a full-fledged visitor center, where Alternative B is just a contact station with a few offices in there.

Under both B and D there would be no dogs allowed on the site. None of the alternatives would allow dogs, leashed or unleashed.

Under this alternative we also try to respond to some of the things that we heard from the public about improving some of the trail connectivity and making it more looped. And under this alternative, horses would be also allowed in the southern part of the site and on the northern part of the site.

And, Dean, I think that pretty much highlights what I have to say about that and I'll just turn it over to you.

MR. HUGHES: For those of you who just came in, if you wish to speak, the sign-up sheet is there, go ahead and do that so we can get you on the list.

To recap quickly, Jody, who is standing there in the back, is going to help you be mindful of how long three minutes is. So she'll let you know when you're approaching the end of that three minutes for your comment period. When you come -- as we go down the list, Jody will call both the name of the first speaker and the name of the person who should go next and we'll do that on down the line.

When you come to the microphone, we ask that you give us your name so that is contained as part of the transcript. Part of our requirements under NEPA is to make the Environmental Impact Statement -- to fulfill our obligation for the Environmental Impact Statement. So we want you to give your name and then we'll ask you to take those three minutes and Jody will let you know when three minutes is over.

Since what you're doing is making comments about the plan that the Fish & Wildlife Service is putting out in draft form, so we've asked them to sit here so you can actually speak to them. If your comment includes a question, don't worry about that, I'll catch it and then we'll come back to that when we get to the question and

answer portion. So Laurie you've met.

MR. RUNDLE: I'm Dean Rundle, the project leader and refuge manager for the Rocky Flats project.

MR. TRENHOLME: I'm Richard Trenholme with ERO Resources and we're a part of the planning team.

MR. HUGHES: We have other members of the planning team, they are out there in the lobby helping to get organized.

Jody, go ahead and we'll do this three minutes at a time.

MS. ERIKSON: LeRoy Moore and then Bini Abbott.

BY MR. LEROY MOORE:

My name is LeRoy Moore, I'm a consultant with the Rocky Mountain Peace and Justice Center in Boulder. I'm also a member of the board of directors of the Rocky Flats Cold War Museum, which is in the process of being created. My remarks tonight focus on the relationship between the wildlife refuge and the museum. I speak not on behalf of the board of the museum, but only on behalf of the Rocky Flats Peace and Justice Center.

The Peace and Justice Center strongly supports the intention of Fish & Wildlife to, quote, work in collaboration, the words from the EIS, with the proposed museum and commemorating a site of historical significance.

Just as Fish & Wildlife is committed to

caring for the flora and fauna of the wildlife refuge, the museum is committed to telling the full story, both of the production of nuclear weapons at Rocky Flats and the response to this activity by people from the outside.

A collaborative endeavor between Fish & Wildlife and the museum should lead logically to them being housed in a common facility. The appropriate location for such a facility is along Highway 93, what is now called the West Gate to Rocky Flats. This high upwind location provides a good vantage point for observing much of the Rocky Flats property as well as the mountain backdrop, the surrounding communities and Denver beyond.

It is an ideal location for overlook platforms from which visitors can view the wildlife on the refuge and the location of the former Rocky Flats plant.

Fish & Wildlife will want to have interpretive information about the flora and fauna of the site, while the museum will want photographs and diagrams depicting the appearance of the site at different stages in its history as a weapons production plant and beyond to cleanup and closure.

The key activities to preserving open space at Rocky Flats and commemorating the historical significance of bomb production at the site, that's a great interruption, can be fulfilled. These two things can be fulfilled without

endangering members of the unsuspecting public by allowing them to engage in risky activities on a contaminated site.

We at the Peace and Justice Center prefer no public access to the refuge because of the dangers of the contamination there; however, we can also support Fish & Wildlife Service Alternative C, ecological restoration, as the one option processed by Fish & Wildlife that best meets the goals of both preserving open space and commemorating the site's historical significance. Thank you very much for the opportunity to speak.

MS. ERIKSON: Bini Abbott and Jacqueline Brever.

BY MS. BINI ABBOTT:

My name is Bini Abbott. I live at 9190 Elkhire, Arvada, but I'm on the West Shore of Standley Lake. And what I am not is not belonging to any peace groups, I am not belonging to any of the animal rights groups, but what I am is very concerned about having hunting at the refuge two weekends a year for a grand total of 20 people, which at the estimated cost is $250 per person of those 20 people and the rest of the refuge would be completed closed.

The goals of the U.S. Fish & Wildlife, I realize, are hunting and fishing are two of their primary purposes for the refuge, but I think you'll find that the

public is appalled when they find out that hunting would be allowed at what they think is going to be a refuge. And the definition of refuge in the dictionary and so on is a place of safety. And if we're going to give safety to these animals, the deer and the elk, through the rest of the year and then suddenly to plunk at them for two weekends, I think is conflicting interests and I would hope it would not happen.

According to the EIS, they will reevaluate the need for culling or reevaluate their program on hunting in 15 years, which is the year 2019. I probably won't be around and able to still express my feelings at that time. I've talked to both the wildlife managers with Boulder City Open Space who owns land on both the north and the west of this refuge and to Boulder County Open Space which owns land to the north of the refuge. Neither of those entities have any problem with overpopulation.

And so, if at some time the animals have to be culled because of chronic wasting disease or so on, I would hope that instead it would be sharp shooters from the Division of Wildlife and not having either handicapped people or youth, having a reasonable chance of success, is the way it's put down in hunting.

In closing, I would just like to say that I think the perception is going to be more important than

reality as to what people think of what U.S. Fish & Wildlife intends to do at this location. And the perception will be, what, you're going to kill the animals after you're saving them and you're building these blinds so we can observe them? And I would suggest that we instead watch the wildlife through binoculars, through a camera, and not through the cites of a gun. Thank you.

MS. ERIKSON: Jacqueline Brever and Erin Hamby.

BY MS. JACQUELINE BREVER:

My name is Jacque Brever. I'm a former plutonium worker from Rocky Flats and I'm now an environmental scientist with experience in Superfund cleanups and reuse plans. I speak from personal knowledge at Rocky Flats as well as from my training in this field.

DOE admits its leaving plutonium in the soil and Fish & Wildlife Service wants to allow activities that would stir up plutonium when one little speck of plutonium can cause cancer and genetic defects.

It looks like the EIS, CCP describes some pristine open space that would be available for people to romp around in rather than a former nuclear weapons facility about to become a National Wildlife Refuge.

Therefore, I want to register my opposition to your statutory mandates and your compatibility

determination.

The entire site is contaminated. There is such a thing as informed consent. Not only do I oppose public access at Rocky Flats, I think that if public access is allowed, then people should be required to sign informed consent statements prior to entering the property. I think hunters should sign informed consent documents before they are allowed to bring home the venison, so to speak, and allow their families to eat the contaminated meat.

Inhalation and ingestion of radioactive materials causes cancer and many other adverse health effects. The plutonium left in the ground at Rocky Flats will remain dangerous for a quarter million years. Can you guarantee that Rocky Flats will remain a National Wildlife Refuge with institutional control for a quarter million years?

There is a first time for everything, such as turning a nuclear weapons facility into a National Wildlife Refuge with a priority recreational access. There may be a first time for turning a National Wildlife Refuge into a housing development. The cleanup standards were set to be protected only over of wildlife refuge worker, not a family living at Rocky Flats, drinking the water, working the ground and perhaps to grow food for the animals.

DOE admits that Rocky Flats cleanup is to be

used as a prototype for cleanup of the other properties in the nuclear weapons complex. DOE also admits that the cleanup at Rocky Flats is not as protective of human health as it could be.

I don't think we should be presented with only the options of whether to choose between hunting or horseback riding at Rocky Flats, I think the public should be allowed to choose whether or not to have public access at all at an inadequately cleaned nuclear facility. Just clean it up, fence it off and keep Rocky Flats closed.

MS. ERIKSON: Erin Hamby and then Iggy Litaor.

BY MS. ERIN HAMBY:

My name is Erin Hamby and I'm with the Rocky Mountain Peace and Justice Center, a community organization dedicated to the principles of nonviolence. We support a plan that would deny public access and recreation at the Rocky Flats National Wildlife Refuge. We support a management plan that focuses on research.

The site could be used in a positive way to develop new and more effective remediation technologies. Genetic studies could also be encouraged to collect data on the plutonium body burning of wildlife on the site and on the basis of which extrapolations can be made to the genetic effects on wildlife and potential effects on humans at or

near the site.

We believe that the refuge managed with ecological restoration, research and human health and safety all in mind, can and would satisfy the mission and purpose of the Rocky Flats National Wildlife Refuge as well as the missions and goals of the National Wildlife Refuge system.

These same mission statements and goals can also be set aside without allowing public access or recreation. Of the alternatives presented by the U.S. Fish & Wildlife Service, the only one acceptable to the Peace and Justice Center is Alternative C, though we would prefer the elimination of the single trail and overlook.

We are disappointed that Fish & Wildlife refuses to consider issues surrounding the level of cleanup at the site. It is understood that Fish & Wildlife have no control over cleanup levels or amounts, but you do have control over the amount of public access allowed at Rocky Flats.

With known contaminants being left behind, it is irresponsible to manage the site as if they were not there at all.

The Department of Energy retained industrial zone, the most dangerous part of the site, is within the boundary of the refuge, like the hole of a donut. With the seamless preserve, this hole becomes indistinguishable from

the rest of the site, which is unacceptable.

Fish & Wildlife has a responsibility to the public to plan and act with respect to known contaminants contained within the boundaries of the planned Rocky Flats National Wildlife Refuge. Thank you.

MS. ERIKSON: Judith Mohling and Iggy Litaor.

BY MS. JUDITH MOHLING:

I'm Judith Mohling and I'm Colorado born and bred and I think that hiking through tall grass prairie is among life's loveliest experiences that I can think of. Absolutely rich with wildlife and new beauty with every step. If only we were here 60 years ago and that the land was going to be yours to manage and you had these wonderful alternatives and that beautiful Draft EIS, before Rocky Flats became contaminated from the manufacturer of plutonium pits, it would be wonderful.

The Draft is just beautiful, the ideas are thoughtful. The photographs are compelling and make me think of wearing protective clothing and a face mask when hiking on the trail if they come to pass. However, all of my education about Rocky Flats tells me that no one knows how contaminated the site really is. All the accidents and fires have left their powdery contaminants. It is known that there were nighttime burns of waste in unknown spots.

The DOE is bequeathing to your management

land that has never been fully characterized. No one has gone yard by yard, square yard by square yard to figure out what's there.

In the Draft EIS, on the first page in the summary under refuge significance, you say that congress identified several significant qualities about Rocky Flats. And the first one is the majority of the site has generally remained undisturbed since its acquisition by the government, and maybe congress thinks that, but it's just not so. It's been disturbed for 50 years, if only by a gentle sifting of plutonium ash, plus all of the other contaminants that have been dribbled onto it.

Instead Rocky Flats needs to be closed to the public for a century or two. The plants and animals, the air, water and soil scrutinized and monitored for contamination effects and scientists in many fields for the next 200 years need to apply their knowledge and skills to that lovely land to create technologies even beyond what we now know, to bring about the lowest possible levels of contamination for all of the generations to come which F&W is deeply involved in.

Is there room for negotiating yet another alternative with you that includes what I've just been talking about, plus careful remediation and environmental care and a comprehensive museum that traces the entire

history of Rocky Flats, including the point of view of peace activists and cleanup activists? If that isn't possible, then I vote for Alternative C because it comes closer, although I don't understand why the Lindsay Ranch has to be obliterated. Thank you very much for this opportunity.

MS. ERIKSON: Ron Hellbusch and Mike Fenerty.

BY MR. RON HELLBUSCH:

My name is Ron Hellbusch. I'm director of Public Works and Utilities with the City of Westminster. Just want to make some general comments regarding the land use proposed as a wildlife refuge. Westminster City Council strongly supports the National Wildlife Refuge use as a land use for this particular site.

The cities of Westminster and Northglenn and Thornton utilize the Standley Lake water supply downstream from the site for its water supply for those three communities, and generally agree that the nondevelopment wildlife refuge used for that site is compatible with the water supply concerns the cities have collectively with the surrounding open space that the City of Westminster manages and the trail system.

Our city council and staff members have been active since 1990 with DOE and the various health agencies in the cleanup process and are equally involved with the

Rocky Flats Coalition, Local Governments and the planning process with the Fish & Wildlife Service.

City council will have an official briefing by the Fish & Wildlife staff in April. Following that briefing, city council will issue comments relative to the specific alternatives. But the City supports this particular type of land use, nondevelopmental land use for this particular site and the City appreciates the openness and the cooperation Fish & Wildlife has extended to the cities.

MS. ERIKSON: Mike Fenerty and then Anne Fenerty.

BY MR. MIKE FENERTY:

Mike Fenerty. I object to the use of this site, the alternative of opening up the site at all and feel it should be closed off as most of the previous speakers talked about.

To put it in perspective, I'd like you to imagine the owner of a small gas station prosecuted by the EPA for a leaking underground tank, hauled into court for refusing to do a full cleanup, places a fence, but most of the contamination is more than three feet underground. He then offers to abandon the site with the leaking tank and turn the gas tank into a wildlife refuge. The owner clearly would be laughed out of court, fined and possibly jailed.

The Rocky Flats has many square miles of contaminated compounds of plutonium, uranium, volatile chemicals and beryllium, which I have personal experience. Only the surface will be cleaned up to a supposedly safe level. Little cleanup is planned below three feet.

The government it contracted expects a bonus of hundreds of millions of dollars for early completion. Congress mandated the creation of the wildlife refuge, and open access to the public is a real possibility on this grossly contaminated site.

I find it truly amazing that many local residents and many of the local government representatives seem so unconcerned. Thank you.

MS. ERIKSON: Anne Fenerty.

BY MS. ANNE FENERTY:

I'm Anne Fenerty. I'm reading this for Professor Iggy Litaor from Tel-Hai Academic College in Galilee, Israel. An open letter to the US Fish & Wildlife Service concerning its Draft plan for the Rocky Flats National Wildlife Refuge.

I served as a senior soil scientist for EG&G Rocky Flats from 1990 to 1995 studying the fate and transport of actinides in the soil environs of RFP. This work yielded 14 publications in the leading scientific journals of my field. These studies clearly mapped the

extent of the contaminants around the defunct plutonium processing plant and investigated the processes that govern the mobility of plutonium and americium in the soil environs.

The actinides in the soil environs of RFP resulted from accidents such as the '57 and '69 fires and poor management of an internal waste site locally known as the 903 Pad. Most of the actinides were transported across the landscape by wind. Once the contaminants were deposited on the soil, their mobility was greatly reduced, unless the topsoil is disturbed and dust is generated, hence, any activity that may generate dust in the areas east, southeast and northeast of RFP should be avoided. Other potential transport mechanisms that were investigated included runoff and groundwater flow.

Under normal and selected simulated conditions, the actinides are stable and will not travel significant distances to groundwater and/or to streams. However, under the somewhat unusual climatological conditions experienced in the spring of '95, we observed significant actinides movement down the soil profile and across the soil landscape. In particular, the runoff generated during the May 17, 1995 rainstorm yielded at least 10 millicuries, which is 10 billion picocuries, of plutonium that traveled more than 100 meters down slope. Increased

levels of plutonium and americium were even observed in Woman Creek. Once the results became known, DOE promptly terminated the project using the convenient pretext of the massive layoffs that were administrated by Kaiser-Hill during this period. And I must say that the capture of this rainfall event in the soil and on the surface was my best research to date using a highly sophisticated advanced soil monitoring system that was installed in the soil and on the surface specifically designed to capture such an unusual event.

The results of this work were never published because Kaiser-Hill and DOE refused to give me crucial geological data without which I could not finish the groundwater simulations and mass flow calculations.

The fate and transport of actinides in the soil environment of Rocky Flats is still an open question. During my tenure with Rocky Flats, I collected more than 700 surficial soil samples and excavated more than 45 deep soil pits in the buffer zone and beyond. It was a common occurrence that my personal protection equipment was found hot by the end of the day and was discarded into the hot contaminated bin.

On the basis of my personal knowledge and experience, I strongly recommend that the buffer zone around RFP highly limited to public use. I'm in favor of

Alternative C that allows for ecological restoration, environmental studies and permits limited and supervised access to the public, mainly in the Rock Creek drainage.

MR. HUGHES: That completes those who signed up. Now, anyone who has not signed up before and is interested in doing so, you have the opportunity to take three minutes. When you come to the front, if you can just say your name.

BY MR. JOHN GEAZENTANNER:

My name is John Geazentanner and I just wanted to say that I'm in favor of Alternative B mostly. I'm assuming that it is going to be open to public access. I wouldn't mind if it was closed off, like a lot of people have been saying, but assuming that it is, I'm mostly in favor of B with a few exceptions.

The Service identified like about 2,460 acres of habitat for prairie dogs, but B is proposing to limit them to 750 acres. And as far as I can tell from the plan, that was just because of a staffing issue, that it would be too hard to keep them under control if they got close to the maximum or something like that. But so I wonder if that's not fair for the prairie dogs. I don't know.

I wish that the alternative would consider allowing relocations from off site. That's allowed in D and I don't know why it's not in B. There's a plague issue, but

I think that would be screened for easily enough.

I understand it would allow -- consider allowing locations from off site of B and also with hunting. I agree with the woman who spoke earlier, if it is necessary to environmental degradation from over-grazing, then I think they should use professionals and not children. I don't think youth and disabled people need more opportunities to shoot things, but I don't think that's compatible with the mission of the refuge. I just -- and it's not just really a refuge if you're not being shot at or if you are being shot at.

And I also question about the off-trail use in certain portions of the refuge, because it -- maybe it's just too different for me, because all the open space, you always have to stay on the trail and it prevents erosion and damaging plant life and stuff like that, and it said it would be minimized because it would only be in the winter. But given the number of people that are expecting to use the refuge, it seems to me there would be a lot of people walking around trampling things. And I would hope that at least the refuge does just fine, but there's a lot of damage being caused, that they would reconsider that. So I guess that's about all I've got.

MR. HUGHES: Anyone else who wants to take that opportunity for three minutes? We have some time left

between now and 8:30 and what that gives us the opportunity to do is first give the floor to Dean and then to open up the floor for some questions and answers.

Not knowing how many questions will come, many of you may have come to ask a question, what we're going to do is just write them down. So just lob the questions out, we'll write them down and then we'll ask Dean the ones that are relevant to the CCP and EIS.

MR. RUNDLE: As I said earlier, My name is Dean Rundle. I'm the refuge manager for the Rocky Flats project. And first I want to thank everyone for coming tonight. This is a great turnout and I really appreciate the interest so many people have in the planning process and the comments you made earlier.

There's been a lot of stuff in the newspapers lately about Rocky Flats. We're getting a lot of communications from the public and there's some people, perhaps some of you are concerned or perhaps frustrated about the scope of our plan and the legal process and I wanted to take a few minutes to address that issue.

We have said from the beginning of this process that the cleanup of Rocky Flats is outside the scope of our plan, that is true. In the end, as Laurie mentioned earlier, it will be a record decision signed by our regional director that will set this plan and get it approved. He

doesn't have the authority to effect cleanup issues and neither do I.

Very clearly, the cleanup of Rocky Flats is the responsibility of the Department of Energy with oversight from the Environmental Protection Agency and the Colorado Health Department. And that is as it should be and that should make you happy. Because cleaning up these sites like this or making nuclear weapons is not a core business of the United States Fish & Wildlife Service, managing National Wildlife Refuges is part of our core business.

One of the issues that we're facing here is this time line. This is not a typical time line for a doing CCP. It's very unusual for us to do a Comprehensive Conservation Plan for a piece of property that we have not already acquired. We're here at this phase in this plan because of a special law that was passed and statutory requirements passed by congress that we complete this plan by December of 2004. There are some other important things to know in that legislation.

Number one is that cleanup always trumps refuge activities. We're being required to prepare this plan before all the cleanup decisions are made, before institutional control plans are approved, before there are remedial investigations and feasibility studies conducted, and before we've even done some of the things we normally do

like our Level 3 contaminant survey.

We are basing this plan, presenting these alternatives to you with the pretext and understanding that there are decisions that are made in a public process that we have input to and all of you have input to and the site will be certified by the Environmental Protection Agency prior to transfer. The plan we have presented tonight is the plan we would implement following that cleanup and certification. And it's been talked about that this could happen in 2006 to 2008 time frame. If the certification is not done until 2012, we won't get this land, we won't implement that plan until such time that that becomes effective.

Now, because of all these other things going on, that may change things. For example, we have proposed this hunting program, we have collected tissue samples from 26 deer last year. Right now they are on their way to a laboratory to be analyzed for radionuclide contamination. If it comes back that those deer would not be safe to eat, that's definitely going to impact what we find here.

The characterization of potential contamination in lands that are to be transferred to the Service or proposed to be transferred is not yet complete. We have asked to, along with the EPA and State and DOE, have agreed to take significant additional sampling of the soils

in the buffer zone. I think they're going to grab 500-something more locations. Is that going on right now, Mark?

MR. SATTELBERG: Yes.

MR. RUNDLE: This plan is written with the knowledge we have today. It we get different knowledge that there is in fact dangerous levels of contamination in these lands that may be transferred, that obviously is going to affect what ideally has to do with cleanup and how it will affect the refuge.

So this is going to be an ongoing discussion. I would encourage all of you to participate with the RFCA parties who will make the decisions about the cleanup and that process. There are appropriate places to do that that are not within the scope of our responsibilities or with the CCP.

I wish that this many people would come to the Citizen's Advisory Board meetings where last month the DOE was there to present their status reports, and I think there was two people there. So I encourage you to participate through the Citizen's Advisory Board which meets monthly and is a formal advisory committee through the Department of Energy. You can also take things directly to DOE, EPA, State or to, if you live in one of the Rocky Flats communities, to your local elected officials who represent

you at the Rocky Flats Coalition of Local Governments. So there are, I think, good venues for these things to be raised to the appropriate decision makers.

There have been several statements tonight about, and we perceive, about the dangerous nature of the entire site. And we certainly want to consider that. What we know today -- my understanding is, and from contaminants folks reviewing the data, that we have no scientific data right now that indicates that there's dangerous levels of contaminants in the lands outside what DOE has proposed to retain here. There is some, there's very little level.

I don't believe that EPA or the CCP is actually requiring any remediation of any sites that are proposed to transfer to the refuge. Is that correct, Mark?

MR. SATTELBERG: That's correct.

MR. RUNDLE: So there's nothing in the lands that this plan would apply to that has levels of contaminants that we know today that are high enough to require a cleanup to be protective of the most exposed person, which is the refuge board.

So the last thing I'll say is that I was happy to learn today that DOE has decided to sponsor an additional public workshop to address some of the questions that you have that have been directed to us in that they are better prepared to answer and respond to. I'm sure they'll

make public notification that I understand will be held at 3:00 in the afternoon on April 14th at Building 60.

And that's my statement I need to make. And we'll try to answer questions that runs within the scope of our process. Thank you.

MR. HUGHES: So if you have questions, we'll write them down and we will get a cluster of them.

MR. RUNDLE: There were some questions during the comments.

Q. I have two questions. Is the 6,200 acres, does that include any of the part that DOE is retaining, or in other words, how many acres are you working with?

MR. RUNDLE: 6,238 acres is the extent of the federal ownership on the site. Everything. I don't have the exact measurement of this. And the shape of this may change slightly based on these cleanup decisions that haven't been made.

I believe the DOE is projecting now is about 1200. I think that's about right, about 1200 acres. And of course this includes terminal ponds, that's where the landfill that they're going to have to keep, and I believe this is a 7 picocurie line that goes out here towards Indiana from the 903 Pad.

The current data, most all the rest of this, is 5 or less from the data that's been collected so far.

Q. And my second question, are you aware of the projected growth of homes? It would be 2,000 homes that the builders are hoping to get directly south of the plant.

MR. RUNDLE: We're anticipating that the southern boundary will develop into a southern interface

boundary with housing or some other type of commercial development. We'll open public land up here, mostly public land to the west and to the east, but we are aware that there are plan developments on the southern boundary.

Q. You said the radiation is low. How low is low? How many picocuries or curies is it putting out?

MR. RUNDLE: The most I've seen is, this is a 7 line, 7 picocuries the DOE will retain and everything outside that is 5 or less. But we are taking additional samples.

Q. What did they say was acceptable for humans to be in contact with? How much?

MR. RUNDLE: Well, we're getting into stuff that you need to address to the health physicists or the State and I'm not qualified to answer that. But I can tell you this, that ideally we will retain all the properties where institutional controls will be required in order to be protected.

Like I said, our plan is based on the idea that this cleanup will be certified and that EPA is not going to certify if it's not safe for people to do the things that we're proposing.

We did have a question in one community, a couple of individuals suggested relocating prairie dogs on the site. We're not proposing to do that for a couple of

reasons. Number one, prairie dogs are an animal, one of the burrowing animals that would have the potential to impact the maintenance of the refuge because we're going to have stuff left subsurface in here. So we don't want to exacerbate any issues we may have with prairie dogs leaving the refuge.

The other issue is that there's a biological issue with prairie dog conservation. The National Wildlife Refuge does not serve as dumping grounds for unwanted wildlife. And we know that's a difficulty for many of the municipalities around here. I don't think accepting these animals into the refuge system assists jurisdictions and developers and the conservation community in resolving that issue and leaving the prairie dog conservation throughout the lands.

Q. What's the status of the MOU? And my concern is mineral rights. I know you said you're adamant, you don't want land transferred to you that has mineral rights, but if that does happen, will that reopen the CCP to deal with the environmental impact?

MR. RUNDLE: First of all, the statute also requires us to do the CCP. We write the MOU with the Department of Energy over what land is to be transferred. It's my understanding that the assistant secretary is not happy with some of the language, we're going to have to come

back to it and I don't know where that's at right now.

The mineral rights are preserved by the statute outside of the property lines that existed at the time that the law was passed or preserved. Our position is that we don't want to accept -- on these maps indicates areas that are currently permitted by the State of Colorado and Jefferson County for gravel mines. We're not necessarily opposed to the transfer of, why isn't that still outstanding, private mineral rights such as coal, gas or oil, we do not want to bring lands into the refuge system, put up boundary signs and then have that destroyed by strip mines. That's an unresolved issue at this point.

Q. Two simple questions. One is, as a user of an area, which I have some questions about wanting to go there, is there a method for me to monitor the amount of dust, stuff in my bicycle tires that I might be bringing home to my family? It's one thing to clean up a space such as this, but to clean up, you know, once the stuff goes into the dryer it affects all my clothes and everything else.

So I guess the question is, is there a means of measuring these picocuries or energy that this stuff is emitting so that I, in my own mind, can be safe that I'm below some threshold? Like when you go on site, are you wearing a tag?

MR. RUNDLE: No.

Q. How do you know -- because a worker who works out there, they would be wearing a tag.

MR. RUNDLE: Well, the way we ask the question about medical -- like at the arsenal they are on a medical monitoring program where our employees are not on a medical monitoring program at Rocky Flats. And I think the only people who are are actually the people that work in the highly contaminated plutonium buildings.

And again, to answer your question, I don't know. I'm assuming there's technology to do that. I don't know how much it costs or where to get it, but if there's not a certification that it's safe for these uses, there's not going to be a refuge and we're not going to have the trails open either.

I think we talk about in the plan, we do have a safety goal. I think that we do want to tell people with signage and materials about the history of the site and people know what the site used to be. We haven't got down -- that's a real step-down plan when we get into writing the text with signs and things like that, but whether you use the signs or not, of course will be your own choice. But we're basing this on the fact that it will be clean and safe to use with what we're allowing.

Q. You mentioned that there's contaminants that you tested for. I was wondering what those were, the

chemicals exactly, and how deep was your testing?

MR. RUNDLE: That's really outside the scope of the plan. I think that the most contaminants of concern are what people refer to as radionuclides, mostly plutonium, and the exact extent of the testing, I would engage you to go to DOE's open house and ask them that question.

Q. Mine is kind of two part, but the CCP, EIS, when was that published in the Federal Register and what was wrong with it that it got -- the date got pushed farther out?

MR. RUNDLE: Laurie, what was the initial date it was published?

MS. SHANNON: It was published on February 19th and the glitch was that it got published in the Federal Register, but it didn't get published by the EPA. And the EPA's action starts the clock on the public comment period. So it's been published. We expect the EPA notice to go in on Friday, so it's actually a benefit to the public because it is extended to April 6th.

MR. RUNDLE: Any comments submitted immediately on February 19th, in that initial publication, are going to be received and considered. We're not going to shorten it on the front end that way.

Q. Two quick questions. One, if you could explain what a Level 3 contaminant survey is, and then the

second is, what actions will Fish & Wildlife take in order to prevent the seasonal off-trail hiking from going into the retained area? I know that DOE will have some responsibility for the institutional control, but what will Fish & Wildlife do?

MR. RUNDLE: Good question. First question was what was a Level 3 contaminant survey. Department of Interior policy requires that we do a contaminant survey prior to acquisition of any lands into the National Wildlife Refuge system. So we do this when you farm land or any other lands that come into the system.

A Level 3 survey is the highest level and actually involves a plan that includes analytical type of testing of either byota or soils and water by our contaminants biologist. Mark Sattelberg in the back will be the design lead on that. Level 1 survey is the refuge manager walks around, looks for leaking drums and things like that.

So part of the Level 3 we are doing is the testing of these deer tissue and organ samples. And there will be some additional biotesting and it will probably be later this summer when that's taken care of. It gives us an opportunity that if there are things we are interested in, we're going to be looking at that stuff.

Q. Are you testing deer only?

MR. RUNDLE: Right now we've got the deer samples. 26 animals were harvest -- sorry, I jumped out of order. Chronic waste and disease testing, last year we took five tissue samples from each of those deer, and Mark, I don't know what your plans are for other biotesting.

MR. SATTELBERG: We haven't really developed areas. Right now we're looking at areas of potential concern that DOE may not have looked at before or have looked at and not sampled that we think should be sampled. So we're in the process of reviewing all the historical data, looking at areal photographs and things like that.

MR. RUNDLE: I didn't get to her second question, which was how do we control people --

Q. With the off-trail hiking, seasonal off-trail hiking.

MR. RUNDLE: There was kind of a question during testimony as to why we would have this off-trail use allowed. And that goes back to the public uses of the refuge, which include things like wildlife photography and wildlife observation. So if you're going to invite people or allow serious bird-watching, it makes it tough to restrict that person who wants to take a picture of a wildflower or get to a good view on that small bird to always just stay on the trail. And we will have to watch how much of that stuff occurs.

Every refuge that I'm aware of, and I've worked a lot of them, has closed areas. Areas that are closed for wildlife sanctuary purposes or may be closed to protect cultural resources or areas around our facilities and things like that. We control that through signage, brochures, regulations and active law enforcement. We have, I think, a pretty good deal of experience doing this.

I can give you what I think is a good example. The last refuge I was at in Southern California, the Tijuana Slew Refuge, had several critically listed endangered species, had very hazardous areas, the waters at the Tijuana Estuary presented a significant biohazard to human contact because of effluent coming off the Mexican side. Our biologists had to be inoculated for hepatitis and typhus and all types of diseases, but still we were still able to have public access on trails for people to do bird-watching and things like that down there. And we'd control that with signs and law enforcement, I think very effectively.

We did not have problems with people passing signs and swimming in the river. So that's what we will do.

Q. Dean, as a lot of people, I'm also concerned about the fact that Fish & Wildlife will not address the contamination on the site and that the Draft EIS speaks

about the pristine site, that it could be on the Southern California side rather than a nuclear weapons plant. And you are the lead agency under the NEPA law, and as a lead agency under the NEPA law, you do have to look at the effects of this particular action, the CCP on the human environment. In other words, you do have some responsibilities. And I do realize that this is something that Fish & Wildlife wanted to acquire, like so many of the beautiful wildlife refuges, but it is still, under the law, a requirement that you do look at public safety.

This is just a comment I would like to make. And then I have a couple of questions. I'm very pleased that you're finally analyzing the deer that you have in your freezer. I would like to know what you're going to analyze it for, which part of the tissue. The muscle is the part that people would eat, if they will be hunting on the site. I know the gonads and other parts have been analyzed. Are you going to analyze the muscle tissue?

MR. RUNDLE: Mark, you wrote the specs on that, you want to answer that question.

MR. SATTELBERG: The five tissues that we collected were the lung, liver, kidney, muscle and bone that we're looking at, particularly the muscle and the liver for human consumption. We're looking at the bone because that's typically where the plutonium will end up, and also

the lung because of inhalation. So see what kind of inhalation loads they're getting and kidneys will also accumulate americium and uranium.

Q. And the last question I have for you, if you look at the DOE maintaining the area which you call the blob, which just looking at it, I would say it's within one fourth to one third of the total area, and I'm really concerned about the fact that due to that fact that we don't have an MOU, we do not know what's happening in this large area of your refuge. We don't know about signs. There is talk about a seamless refuge.

What is there to prevent children from one of the trails south of that getting into the equipment, water treatment, this type of thing?

MR. RUNDLE: I think the answer to that is that the institutional control plan is not complete yet and we all need to engage the parties with a robust discussion of what those institutional controls will be on that site.

So that will not be our decision. I can tell you that for now we definitely want that site to be marked -- boundaries to be marked as permanently as possible.

Q. But you keep talking about a seamless refuge.

MR. RUNDLE: I said we need it to be marked so that we and the public know where the two boundaries are

clearly. And if it's safe, we would prefer that that boundary not preclude the movement of wildlife across the site. So I think that's a discussion about what types of signage and monuments or markers or fencing will be required there. And I think that is something that all of us need to engage the RFCA parties about that area.

We do know in that area there's going to be residual contamination left. It's a concern to us, it's a concern to you. And I think personally, I'm not too concerned that the surface of the refuge is going to be unsafe for us to work on or for you to walk on when the cleanup is done. But 30, 40, 50 years down the road, I think long-term stewardship is what we all need to be concerned about and we all need to engage in that discussion, but it's not within the scope of this plan.

MR. HUGHES: I've got other questions so I want to move on.

Q. I would like to have one follow-up, and that is, the prairie dogs do go down seven feet, isn't that right?

MR. RUNDLE: Yes.

MR. TRENHOLME: Dean, you've used the term RFCA.

MR. RUNDLE: I'm sorry. The cleanup is being conducted under an agreement between the Department of

Energy, the EPA and the State of Colorado that's call the Rocky Flats Cleanup Agreement. And the RFCA parties, the decision makers are the DOE, the EPA and the State of Colorado.

Q. I live in Boulder across the street from the National Institute of Standard Technology and we've had for years, they've kind of had an open flow-through policy of access through that area and now we're looking at a fence opportunity of 8-foot-high metal stakes every 12 inches apart. And this appears to be a nice place to put a wall of stakes eight to ten feet high to inhibit areas -- this retained area full of contaminated ground. I'd have the kind of marker, a fence, to inhibit flow of traffic through it.

MR. HUGHES: Is the question, why isn't there a fence?

Q. Is there going to be a fence and is it going to be eight feet high?

MR. RUNDLE: I don't know how to answer that question. It's not our decision. It's not within the scope of this plan.

Q. You said it was seamless earlier.

MR. RUNDLE: We have said that we would prefer a seamless landscape that would not prohibit the movement of wildlife. Now, that's based on whether the RFCA

decision makers decides whether that's a safe thing or not. If the EPA, DOE and State Health Department say there needs to be a concrete wall with glass shards on the top of it, that trumps anything we do in that plan. And that's what will be there.

MR. HUGHES: I want to ask again that we stick to the question, because that's what this portion of the agenda is for. And I'm going to ask you to hold the preface part.

Q. I just want to have you clarify that it is the Fish & Wildlife's jurisdiction or authority to decide whether to put a fence or signs or whatever the boundary demarcation might be. The buffer.

MR. RUNDLE: No, that is not our decision, responsibility or authority to make that decision. We will provide input to those decision makers about what we think is appropriate, but that input will also come from you and many other people.

We will decide what goes around the perimeter of the property that becomes National Wildlife Refuge and all four proposals call for the maintenance of the current five-strand barbed wire stock fence that surrounds the Rocky Flats property. It will be posted with National Wildlife boundary signs that say National Wildlife Refuge boundary, all unauthorized entry prohibited. Unauthorized be the key

word.

Q. I'm curious about the criteria for hunting two weekends out of the year, low impact weapons. What is the origin of that idea? What's the reasoning behind it?

MR. RUNDLE: Okay. That's a good question. That's germane to the plan. The National Wildlife Refuge system is what we call a primary system of public lands. We're not multiple use like the forest land. The organic legislation, like the Refuge Improvement Act of '97, congress designated six priority public uses of the National Wildlife Refuge system that are all wildlife dependent. They include hunting, fishing, wildlife observation, wildlife photography, interpretation and environmental education. All these things need abundant and diverse wildlife to conduct.

We hunt on refuges for two reasons. One is to provide a wholesome outdoor recreation experience for people who want to do that, and particularly large ungulates such as deer and elk to control populations and make sure we don't have habitat damage caused by overpopulation.

Because it is a priority public use, we are mandated by that organic law to provide those priority public uses whenever they are compatible with the purposes of the refuge, meaning they don't materially detract from our ability to manage and restore ecosystems and preserve

endangered species and preserve research and preserve native flora and fauna, which is the purpose of Rocky Flats.

So we would propose that we would have limited hunting that would provide some recreational opportunities for some groups and also help us maintain deer and elk populations at a sustainable level for the habitat out there.

We are particularly concerned about not wanting to have the establishment of any resident elk population that comes down to the prairie and stays on the prairie. This is happening other places along the Front Range. There's a lot of conflict that results from that.

We hope we'll have corridors where large ungulates can move on the prairie and back up to the mountains, but we don't want to have the situation that we've got up in Loveland where we've got hundreds of elk that are moving out to suburban areas and staying there all the time. They would have the ability to greatly impact the important endangered species habitat and the rare shores of Rocky flats.

Q. Would you consider using cross-striping or something like for the DOE area so you can see through it? Because a lot of your maps have some very good data on it, but you can't see through that green blob in the middle.

MR. RUNDLE: You want to see what the habitat

types are under the blob?

Q. Right.

MR. RUNDLE: We don't know how to answer that because we don't know what the final regrade and revision plans are going to be.

Q. Somebody should know, because I think it would help people see continuity of the site.

MR. RUNDLE: So you'd like to present in the future or in the final planning, a map that would show the existing habitat out there, including the DOE retained land?

Q. It's not so much a comment as a question as to why you didn't do it that way?

MR. RUNDLE: We didn't do it that way because we tried to make it clear to the public that this plan does not apply to that retained property. We didn't want that confusion.

Q. As more information comes in from your 500 steps towards better characterization of the site and the Level 3 plan and from other sources, DOE, and if you witness that no plan is perfect, then will you blend these plans or will you come up with yet another plan? How hard and fast are these four alternatives?

MR. RUNDLE: Well, the four alternatives that we're presenting to you, we believe is -- any one of these could achieve the purposes of the refuge, the intent of

congress and the Refuge Act and missions and goals of the Refuge Act and also the requirements for safe uses and things like that.

We've proposed Alternative B. I guess we always try to practice -- it's a new word for us in refuges, but adaptive management. As new information comes forward, the safety of the sites from the contaminant level, new invasive species, we have to adjust to do those things. If we get that information after a record of decision is signed, I think we have to take a look at how much of the plan that would impact and determine whether we have to reopen that rod and come back to the public for another process or if it was a minor adjustment. It might be just a simple matter of, this is not going to work over here, we're not going to do that part. I think it depends on the extent and nature of that new data.

Q. It's not a follow-up, but it's a separate little question. It's probably easily answered, but why in Alternative C does Lindsay Ranch have to be obliterated?

MR. RUNDLE: Because that is a legitimate alternative for meeting the goals of the Act which says, preserve it in accordance with the National Historical Preservation Act. The site is not national registered eligible. It's an aesthetically pleasing site, it's pleasing to people in the local community, it's not a

historical significant site.

Also, Alternative C is, to the extent possible, returns this site to pre-settlement conditions. Pre-settlement there was no buildings on that site and there was no pond there, so that's why they were removed in that alternative.

Q. What's been presented, I've got a contaminated area, I'm going to have a contaminated area in the middle and a nice clean area around it. Now, how has Fish & Wildlife looked at how they would prevent a prairie dog or an ant or a deer or anybody else carrying this contaminated material across that line?

MR. RUNDLE: DOE is going to be responsible for probably institutional controls. We haven't signed up for any participation in institutional controls at this time. I think we do have an obligation to help protect that site from what we can and so we would not do things to encourage prairie dog movement.

There are prairie dogs on the industrial area now. We provide recommendations to DOE about their revegetation of the industrial area following demolition, we're encouraging them to use appropriate native vegetation that would discourage prairie dog colonization of the site.

And I don't know what the institutional control plan will be. I'm assuming we'll recommend

certainly that it requires regular inspection to look at burrowing animals, particularly on landfills and things like that, but we haven't signed up yet to assist DOE with those types of things in the future.

Back to the question about relocation, because we know that we don't want burrowing animals in that area, so we don't want to encourage them to expand and we also don't want prairie dogs to expand in the tall grass ecosystem where the black tail is not a native species, and could actually impact that special tall grass area on the west.

Q. How do you control the overpopulation, or is there any, of the Rocky Mountain Arsenal? And if there isn't a problem, maybe there wouldn't be a problem also at Rocky Flats.

MR. RUNDLE: The equivalent plan for the Rocky Mountain Arsenal is a CNP, but it's basically the same thing. They changed their name in '97. And that allows us to use culling, sharp shooting to control deer populations, if needed, but it also has a provision for hunting to occur after the cleanup is completed over there. That's still an Army-owned site, we expect some land to be transferred to us later this month, but we would not implement that hunting provision until later.

Q. Have you had to cull up to this point?

MR. RUNDLE: We have culled in the '90s. Recently in the last several year, the coyotes have been doing a good enough job keeping the population down.

Q. What quantity of chemicals have you found in the soil, such as carbon tetrachloride?

MR. RUNDLE: That's outside of the scope of the plan, but I'm only aware that there are some hazardous wastes in the industrial area. There's a carbon test plume that's being treated with a groundwater treatment system. It doesn't affect the land that we expect to be transferred to Fish & Wildlife Service.

Q. Would cost be a consideration in selecting one of these alternatives, like if you don't have any money you would just --

MR. RUNDLE: One guidance I gave to the plan team was let's make plans that are reasonably achievable given budget environments. We're funded by annual appropriations, like other federal agencies, and there is a funding chart and what we expect all these alternatives to cost. I think A was the cheapest, C was the most expensive, or D was the most expensive, C was the next most expensive, and the preferred alternative was the second most expensive, B. The proposed alternative would be a staff of four and would cost $16 million, approximately, over the 15 years of the plan, about a half million dollars operating budget.

MR. TRENHOLME: The decision makers --

MR. RUNDLE: The regional director.

MR. TRENHOLME: The regional director will look at the cost of all the alternatives and use that information in making their final decision.

MS. SHANNON: Just one other thing, we're required to put sort of like a caveat paragraph in the front that we need to do this planning, but by virtue of having the plan doesn't guarantee that we'll get the funding that we want.

MR. RUNDLE: The next two years will be really bad, so.

Q. How does the -- I'm curious how the process -- you said you had to come up with an alternative by December 2004?

MR. RUNDLE: The statute says we will complete this process and have an approved CCP within three years of the passage of the law, which was signed by President Bush on December 28th, 2001. So our three years expires December 28th.

Q. How do the rest of the communities weigh in? This is a public comment section now, how are the communities, their city council or how --

MR. RUNDLE: That's a good question. We had some special things we had to do because of the special law,

so we started the process in February 2002 meeting with the representative governments in the Rocky Flats Coalition of Local Governments. We had to consult with all of those seven governments, plus the cities of Thornton, Northglenn, Golden, Lafayette and Louisville with the governor's office, the Office of the Attorney General, State Health Department, EPA and Citizen's Advisory Board to develop a public planning process for Rocky Flats. That was accomplished in June of 2002.

This is the third round of public meetings we had. We had the scoping sessions in September of 2002 and we presented these alternatives from public comment last May, so this is -- and that was all to develop this Draft plan. So now we've got the Draft, we're in a public comment period. When the public comment period is over, the planning team will go back, we'll consider the info we've had, prepare final documents. At that time the CCP and EIS will be split so there will be two booklets at the end, the Comprehensive Conservation Plan and Environmental Impact Statement records. And we --

Q. Did you go to each specific government and ask them -- the city councils and ask them for their alternatives?

MR. RUNDLE: Absolutely. We made a presentation last month at the February meetings of the

Rocky Flats Coalition and Local Governments, to the Citizen's Advisory Board, and said throughout the process, we will meet with anybody at any time to discuss that. We've answered questions for presentations to optimist clubs and open space advisory boards and if you have a group that would like us to come and talk to you, we will be happy to do that.

MS. SHANNON: $16 million is Alternative D, Alternative B is $8.6 million. Dean is not usually wrong, so.

MR. RUNDLE: But I am sometimes.

Q. A while ago Anne Fenerty read Iggy Litaor's letter. Iggy Litaor was the scientist working at Rocky Flats that discovered in the spring of '95 significant movement of plutonium on the site. He had added a P.S. to his letter that Anne read a moment ago that I think is pertinent for many things.

MR. HUGHES: Have you got a question?

Q. Yes, I do. I have a comment.

MR. HUGHES: We did that part.

Q. I have a recommendation to make.

MR. HUGHES: I want to make sure we get all the questions and answers so we can finish that piece.

Q. I'll put his P.S. in the form of a question. He wondered why your maps, your color maps that

are attractive to look at didn't provide useful information regarding the actual condition of the site. And he wondered, in fact, why there are no maps showing the probability of exceedance of various plutonium concentrations which would represent thresholds at different levels.

And one could imagine, if we could web this to the comment made earlier, recommendations made earlier about informed consent, that people could see maps like those, that Iggy Litaor proposes, showing all of the buffer zones, however, less picocuries, I'd consent to my children and myself going there. I'd make that as a recommendation. The others, of course, are questions for you.

MR. RUNDLE: Well, the question I heard was why don't our maps show that right now, and the answer to that question is, like I said, they designate what they're going to retain. The land would require institutional controls to be protective. We're going on the understanding that the lands that their plan applies to would be safe, but we certainly accept that comment and we'll consider those.

Q. One thing I want to verify, you said that Alternative B, you anticipated a staff of four?

MR. RUNDLE: That's correct.

Q. And Alternative D, do you know what the staffing level is for that?

MR. RUNDLE: D was eight, C was five, A was two. And let me caveat that those are new FTEs assigned to Rocky Flats, all alternatives. Let's assume that this is part of a refuge complex, and then for example, the law enforcement support, administrative support, maintenance trade-type support, heavy equipment operation is a shared possible staff of Rocky Mountain Arsenal, so there would be other people within my complex that would help at Rocky Flats, but there will be four new personnel positions.

Q. So they would be U.S. Fish & Wildlife people exclusively for this site and they would be able to draw on resources, regional resources, as an example?

MR. RUNDLE: At my level they draw within my refuge complex, but we do help each other out quite a bit. And that does not also include FDE personnel, that would be funded through the special fire program. Those firefighter types would be additional to that.

Q. According to all the input to date, what is the ratio of people that want open access, as in Alternative D, as to the people that never want a human to step foot on the site?

MS. SHANNON: We have tried to get away from a vote. Now, it's not 500 people versus 20 people, because that's not what NEPA is about. It's really looking at the whole issue, you know, all the issues involved. But I will

say that to date we have had more people who have supported the alternatives that have public use associated than not.

Q. People on either side of me are asking how do you get this book. Did you bring extra ones tonight?

MS. SHANNON: If you want a copy of the Draft, why don't you leave your name with us and we'll send you a copy or you can download it off the web if you want to see it immediately. Or if you want to wait a few days, I can mail a copy to you.

Q. Can I suggest you bring some to the other meetings, at least a few?

MS. SHANNON: What we would do, if people want to have a hard copy, please give us your name and address and we'll send you one over. We also have CDs available so if someone wants a CD. The thing is this is a pretty complex document, not everybody wants to read this. So for some people, it's too much material, other people it's not enough. So we'll respond in whatever you need.

Q. I think it's just been so well done and with the index and everything, people, because they could ask better questions and know more than just the superficial part.

MR. RUNDLE: If folks want one, we'll send them to you as long as they last. There's also copies in this library and the public libraries in Arvada, Broomfield

and Boulder; is that correct?

MS. SHANNON: All the main ones, yes.

MR. RUNDLE: So they are available in libraries.

MS. SHANNON: Lakewood and Golden too.

Q. You said that it's safe. Now, will you re-test occasionally? Will you re-test for radiation because it will spread with wind and stuff?

MR. RUNDLE: We're not proposing to do that here. I think that's something you need to bring up with the RFCA parties. When it comes to long-term stewardship, I think long-term stewardship is logical. Really the most critical thing to all of us is, is that stuff going to stay for a long time.

Q. I thank you for your fair and openness and exchange of information, but the fact that you provide us four options implies that somebody somewhere -- that somebody is going to make a choice or vote.

MR. RUNDLE: That's correct. Well, it won't be a vote. That record of decision that the regional director will sign will say that this is the plan.

Q. So he'll be the one to pick from these four?

MR. RUNDLE: He will pick a final decision. It may be one of the ones that's up there, it may be one of the ones that's up there now with modifications based on

what we heard during this public process. I can tell you that the planning team, I'll make a recommendation. That doesn't mean he has to accept it, but I think what the planning team brings forward will have a significant impact.

MR. TRENHOLME: And the record of decision will describe the basis for the decision.

MS. SHANNON: Just so you know, the order thing is the next thing that will happen after we get -- the public comment period closes and we decide what we're going to do. We will prepare the final EIS and then that will be mailed out. And it's a 30-day period before it can become -- you can implement it or whatever.

MR. TRENHOLME: 30 days between the final EIS and the decision.

MS. SHANNON: Once we issue the record of decision, then we'll prepare the final Comprehensive Conservation Plan. So the CCP will be the last document to come out.

MR. RUNDLE: And this particular plan we also have to make a special report to congress, which you don't normally have to do, so that will come out also.

Q. I was just wondering if you could clarify, on the public comments, were these individually sent in or were they sent in groups? Like who is in the most support of recent --

MR. RUNDLE: What I would recommend, do we have extra copies of the scoping report?

MS. SHANNON: Yes.

MR. RUNDLE: I would encourage you to go to that website and pull down the scope and reports. It's a much shorter document. The scope of the report details the comments that we got at our public scoping meetings, which were diverse, and represent everything that's been stated here tonight. And it also summerizes all the written comments that were received either by letter or by E-mail and does identify the individuals, organizations or governmental agencies that made those written comments. And I think that will be a good synopsis for you to kind of see what we got in the last -- we recorded over 1800 comments and that doesn't mean that it was 1800 letters, but we might have got one letter and picked out of that six or eight comments. Whether they were numbered or not, that could have been several people who also said the same thing that was recorded on a tear sheet at one of the public scoping meetings and that was a comment.

So that's how -- but I would encourage you to look at that scoping report for that type of information.

MR. TRENHOLME: You might mention, we'll do something similar in the final EIS. We're going to go through all the public comments we got and respond to all

the subsequent comments that were received and they'll be either responded to categorically or we'll respond to the letters from agencies and organizations individually.

Q. How heavily are those weighed, like in your decision making process?

MR. RUNDLE: Well, I think they're very important.

Q. I know like other situations where public comments didn't necessarily go to how the decision weighs.

MR. RUNDLE: It's not a vote. The law requires our agency to make a decision about the CCP and that is not a vote because that's not the way the laws are set up. But I think that the public comments are very important to us. Everything that we hear. Just because a recommendation is made, if that's not the decision, that does not mean that that comment wasn't heard and considered.

And we clearly made changes to our alternatives from when we brought those alternatives to the public, and Laurie went over some of those. If you look, there's one map in there that shows areas where we've proposed several alternatives where we can use grazing or prescribed fire as a management technique and designated an area where we say we would not do that. And part of that is that strip along Indiana because we know that's where 903 Plume was, we know there's a public concern about, or

perception for those types of activities to stir up residual contamination. And part of the reason that's not drawn in there is because of the comments we had from the public about that particular issue.

MR. HUGHES: We've also gotten feedback on our side, on the process side, about our ability to be fair to everyone, give everyone the same amount of time, for example, to comment. That's why the three minutes tonight and why I'm asking people not to add comments, because people are looking at whether or not everyone has exactly the same opportunity to comment.

So the three minutes, we didn't just pick that out of a hat, we wanted to give everyone as equal an opportunity as we can. And that's why we made that rule.

MS. SHANNON: And we have to look across four public meetings. So even though this is a small, relatively small group tonight, if we end up -- we don't know if 200 people are going to show up or 50 people, so if we end up with a situation where we have 200 people show up, we still need to give everybody three minutes.

MR. RUNDLE: I will say this, that the manner that the comments are made does not make an impact on the effect or how seriously we'll take them. Clearly verbal comments that we hear tonight are taken seriously, someone sends us an E-mail tomorrow, their comments will be given

the same consideration.

Q. Now I'm curious. You said the regional director will make the final decision?

MR. RUNDLE: That's correct.

Q. How much impact will he have or input or pressure from politicians, from congress, or are those obstacles or pressures, are they weighted evenly with what the public wants versus what a politician or a government official wants?

MR. RUNDLE: We have a beautiful system that separates executive branch and the legislative branch. We're here because congress passed a law and we're the executive branch and we have to execute that law. Congress doesn't have to go through NEPA to pass a law, they just make it a law and then that's it. NEPA applies to decisions of the executive branch.

In this case, statute, regulation and policy delegate the authority to sign this record decision to the regional director. We brief him at each step along the way. Before this document was released, it had to be approved for release by the director's office of the Fish & Wildlife Service and I can assure you that there are political appointees within the Department of Interior that review this before it goes out to the public.

And I can tell you, we maintain a regular

dialogue with the elected representatives as well in terms of your congressional leaders, so anything is possible. But I don't anticipate that there will be unusual political pressure to go one way or the other on this.

Congress spoke pretty clearly about what they expected when they passed this statute, said this will be a refuge, you will manage these things. Wildlife dependent public uses will be the priority public uses of the site. So I think the intent of congress was pretty clear.

Q. Are you going to reopen for comments after you get the research back on your soil samplings and game samplings? Because I think a lot of the reasons -- people are uneducated and that's one reason that they're not able to comment. Are you going to make those available to the public?

MR. RUNDLE: Well, any documents that we have are public records. And if they're not unreleaseable because of privacy concerns, we'd certainly share those with folks, the results. And again, I'd have to go back and say how that will effect -- what we're doing now will effect on the extent of that new information. But there is no further public comment period on this plan after April 26th.

Q. Could I make kind of an announcement, something that's coming up? You kind of referred to it a second ago. There's going to be a series of meetings on

comprehensive risk assessment and this is actually the document that's much more important than what we're hearing tonight as far as contamination is concerned. This is the report that's going to have all of that material in it, all the maps that show the contamination, all of the results of the tests and everything else. This is something in the public process, and it's been attended by four or five people, a lot of the meetings. It would be fantastic to have a group like this at one of those meetings. So I just urge people if they're interested in that, that might be a better venue.

MR. RUNDLE: Thank you.

MR. HUGHES: I want to thank you all for coming. I know the planning team greatly appreciates your efforts.

. . . WHEREUPON, the public hearing was concluded at 8:20 p.m.

1 CERTIFICATE OF DEPOSITION OFFICER

2 STATE OF COLORADO)
)
3 COUNTY OF DENVER)

4

5 I, SANDRA A. SMITH, Certified Shorthand Reporter
and Notary Public, State of Colorado, certify that said
6 public hearing was stenographically reported by me at the
time and place heretofore set forth, and was reduced to
7 typewritten form under my supervision as per the foregoing;

8 That the foregoing is a true and correct
transcript of my shorthand notes then and there taken;
9
That I am not a party to nor in any way connected
10 with any of the parties to said action nor otherwise
interested in the outcome of this action.
11
My commission expires May 23, 2005.
12 IN WITNESS WHEREOF, I have affixed my
signature and seal this 22nd day of March, 2004.
13

14

15 _____
Sandra A. Smith
16 BOVERIE, JACKSON, BUSBY & LA FERA
1735 East 16th Avenue
17 Denver, Colorado 80218
303-329-8618
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PUBLIC HEARING ON

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

AND COMPREHENSIVE CONSERVATION PLAN

FOR THE ROCKY FLATS NATIONAL WILDLIFE REFUGE

Thursday, March 11, 2004
6:30 p.m.

at
East Recreation Center
5660 Sioux Drive
Boulder, Colorado

Panel Members: Richard Trenholme
Mike Hughes
Laurie Shannon
Dean Rundle
Jody Erikson

TAKEN BY: SANDRA A. SMITH, CSR

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MR. HUGHES: If I could ask everybody to take a seat, we'll get started. For those of you who are just coming in, we want to make sure that you get signed up and we'll get started as soon as you sign up.

I want to thank all of you for coming tonight and welcome you to our formal public hearing on the Draft Environmental Impact Statement and Draft Comprehensive Conservation Plan for the Rocky Flats National Wildlife Refuge.

My name is Mike Hughes and I'm part of the planning team and I want to say just a couple of words about how tonight will proceed. We have agendas here at the door, so as you're coming in, feel free to grab one, follow along and I'll explain a little bit about how tonight is going to go.

We got a lot of feedback about previous public meetings and what we ought to do in terms of this one. Many people say that what we needed was what NEPA in fact tells us we ought to do, which is a formal public hearing. We have a court reporter, as you can see, so we will have a verbatim transcript of the comments made here tonight.

And one of the other things that we heard is we should provide an opportunity for speakers to be heard, so no small groups, and that everybody should get the same

amount of time to comment.

So here's what that means. Each of you will be given three minutes. And since I don't know how long three minutes is while I'm talking, we'll help remind you of how long three minutes is. So as you're speaking, making the comments on the Draft Environmental Impact Statement and the Draft Comprehensive Conservation Plan, we will give you notice of when it's two minutes left, when it's a minute left, and then 30 seconds left and then when you have exceeded the three minutes. And each of you will have the opportunity to do that.

The best way to do that is to sign up. The sign-up sheet is there if you wish to speak. If you haven't signed up yet, please do so and we will call two people at a time so you know who's next.

In terms of making that successful, we do actually want everyone to be heard for the entire three minutes and so it will be important that you give your respect to the speaker by allowing them to be heard to completion. And then we're going to ask that they do the same for you, so giving everyone an equal opportunity to speak and to be heard. So please stay within the time limits and not add your voice to the voice that's working up here.

We ask that you focus your comments on the

documents, the Draft Comprehensive Conservation Plan and the Draft Environmental Impact Statement for the refuge. This is comments to the Fish & Wildlife Service on those documents, but it is not the only way that you can make comments. So it isn't just three minutes or nothing, there is a website, which is on your agenda, so feel free to add comments there. We have written comment forms so if you choose not to speak tonight or wish to add to what you say tonight, you can do that in writing.

So the comment period is open through April 26th. So you have up until that time to send us E-mails, go to the website, send comment forms in writing, by whatever means, as well as your three minutes tonight.

We have left ourselves a bit of a safety valve, depending on the number of people that sign up and the size of the group, that if there is time left, everyone who wishes to take their three minutes has done so, if there's time, we can do some question and answer. We had that opportunity last night. We may not depending on how many of you sign up, but we'll see.

As soon as I'm done, I'm going to give the floor to Laurie Shannon. So if you look on the agenda there's a presentation here in just a minute where Laurie will highlight the Draft Comprehensive Conservation Plan and the Draft Environmental Impact Statement focussing

particularly on what has changed since the alternatives were in the public forum, in fact in this building not all that long ago. So that's where she'll spend most of her time and attention. That will be beginning at approximately 7:00 where the three-minute time will begin to happen.

And again, what we're looking for are questions you have about the accuracy of the information in the document, questions that you have with the adequacy of the environmental review, reasonable alternatives other than those four that you see there, any information or any concerns you have that should, in your mind, trigger some change in revision to the Draft. Then we'll adjourn at 8:30.

A couple of things I want to say as preliminary items. The context within which the Draft Environmental Impact Statement was written and what happens once we leave here tonight, and presuming that the Draft moves by the deadline to its final completion, that's the first step here.

The Service would complete the final Comprehensive Conservation Plan and Draft Environmental Impact Statement working from the Draft and issue a record of decision.

The second thing that would have to happen after that, before a refuge occurs, before there could be a

refuge, is that the Department of Energy would have to complete its site cleanup, except for whatever ongoing operation the Department of Energy will continue to maintain there. So their cleanup would have to be completed.

Third, the Environmental Protection Agency and the Colorado Department of Public Health and Environment would have to certify the completion of that cleanup. So without that certification, we don't go further to a refuge. If that certification exists, when it exists, step four is for the Department of Energy to transfer the land to the Department of Interior.

Fifth, the Department of Interior would then establish a refuge and the Service would begin its management. So all of those things have to happen in sequence in order for there to be a National Wildlife Refuge.

The EPA certification is required before the site can become a refuge. And I want to focus on this last statement. The Comprehensive Conservation Plan and the Environmental Impact Statement are written in the context of a certified site, that is, as if step 3 were complete, and obviously will not take effect, the refuge itself, until that certification is approved. So that's the context and I'm going to give the floor to Laurie.

MS. SHANNON: Thank you. Good evening. Can

everyone hear me all right? Some of you probably know the alternatives well enough and a few of you have been at enough of these presentations that I think that you could probably do this.

So that everybody is on the same page, I'm just going to briefly highlight the alternatives, and I want to focus on what has changed since last May when we first presented these alternatives. And first I do want to say where we came up with these alternatives and where they came up in our process.

We began drafting the alternatives in the late fall of 2002, the November, December time frame, and that was following our scoping period in September of 2002. And what we took into consideration when we developed these alternatives was what we had heard from scoping, the significant issues that came out of our scoping process. We also looked at the mission of the National Wildlife Refuge system and all of our policies and our goals and all those things. And then we also took into consideration the Refuge Act itself, what the Refuge Act says.

So after looking at that, we came up with four alternatives, which we first presented last May, and then since then we've been busy writing and this is actually the Draft plan.

I am going to start with Alternative B, which

is a proposed action. That's what we're proposing and I think that's what here most people are looking at to consider whether they like it or they don't or whether they like one of the other alternatives. And I want to start by showing a little bit of what we changed and not so much about every little detail about it.

Last May the public told us -- one of the things that the public told us was they wanted to see horse access. We heard from a lot of users that wanted to see some allowance for horses to come onto the site. So what we did on the southern part of the site, the trails down here, we turned those multiple use trails into access for pedestrians, horses and bikes.

And the other thing that we did down here, some folks wanted to see a little bit more of the loops down here and a little bit more connectivity, so we tried to work on that a little bit. In the northern part of the site, it remains like it was last May. This northern multiple use trail that's up here would only be access for bicycles and pedestrians, and then to the north of that there are a couple of foot trails up there. And one of them, the far northern one, would only be open on a seasonal basis.

The other big thing that we heard last May was a lot of people told us they thought that we should focus on restoration of the site before we started opening

it for public uses. So what we did is we are proposing that we would open a trail down to the Lindsay Ranch soon after we establish the refuge, but after that we would wait until after year five before we began to implement the rest of the public use program. And during that time period it would allow us to work on restoration and picking up roads and those kinds of things and also getting our budget together.

After year five we would then implement the rest of the public use program, and by year 15, we would complete the plan and then we would have to revise again.

Another thing we heard last May was that folks wanted us to make this connection, this north-south connection. And that is one thing that we have not done. And the reason why is because we would like to see -- we still would like to see if there is some sort of improvement to Indiana, that connection being made as part of that project, or we'd like to see the communities outside of the refuge make that connection, but it's just hard for us to work with the unknowns of the corridor and the DOE retained lands and try to get everything in there. So that's our preference, not to do that.

Under this alternative there is just a seasonally staffed contact station as opposed to Alternative B, which I'll explain, will have a full-blown visitor center. The other thing that we changed on Alternative B is

that change to the hunting program. And most of it remains the same as it was and that is that it's targeted towards -- it's a very limited managed hunting program that would be targeted toward youth and the disabled and it would be low-impact weaponry such as archery, muzzle loading or shotgun. It would be only two weekends out of the year. We would close the refuge down. And the reason for that is to provide a wildlife recreation opportunity and also assist us in our own management of the deer and elk populations on the site.

Under none of the alternatives would we allow dogs. So I just want to make sure I don't forget to say that.

Moving on, I think that's the main things I wanted to point out. Moving on to Alternative A, we only made one change on Alternative A. And Alternative A is what we call the no action alternative. And that is basically carrying on the current regime of management habitat in the northern part of the site which is called the Rock Creek area. And the rest of the site would be very limited management action.

The one change that we made was that we had proposed putting a chain-link fence around the entire site. And after evaluating that closely, we took that out and is no longer under any of the alternatives. We have analyzed it

in Chapter 4 of the Environmental Consequences, that is not being considered by us as an alternative.

Alternative C is what we call the ecological restoration alternative. And this alternative focuses on the maximum restoration of the site that can be done and very minimal public use on this site. In fact, the only public use on the site would be a trail that would go out to this overlook and that would be it. It would be guided and that would probably be less than 1,000 people a year out on the site.

On all the -- under all the alternatives, this little road here would be the only vehicle access into the site and it would only -- people could come a short ways and have to park.

Alternative D is what we call the public use alternative. And this alternative also focuses on habitat and restoration, really focussed on certain plant communities, while at the same time trying to maximize the amount of public use that we could do. And under all four of these alternatives, any one of them is feasible for us to do, but this alternative looks at trying to do as much public use as we could do within our own funding constraints and those sorts of things.

The changes that we made to Alternative D, basically we tried to improve some of the trail

connectivity, again tried to improve loops along in here and tried to make it work for people a little bit better than the way we had it last May. And I think that's about it for the major changes. Since there's a lot of people here that want to speak, we're going to get right to that.

MR. HUGHES: In order to do that, I'm going to ask Laurie to come up front, also Richard and Dean. As you're speaking, you are speaking to the people that worked on and are preparing the Environmental Impact Statement and the Comprehensive Conservation Plan, so I'm going to ask the three people that you're being addressing to introduce themselves.

And now that everyone is in and settled, I want to just do a quick announcement about another opportunity for you to speak about Rocky Flats, and that's an open house that the Department of Energy will sponsor on April 14th at 3:00 in the afternoon, Building 60.

MR. TRENHOLME: I'm Richard Trenholme with ERO Resources, I'm part of the planning team.

MR. RUNDLE: My name is Dean Rundle, I'm the refuge manager for the Rocky Flats project.

MS. SHANNON: And I'm Laurie Shannon, planning team leader for this project.

MR. HUGHES: Again, Jody will help you with the three minutes. Jody, first speaker.

MS. ERIKSON: Jane Uitti and Anne Fenerty.

BY MS. JANE UITTI:

I'm Jane Uitti with the Boulder County Commissioner's Office. Boulder County is a member of the Rocky Flats Coalition of Local Governments and has always supported the passage of the Refuge Act and supports a transfer of use of this land from a former weapons site to a wildlife refuge pursuant to the Rocky Flats National Wildlife Act; however, we believe that there should be no rush to open this land to the public and that the methodical oversight and planning procedures do need to be in place before the opening.

Our final comments will be submitted to Fish & Wildlife prior to April 26th and we're also going to put them on our County website.

Boulder County supports proposed Alternative A as our first priority, with Alternative C as our second priority. Both of the alternatives permit far reduced access than Alternative B, which Fish & Wildlife is proposing, or Alternative D. And our reasons for this support is as follows.

Number one, Boulder County believes that the public should not be allowed access to facilities in the DOE zone. That's that upside down prairie dog shaped thing on the plan, such as the monitoring station, retention ponds or landfill caps.

We're sure that both Fish & Wildlife and Department of Energy are in agreement on this. However neither DOE nor Fish & Wildlife in their current plan have outlined how they intend to keep the public from fishing, swimming or exploring these areas. Before they are allowed on the refuge, Fish & Wildlife and DOE need to clarify specifically how they're going to keep the DOE lands off limits to the public.

While the Fish & Wildlife plan reiterates its goals of safety on page 3 and 4, for example, we feel that you folks have not been given sufficient resources to guarantee the plan. Commissioner Paul Danish recommended last week to the deputy assistant secretary for policy in the Department of Interior, that Cold War sites and prior nuclear weapons sites that are being converted to wildlife refuges should be treated and staffed in a fundamentally different manner from other wildlife refuges that do not have the same kind of contamination history, and therefore, the funding for the Department of Interior and for Fish & Wildlife should thus be increased accordingly.

I have some other comments that are not going to be able to be covered in this three minutes.

Our conclusion is, while we support the conversion of this land to a refuge, we see no need to rush the status by permitting premature access to the public.

Take the time to make sure the public access to lands are clean and safe and that DOE and Fish & Wildlife give us a plan to keep the public out of the contaminated areas. Thank you.

MS. ERIKSON: Anne Fenerty and Amy Mueller.

BY MS. ANNE FENERTY:

Thank you. My problem is with the process. I feel that the process is not really complying with the mandates of the NEPA law under which the DEIS has been done. DEIS is to evaluate the effects of the action on the natural and human environment. It has to state how to avoid or mitigate adverse impacts of the planned action and to provide sufficient information on the proposal so the public can participate effectively.

And the DEIS is about pictures of flora and fauna and omits to mention that the refuge is a Superfund site briefly referring to it as activities outside the scope, yet because NEPA is a public disclosure law and the EIS is the most comprehensive environmental document, it has to lay out not only the full range of environmental impacts, but also the full spectrum of appropriate mitigation.

The MOU, memorandum of understanding, between the two agencies, the DOE and Fish & Wildlife, has not been signed yet. The people don't know how much of the land, which part of the contamination is going to remain in DOE

control. DOE may have as much as one-third to one-fourth of the total site. The question is, what's going to happen to landfills, the surface contamination east of the 903 pad, the groundwater treatments and the toxic landfills? How will the counts be monitored?

Hydrologists recently found 10 billion picocuries of plutonium on the site which was in 1995. I have the report here. Same researchers found extensive contaminants in the supposedly pristine buffer zone. Please explain the effects of this action on the human environment. All right.

And then the other question I have is there's no public access to the DOE retained land, is a quote from the DOE. The quote that Rocky Flats will be a seamless property with no or few visual differences between the refuge and the retained land and is contradicted missions.

What types of fencing, warning signs will there be? How do you intend to control the prairie dogs so they do not dig down to the customary seven feet of soil and bring up the contaminated soil? How will Fish & Wildlife keep these prairie dogs and burrowing animals from the refuge? Extremely high levels of radionuclides will remain in the soil at the three- to six-foot depth interval where concentrations of up to 3 millicuries of soil will be left.

And NEPA states that the cooperating agencies

cannot opt out entirely of the duty to cooperate on the EIS. And so I would like to have DOE and the cooperating agents ensure that public protection from the remaining contamination on the site will be safe.

In other words, we just found a 32-foot tall buried incinerator. The site has not been properly characterized and people should not be allowed on a site like this unless you know what's at the site. Thank you.

MS. ERIKSON: Amy Mueller and then Jacque Brever.

BY MS. LISA MORZEL:

Good evening. My name is Lisa Morzel and I'm a resident of Boulder. I have followed Rocky Flats' issues for over the past 25 years and I was a former council member for the City of Boulder in which I represented the City of Boulder for seven years on Rocky Flats, including the Rocky Flats local impacts initiative, and was a founding member of the Rocky Flats Coalition of Local Government. I am currently an ex-officio member of the Coalition.

Tonight I'm speaking on behalf of council member Shaun McGrath, Boulder's new representative to the Rocky Flats Coalition of Local Governments. Shaun is out of town today, so I am presenting the City's comments.

I should emphasize that the comments that I will be presenting are not intended to serve as the complete

or final position of City of Boulder, rather I am here tonight to highlight some areas of critical importance to the City on any refuge plan. The City intends to provide written -- formal written comments prior to the April deadline.

First, to the general policy, the City has long advocated foreclosure and cleanup of the weapons production facility at Rocky Flats. We continue to work with other local governments in the area through RFCA to argue for federal funding and attention to the issue. Proper cleanup of this site remains our very first priority.

Beyond the cleanup and closure, the City supported the Udall-Allard legislation in 2001, which resulted in designating the site as a wildlife refuge. This was important to the City not only to protect the site from future development, but was an important part of our mission for the landscape given the efforts made by Boulder and Boulder County in setting aside open space adjacent to the site.

Federal ownership was also critical in our view to address the uncertainty of public health issues and we want to make sure any problems that are detected 20 years from now, the liability will be with the federal government, not with local communities.

Second, as previously stated by the City, we

support the wildlife refuge as desirable and compatible with our community goals. As a neighboring landowner, the City supports Draft goals which include conserving and enhancing native ecosystems, plant communities and wildlife species.

The proximity of the refuge lands to other open space lands provides an extraordinary conservation opportunity. The refuge lands will make important contributions to regional efforts to protect the values of native grasslands, shrub lands and the foothills right here in the area.

The City maintains that the focus of management planning should be, one, that unique conservation opportunity of preserving a large and rare habitat unmatched anywhere along the Front Range corridor.

Two, the preservation and restoration of native plant and animal communities. Management actions should focus on the following: We need to plan conservation areas and visitor facilities with regional focus that considers connections with surrounding trail systems.

We need to work to restore lands that have been degraded. This is our first priority. And we need to make sure that we monitor and make sure that the systems, the monitoring systems that we have put in place are actually working effectively.

Finally, we need to make sure that no further

fragmentation of the landscape occurs, is kept to a minimum. The City right now is proposing Alternative C and that is about as far as we're willing to go. I think people need to recognize that this property is not just any open space, but that it has a legacy of being a nuclear weapons site in the past 50 years. Thank you. And if anybody wants to comment, we have them.

MS. ERIKSON: Jacque Brever and Bini Abbott.

BY MS. JACQUE BREVER:

My name is Jacque Brever. I'm a former plutonium worker from Rocky Flats. I'm now an environmental scientist. I also have years of experience with other DOE Superfund and reused sites.

I strongly oppose public access to and recreation in any form at Rocky Flats. It appears as if the Fish & Wildlife Service is offering us a stacked deck and the public really has no option other than to decide which kinds of recreation it would like to have at Rocky Flats. The way I read the CCP, EIS, it seems like there is little opportunity to oppose recreation at Rocky Flats.

I was a plutonium worker there for ten years, I know it's too dangerous to be used for recreation. I know from personal experience and review of government documents that they do not even know where all the contamination is, so it cannot properly be cleaned up.

I know that much of the data on which they are basing their decisions have been falsified. The agent that led the raid on Rocky Flats says -- the FBI agent who led the raid on Rocky Flats says the investigation was obstructed and that Rocky Flats is too dangerous to ever be used for recreation. The foreman of the grand jury that investigated Rocky Flats for three years says Rocky Flats is too dangerous to ever be used for recreation.

The government admits that they will clean up Rocky Flats as well as it could, the DOE admits it made trade-offs to save money. If that's the case, then it shouldn't be open for recreation.

It's my opinion that Rocky Flats will never be safe for children, the elderly, to have access to the former nuclear weapons facility.

Here is a book that proves what we say. It's called the Ambushed Grand Jury. And I want to submit this book to the public record. It's written by the foreman of the grand jury with the help of the FBI investigator, myself and a volunteer lawyer. I am entering it in the record because it provides proof that the U.S. Justice Department has covered up the truth about contamination at Rocky Flats.

I'm not alone in my opinions, some other people and I have formed an organization titled United To Keep Rocky Flats Closed. It's an organization that opposes

recreation at Rocky Flats. We've been collecting comments from people who also oppose recreation at Rocky Flats. I have here 152 petitions to submit for the record in addition to the 121 petitions that I've already sent through the U.S. Mail to Fish & Wildlife and representative Mark Udall. Congressman Mark Udall. I have more comment forms if people would like to sign them.

And finally, I would like to ask whether the Fish & Wildlife would please notify me of how many comment forms they ultimately receive. Thank you.

MS. ERIKSON: Bini Abbott and Harvey Nichols.

BY MS. BINI ABBOTT:

My name is Bini Abbott and I live on the West Shore of Standley Lake. First I'd like to tell you about what I am not. I am not a member of a peace group, I am not a member of an animal rights group, but what I am is against hunting in inappropriate places four days out of the year while the other 361 days are used to protect the wildlife.

The definition of a refuge is a place of safety, shelter, a safe retreat. I have taken from this book, which is the thick book about the proposed refuge, made my own chart, and reading from it, the goals of the U.S. Fish & Wildlife is to provide the public with safe, high quality and my underlining, compatible wildlife dependent public use.

Such uses include hunting, fishing, wildlife observation, wildlife photography, environmental education and environmental interpretation. Now, they have four parts under environmental interpretation. One is habitat restoration, the second one is concerning wildlife, colon, wildlife take refuge at Rocky Flats.

The third one is wildlife and people, colon, wildlife comes first. And then history. I feel with the plan of hunting at Rocky Flats with having 20 people, a total of 20 people, two weekends out of the year, would be in direct opposition, and closing the whole rest of the refuge for anyone else, I think would be wrong.

They state that it will cost about $5,000 to provide those four days of hunting and that's $250 per person. They intend to start the hunting within the first two years, according to this book, but not set a population goal of what wildlife needs to be culled until three years.

They also did not intend to reevaluate until 15 years have gone by, which is the year 2019. Is there a need for culling? I don't believe so, according to Boulder City Open Space and Boulder County Open Space who border the lands, they have found no need for culling. If there is a need, I feel that it should be sharp shooters from the Division of Wildlife, not youth and disabled people sitting with blinds and plunking away at the animals that have

gained a confidence for us to have good wildlife observation and so on.

In closing, I'd like to say that I think the perception of U.S. Fish & Wildlife's management of the Rocky Flats refuge will be more important than actual reality if they allow the hunting. And also I hope they will watch the wildlife through binoculars and cameras and not through the cites of a gun. Thank you.

MS. ERIKSON: Harvey Nichols and Nathan Bufe.

BY MR. HARVEY NICHOLS:

I brought my own timer. Harvey Nichols, I'm a professor of biology at CU Boulder, but I'm speaking as just a citizen of Boulder. I want to recommend no action, Alternative A. This would mean essentially no public access. The reason behind this, first of all, has to do with -- the apologies to the people, the equestrians and the cyclists and the hikers that can't wait to get out there, I just have some information that I feel I have, as a matter of responsibility, to partake to give you.

And basically in the 1970s, I had a DOE funded contract for 18 months which led me, actually, in fact, to do environmental measurements out at the Flats, and what I discovered, apparently I got some unique data. This had to do with a snowfall study. I won't go into it, but

basically I happened to capture the effluent from the chimneys, the plutonium articulate effluent coming out of the chimneys during snowfalls. And apparently, in fact, with the admission or the helpful comment by Dean Rundle here, nobody else in the 50 years of the plant's operation has done such a study.

So what I found was that the entire site has a fine dusting of tiny particles of plutonium over the entire buffer zone, the refuge to be, as well as the industrial area. This has been supported by the Health Department study by Dr. John Till whose data indicates that over 600 million fatal or harmful doses of these tiny particles of plutonium was laid down over the entire site over the years.

My own study is even greater numbers than that, astronomical numbers, and some element of those particles must still remain on the soil, and to some extent, in or on the vegetation.

The problem is that wind dusts can lead to inhalation. A sudden gust of wind, breathing in the dust and a potential for long-term illness.

The vegetation must be analyzed independently. We have claims repeatedly from the officials out there that there's been no study showing uptake of plutonium. A whole series of studies that we've traced, and

since I'm really coming close to my time, I'm against the prairie burning because of the hazards of plutonium in the smoke. It's cheapest and safest, I believe, to keep it closed.

And right at the end, I want to recommend to you a couple of newspapers that happen to be in piles outside. The Colorado Boulder Weekly, there's an absolutely dynamite story today and another one from last week all related to Rocky Flats. I please recommend that you look at them. Thank you.

MS. ERIKSON: Nathan Bufe and then Erin Hamby.

BY MR. NATHAN BUFE:

My name is Nathan Bufe. I'm a student at the University of Colorado and a resident of Boulder. And first of all, for the record, I'd like to say that I also propose Alternative A, no action, for the reasons that the people before me have discussed, because I don't have time to discuss them myself.

And the question I'd like to raise is why does the Service have a proposed alternative? Why are they proposing Alternative B? Basically my question is, why isn't this -- well, what I'm saying is that basically where it says Alternative B, wildlife habitat and public use is proposed, they say because of the major issues identified

during public scoping and that it's consistent with sound Fish & Wildlife management, and I'm wondering, why isn't this more of a public decision?

What this says to me is that basically the Service has already made up their mind and that they're not going to take the other proposals as seriously.

So pretty much my question is, why is the Service going into this with a preexisting bias? Why aren't they leaving this completely open to a public decision?

And also, it's been said already, but I would like to emphasize the problems of having the refuge being a seamless property with no visual division between the central DOE part and the outer public access part, and I believe, as the previous speakers have said, that the proposed cleanup is in fact impossible because of the uncertainty involved, that people don't know the extent of the contamination on site and that it is dangerous to let people go on the site. And that's certainly dangerous to leave the central DOE site, the most contaminated area, with no boundary at all, no fences, no warnings. It just seems irresponsible.

And I'm wondering why there is no proposal for a fence at least. And I guess that's all I have to say. Thank you.

MR. RUNDLE: Mark, are you going to capture

all of these questions so hopefully if people stick to their three minutes, we'll be able to try and answer these later?

MS. ERIKSON: Erin Hamby and Beverly Lyne.

BY MS. ERIN HAMBY:

My name is Erin Hamby. I'm speaking as a resident of Boulder. I'm in love with the scenery and landscapes of this Front Range community. The mountains touch the prairie and leave me breathless. Knowing that 6,000 acres of this beautiful landscape was used and tainted in the production of nuclear weapons also leaves me breathless.

The idea of reclaiming this land for Colorado and the nation is a wonderful thing. The reclamation of this should not include public access though. Fish & Wildlife is being asked to manage a refuge which encircles a highly contaminated tract of land. Even if one believes that the buffer zone is safe or uncontaminated, it's irresponsible and wrong to believe that known and unknown remaining contaminants will remain within the borders of the DOE retained land.

The National Wildlife Refuge system mission statement says, to administer a national network of lands and waters through the conservation management and where appropriate restoration of fish, wildlife and plant resources and their habitats within the United States for

the benefit of present and future generations of Americans.

This guiding principle can be achieved without allowing public access. I am in favor of a modified version of Alternative C. Modifications should include denial of public access to any part of the site, guided or unguided, for at least 100 years. Proposed research should focus on new remediation technologies and research the full health effects of radionuclides and other hazardous materials found on the site.

Recreation can and will stir up plutonium. Animals could disturb plutonium in the ground. The winds on the site do stir up plutonium. Protect the wildlife, protect me, protect future generations and keep Rocky Flats closed. Thank you.

MS. ERIKSON: Beverly Lyne and LeRoy Moore.

BY MS. BEVERLY LYNE:

I'm Beverly Lyne. I'm a public health nurse and I teach public health nursing for the University of Colorado Health Sciences Center; however, I'm here as a Boulder resident speaking. I was an original member of the Rocky Flats Citizen's Advisory Board, and as chair of the health committee for the board, we commissioned an independent review of the environmental monitoring systems in place at the site and historically in place at the site.

The review revealed, among other things, that

there was no soil monitoring program. It is my understanding that soil contamination has not yet, at this date, been fully characterized. So it is my belief and my opinion that until the soil contamination is fully characterized and remediated, there should be no public access to this site.

So if I had to choose one alternative, I would be leaning toward Alternative C. Thank you.

MS. ERIKSON: LeRoy Moore and Gary Ball.

BY MR. LEROY MOORE:

Hello, my name is LeRoy Moore, recently retired from teaching at the University of Colorado, a consultant with the Rocky Mountain Peace and Justice Center in Boulder. When the cleanup underway at Rocky Flats is completed, the Rocky Flats site will be divided into two parts, the more contaminated part that will remain under DOE control, and the less contaminated part which will be managed by Fish & Wildlife Service as a wildlife refuge.

The agencies responsible for the Rocky Flats cleanup use in their work a 1999 kriging map, that's a white-knuckle term, talking about the way they sample the site, they use this 1999 kriging map that shows, to the best of their knowledge, plutonium concentrations in the soil at the Rocky Flats site.

According to this map, the entire portion of

the site that will become the wildlife refuge is contaminated with plutonium up to a level of 5 picocuries per gram of soil. Five picocuries of soil is 125 times the .04 picocuries per gram average background deposits of plutonium from global fallout along the Front Range here in Colorado.

Fish & Wildlife Service proposes to allow members of the public, including children, to hike, bike, hunt and ride horses in an area contaminated with plutonium at this level. Any one of those activities could stir up tiny particles of plutonium, that if inhaled or ingested could create health problems at some later time.

Plutonium is no respecter of our official standards for what is safe. Numerous studies and bodies of numerous individuals, including some former Rocky Flats workers, indicate that exposure to plutonium in amounts well below official standards for permissible exposure can cause cancer, harm to the immune system, genetic damage and instability.

I propose, therefore, that Fish & Wildlife Service incorporate into their EIS the 1999 kriging map showing plutonium concentrations in the Rocky Flats soil.

Further, if they decide to allow recreational activities at Rocky Flats, I propose that Fish & Wildlife require people entering the site to sign an informed consent

statement indicating that they have read the map and consent to going onto a site contaminated at these levels.

Finally, I pose a question to Fish & Wildlife personnel. Why take the risk of endangering the health of people, particularly children, when it isn't necessary to do so? Thank you.

MS. ERIKSON: Gary Ball and Betty Ball.

BY MR. GARY BALL:

My name is Gary Ball. I was born and raised in Denver. I'm currently a resident of Boulder and I'm here to speak about the precautionary principle and I have a suggestion to make. And I probably won't even need my three minutes, whoever the timekeeper is, to do it, but it just seems to me that the EIS has already focussed in a particular direction, and this is to me strange just from the get-go because of both the nature and the longevity of the contamination.

I don't think that you have convinced me and I don't know that you could convince me that anyone knows the long-term effects of this contamination and I don't know why one alternative that isn't there should be, that this thing should be fenced off, paved over and hermetically sealed so that no contamination spreads off site either by wind or by water and that it should remain in that condition for a quarter of a million years it's going to take for that

contamination to go away.

Now, the precautionary principle would say, I don't have to prove to you that this thing is dangerous, you have to prove to me that it's safe. And I don't think that you've done that. And so what the precautionary principle would say is if you can't prove to me that it's safe then let's not take the chance.

But since we're already going in this direction, I have to say, I feel like probably what I'm going to say is probably going to be ignored anyway, but since we're already going in this direction, I can only say, it seems to me like that's a gamble and it's a very serious gamble, and that in earth time, all the years we know the earth has existed, this contamination has happened in the blink of an eye.

And given the length it's going to last, even in earth time that's a significant portion of time. No one can possibly know what the effects of this contamination really are. To monitor the vegetation and wildlife and certainly any effects on people for at least 100 years, if not 500 years, to get an inkling of what the effects are. But if we're going to take this chance, then it seems to me we need a fail safe position.

So I would propose to you that somebody put up a bond. We're not cleaning it up to background levels

now because there's no money. Somebody needs to put up a bond, whether it's a tax or the government or Kaiser-Hill or all of us together, there's got to be a bond. So that if we fail and we suddenly realize, oh, yeah, this place is in fact serious and we need to do something about it, then at least at that point we would have the money to do what needs to be done. Thank you.

MS. ERIKSON: Betty Ball and Janelle Knox.

BY MS. BETTY BALL:

Hi, my name is Betty Ball. Thank you for this opportunity to be able to speak to this proposal. I've lived in this area since 1960. I've been very aware of the things that have happened at Rocky Flats over the years. The accidents, the fires. I'm very aware that this site has not been characterized. Nobody knows where all the contamination is, nor the extent of it.

So first of all, I'd like to say that I don't think we should get passed number 3 up here on the schedule of events until a lot more work has been done and the contamination there is taken a lot more seriously and we do a lot more studies and we don't let budget constrain us for those studies. This is serious. What we've done here is serious and it's leaving quite a legacy for the future. So that's first of all.

Second of all, if we do get to the point

where the portion is turned over to Fish & Wildlife, then I think that we do have to follow the cautionary principle as Gary Ball just mentioned. When you have uncertainty that leads to a threat of harm, then you act with precaution.

And it's not -- the burden is not on the public to prove that this is unsafe, the burden is on the government, in this case, to prove that it's safe. That has not happened. So therefore, if we do move forward with the Fish & Wildlife taking over the land, then I would recommend Option A. Thank you.

MS. ERIKSON: Janelle Knox, Jim McKee.

MR. HUGHES: If I could ask, we've got an hour's worth of speakers and I want Dean to give a final statement and answer whatever questions he can, so if you could just step up, that would be great.

BY MS. JANELLE KNOX:

Hello, my name is Janelle Knox and I am a concerned citizen of Boulder County. I am a concerned citizen because I have studied the history of this site and I know the levels of contamination that have gone into this site. I also know that it has not adequately been sampled or characterized to be determined safe.

I think that the U.S. Fish & Wildlife Service has prepared a lovely packet for the public here, and in all honesty, these photos look beautiful. This looks like a

pristine site where we would all like to go and recreate, but the problem is it states a preference, it does not once mention the history of Rocky Flats or the contamination that has gone into this site.

It is deceptive to consider this a pristine refuge without considering the history and the contamination on the site. I think if the public is to make an educated and informed decision, it has a right to know what is at that site, what has gone into it or what is not known about the site and what the risks of families, animals and children coming out there are.

Do we really want our children to come out there, recreate, scrape their elbows and skin their knees in plutonium filled soil? I support Alternative A. Thank you.

MS. ERIKSON: Jim McKee and Bruce Bland.

BY MR. JIM McKAY:

I'm Jim McKay. I'm speaking for the Boulder County Nature Association and what I'm going to say is, assuming adequate cleanup, and I'm not sure that that's been demonstrated yet, but first importance is restoration and conservation. Alternative C best accomplishes this.

Hunting is not feasible this near an urban area because of both safety considerations and public opposition. I would rank the alternatives as C, which includes environmental restoration, then A, then B, with no

hunting, and as of the last priority, D, with no hunting. Alternative D would have the maximum impact on wildlife at the refuge. Whichever alternative is chosen, don't rush public access. Establish baseline, do restoration, establish a baseline on wildlife and the habitat before there's any significant public access. That's all I have to say.

MS. ERIKSON: Bruce Bland and Suzanne Webel.

BY MR. BRUCE BLAND:

Bruce Bland, I'm a resident of Boulder and I'm speaking solely for myself tonight. The purpose of a wildlife refuge, at least in the minds of most people, is to provide a sanctuary for wildlife, a place that belongs to wildlife first.

Alternative C clearly does this best. Alternative A is also acceptable and it's the cheapest alternative on the table. But judging by the addition of more trails in the south and an interest in a north-south corridor along Indiana when it's rebuilt, to Alternative B, it sounds like Fish & Wildlife have listened to the recreational people, but not to others who have asked for less recreation than Alternative B originally allowed.

This is a problem with public process. There has been no polling done to indicate what the public at large thinks or values for this area. You have only heard

from activists, which the audience is full of tonight, and myself am one of them, who come here to beg for one cause or another.

You need to actually go back and poll the citizens if you're really concerned about this. Both Alternatives C and D allow too much recreation to be consistent with wildlife preservation over the long term. Wildlife are going to need a good sanctuary in the near future as the impacts of global warming start to be seen.

If this much recreation is allowed in this area, we're going to see a tremendous amount of use, because this is an urban area and people will be drawn here by the beauty of this place, as one speaker pointed out. Some of them are going to disturb wildlife, a certain percentage will do that, and the greater the number means that more people will disturb them.

There's also going to be a collaboration of social trails across this property and these dry grasslands. Under no condition, however, should people be allowed on this site until it's clear to all stake holders that the site is clean and safe and extensive survey by a competent independent consulting firm and overseen by a team of stake holders and scientific professionals should be performed before any public use should be considered.

So in conclusion, first make this a National

Wildlife Refuge, not a national recreation area by putting wildlife preservation first. Wildlife species are irreplaceable, recreation is not. We'll have plenty of recreation in this area and there's more coming in the region.

Second, correct the public process by doing a formal scientific poll if you want to find out what the public actually feels.

Third, do not allow anyone on the land until it is clear to everyone that it's safe to do so. Thank you very much.

MS. ERIKSON: Suzanne Webel and Eric Vogelsberg.

BY MS. SUZANNE WEBEL:

I'm Suzanne Webel and I'm speaking on behalf of the Boulder County Horse Association. I've lived in Boulder County for 30 years and I've been involved in this scoping process. I want to be the first person to commend you on the thorough public process that you've caused to happen up to this point and on the professional job you did on this Draft CCP and EIS.

My comments also assume an adequate cleanup job at the site. We support Alternative B with some modifications. We want to thank you for allowing some equestrian access on the property. I know that was a bold

move on your part, but we do appreciate it.

My question is, why are you proposing access on the southern end? Most agencies consider equestrians with pedestrians when they're making their trail plans. Where hikers go, we usually can go.

We are okay with Alternative B with there being some short pedestrian only trails, especially at the northwest corner of the property.

If the concern is to do with weeds, the entire site is already infested with noxious weeds. I want this reserve to be as healthy an ecological community as it can be. You can control the weeds with a budget and a staff for weeds, not by denial of access by any user group. Do a baseline study, monitor what you've got and then proceed with adoptive management. Don't start out with a lot of unnecessary regulations that affects one particular user group.

Eric Lane, the state weed coordinator says that horses are not a significant vector for weeds and in fact are much less than wind, water, wildlife and truck tires.

Specifically we recommend moving the northern most trail head west along Highway 128 one mile to where the Colton Dry trail comes down to 128. That would provide better regional connectivity of trails with no change in

cost.

We'd like to see you add the north-south trail back in your plan on the east side of the property. And we'd like to see you allow equestrians on the main trail that goes along the northeast corridor.

Rocky Flats is an important nexus for many existing and planned regional trail systems. We need to get across it in an east-west and north-south direction and so the system we're recommending is basically a single perimeter trail. Thank you. I do have a document that I'd also like to submit for you guys for the record.

MS. ERIKSON: Eric Vogelsberg and Stacia Goecke.

BY MR. ERIC VOGELSBERG:

Eric Vogelsberg. I am speaking for the Boulder County Trails Coalition, I'm also a board member of the Boulder Off Road Alliance, which is an mountain biking organization which works with trail construction projects. And I'd like to do something that a lot of the speakers haven't done and actually talk about the EIS and what you're proposing.

I'm going to assume from the beginning that we're all the way down to the bottom of this thing and we do have EPA certification. I'm confident that that process will not expose the public to unreasonable danger or harm.

Having said that, I'd like to talk about the proposed alternatives. We support the Fish & Wildlife's proposal and the proposed Alternative B. We think it's a reasonable effort to preserve the natural resources while providing for public access and public education. We observe, for example, that at least 50 percent of the site will be closed to the public, because the northern portions are closed, and because the DOE portions are closed.

We do think there's several enhancements that could be made to Alternative B. We believe that there's a real shortage of north-south connections in the trail proposals. One thing we think would be valuable is a trail along the side of the gravel road that connects the two parking lots to the west so that there's a north-south trail connection that doesn't require people getting onto the gravel road. We would also like to see the northwestern section of the property connected to the City of Boulder and Boulder County Open Space Trail Systems. The Colton Road connection is one that Suzanne mentioned.

Given that you don't want to do the east-west -- pardon me, the north-south connection on the east side now, I'd like the plan to have a clause in it speaking to encouraging that connection to be made at the time that the new highway alignment is put in place so that doesn't become a, well, we somehow forgot about it and it

drops in the cracks.

I think the biggest comment I would make is the five-year delay before we provide significant public access. Seems to me to be a little unnecessary and artificial. I'd rather see a phased implementation, for example, perhaps when you do the restoration on the north side of the property and then open the north side after two to three years and then complete the restoration on the south side of the property and then open the south side. Or conversely, do it the other way. But waiting five full years before we do anything seems to me to be a little bit unnecessary and artificial.

I thank you again, I think you've done a nice job here. I think the folks here have serious concerns, but I think they're presenting them to the wrong people. Thanks again.

MS. ERIKSON: Stacia Goecke and Sue Maslow.

BY MS. STACIA GOUCKE:

My name is Stacia Goucke and I'm a private resident. I have several concerns about it being opened up to the public so I'm supporting no action, Proposal A. The reason for this is that there is a large amount of uncertainty about the contamination that is on the site as it is. According to a book by Burtell called, No Immediate Danger For A Radioactive Earth, it says that zero to ten

REMs, which are biologically damaging energy units, can cause premature aging, moderate risk of tumors and mild mutation of offspring. This is minimal. So even with the most minimal levels of contamination which may meet EPA standards these still can cause these health risks to the public.

If it is as apparently proposed from the Fish & Wildlife Service that they do open it up to the public, there needs to be proper signage so that the public can be properly informed before they enter the site of what these health risks are and they need to be vividly described as premature aging, risk of tumors and the possible carcinogenic effects of plutonium possibly on the site, the seasonal gas by over 100 miles per hour, any sort of residue left in the buffer zone that we may not be aware of from the industrial zone.

Also, I would like you to rethink your taking off the fence of the boundaries so that the public knows what property they're going onto and that they're going onto a former weapons site.

There are many other areas for open space recreation in Boulder County. I do not feel that Rocky Flats also needs to become a refuge. There are places that equestrians, bicyclists can go where they're less likely to go stir up contamination. Thank you.

MS. ERIKSON: Sue Maslow and Ian White.

BY MS. SUE MASLOW:

My name is Sue Maslow and I'm a citizen of Boulder and also a student of the University of Colorado and have been educated on the history of Rocky Flats and everything that transpired there over the last several decades. It is my strong feeling to support Alternative A with a fence. And I'd like to know, if you go with Alternative A, how you plan to keep the public safe from this very contaminated site.

I feel that you've already made a decision and you're almost working out the fine details, equestrians wanting to go running through the place, bikers, et cetera. I do believe also, like Janelle was saying also, when I first looked at your EIS, it looks beautiful. You took gorgeous pictures of healthy looking wonderful birds and it looks great, but it's completely deceptive and it's a total lie.

And I'm really sorry if I'm out of line, but I firmly believe what you're doing is atrocious and I believe the government allowing something like this to happen is obscene and against American citizens.

For all of the workers that worked at Rocky Flats and actually gave their lives for their country, this is outrageous. And I'll give my two minutes to somebody

else, but I firmly believe in Alternative A. That's it. Thank you.

MS. ERIKSON: Ian White and Wendy Vining.

BY MR. IAN WHITE:

Hello, my name is Ian White, I'm a senior undergraduate student at CU. I used to also be a runner at CU. I no longer am. I haven't been running too much these days, but I used to run a lot. I ran a lot also at Marshall and Downing Draw, which is on the way to Rocky Flats as you're heading out 93. It's on the way there. And I remember, it does get real windy sometimes when I run. Sometimes I'll be running and I'm not running it's so windy when I'm heading into it. It's an important thing to note.

And I think when you start talking about children and disabled youth and talking about them spending time on a very potentially, and we've heard from some scholars here tonight who thinks it goes beyond potential, goes beyond reality, when you talk about children and disabled youth, that doesn't mean they're the strongest of children either, and when you start putting them around plutonium, that worries me.

I have no agenda. I'm not a part of any student groups, activist groups, I'm just a citizen. And I'm not a chemist either, but I do know that there's a difference between cleaning up garbage trash sites and

cleaning up plutonium. I could be wrong here, but that's some of the most complex chemistry, that's pinnacles of achievement as far as technology goes, as far as America goes. So it's no joke. I mean, because we don't even necessarily know what's going to happen.

You know what else, I've got to pose a question. I would not want to be a horse and eating grass that has plutonium potentially on it. I love animals and I would never want to do that.

So I'm just a citizen. I'm nothing. So you guys are the ones that are deciding, you're the leader and you guys are the team that are helping. You're the leader, you guys are the team, and I just hope that we keep in mind the future.

And knowing that we are in the midst of such wonderful technology, there's also a double-edged sword to that. And so I just say, please be cautious, please be careful. I don't know if I'm going to be living in Colorado the rest of my life, but I know a lot of you guys will and probably you guys do too, so this is our state, this is our city and it is beautiful. Colorado is beautiful and I just hope it can be safe. Thank you.

MS. ERIKSON: Wendy Vining and MaryAnne Scholl.

BY MS. WENDY VINING:

Hi, my name is Wendy Vining, I'm a student of CU Boulder and also a resident currently. I'd like to say a couple of things. I also have taken some classes on this so I am educated with the background on Rocky Flats and just the hazards that it has caused.

In 1989 Rocky Flats was officially added to the Superfund National Priority List. This classification was designed to induce remediation of abandoned waste sites across the U.S. ; however, no one truly knows how contaminated Rocky Flats is. The 1957 and 1969 fires released unknown quantities of plutonium into the environment.

This being said, I guess I would cite numerous studies showing the toxicity and hazards of plutonium. It's a known carcinogen and other health hazards that it does pose. I'd say that these unmeasured releases from these fires and other night burnings that we don't have any idea about, they release unknown quantities of plutonium into the industrial zone as well as the buffer zone.

I think there has not been enough ground sampling tests to prove that the buffer zone is truly safe, and the samples that have been taken from a concentrated area that is not necessarily representative of the area overall.

I believe that even if we say that the buffer

zone is not contaminated, there's still the problem of proposed seamless boundaries. I don't know how you can keep people or educate them that this area is contaminated. This area is not without proper signage or even preferably some sort of fence or boundary.

I also question whether Fish & Wildlife is fully staffed to account for this problem and I think just overall, since no one can definitely prove or predict the long-term consequences of the hazards that have been proven in that area, I support Option A, no public access.

MS. ERIKSON: MaryAnne Scholl and Andrea Noble.

BY MS. ANN MARIE SCHOLL:

For the record, my name is Ann Marie Scholl. I am a CU student, I'm also affiliated with the Children's Wilderness Fund. I am a runner, an avid runner and mountain biker and I can tell you now, I will never step foot on that site and I will never allow for my children to step foot on that site.

I would like to define refuge. According to Webster's Dictionary it is a shelter or protection from danger, distress or difficulty. A place that offers this. Although some will say the buffer zone is relatively cleaned up, most of you tonight will agree, the industrial zone still presents many dangers and thus is not a refuge.

I believe one of the biggest problems with opening Rocky Flats to the public is the proposed seamless boundary. I believe the seamless boundary between the buffer zone and industrial zone is completely impractical. How is one supposed to know if they have entered across this imaginary line, quote, unquote, tolerable amounts of contamination to the former Superfund site.

I realize the trail will be well marked, but people are destined to go off trails. The two main problems are, number one, posting signs, and number two, there is not nearly enough law enforcement proposed to keep people off this land.

As for the first problem of the signs, what will they say? Will they warn of health risks? Will there be fines for crossing these boundaries? As for the second problem of law enforcement, if there's not enough people to prevent people from crossing this land, why shouldn't they go on it, especially if they've been told that this land is a refuge.

Additionally, Alternatives B and D allow for off-trail hiking. Again, and this is a question that I ask you to write down, how is one to know when they have crossed this boundary, especially when the trails are covered in snow?

This is only one of many reasons that I vote

for Alternative A. People should not be led to believe that this place is a refuge when clearly it is not. Thank you.

MS. ERIKSON: Andrea Noble and Chris Morrison.

BY MS. ANDREA NOBLE:

Hello, I'm Andrea Noble and I'm a resident of Boulder. And I know that the Fish & Wildlife Service is getting this land signed off as clean after the supposed cleanup done by the DOE; however, I am concerned that this cleanup will not last the test of time and will be a danger to future generations. And because of this, I believe that the history of this site cannot be separated from its future management.

What we do with this site will set precedence on what we do with other nuclear sites all over the country and I think it's important that we look at this with the utmost caution.

If we do not know the future, that contamination may be brought back up through burrowing animals, erosion or whatnot, it may be safe at the beginning, but who knows 100 years down the road.

I'm particularly concerned with hunting being allowed on the land. That it is -- I support programs such as the ones that you are proposing on other properties, but not at Rocky Flats because of these reasons. I come from a

family of hunters and I understand that it's an important issue for a lot of people and I think that, however, at Rocky Flats it should not be allowed because not only of the risk of contamination, but also because it is near to roads and communities. Especially hunting options that are being proposed, such as bow hunting.

The deer that would be shot generally have a long distance to run after a shot with an arrow and it could run on top of a road or off the property or into the DOE area, and that is an issue that concerns me.

So I support Option A, the no action, because I think that there is too much that is unknown about the future of this site and that we should be as cautious as possible. Thank you.

MS. ERIKSON: Chris Morrison and Julia Schwab.

BY MR. CHRIS MORRISON:

I'm Chris Morrison and I live in Boulder. I've heard a lot of people act as if Rocky Flats is some special area that is -- like radiation has been invented in the last hundred years, et cetera. I wonder how many of the people here know the radon levels in your home. We all live with radiation, people have always lived with radiation, and plutonium is not some special form of radiation. If you've got a high level of radiation in your home, you need to

remediate it.

I support Alternative B because I believe in accepting a reasonable level of risk, and I think this is a reasonable level of risk. We've heard about the high winds. A lot of the radiation was also blown out east of Rocky Flats. Just because property is east of Indiana Street does not make it exempt from any consequences of radiation and we haven't had the kind of study on the lands around the great western Reservoir, Standley Lake, et cetera. And if there is going to be extensive monitoring, there needs to be monitoring out there.

And you look east of Indiana and you see fields where the horses have stripped the vegetation off, that is more of a concern to me than a few trails in Alternative B. I think that we can safely access this site with Alternative B and we need to be -- we need to monitor it, we need to be careful about how we access it, but I don't think the plutonium on the site should automatically preclude public access. Thank you.

MS. ERIKSON: Julia Schwab and Lynn Segal.

BY MS. JULIA SCHWAB:

I'm Julia Schwab. I'm an art therapist and I'm here to represent the honesty and trust the children may experience in having a safe environment in which to play and to explore.

I did an exercise with kids creating ways that they could describe how they felt to be true inside themselves. And these are images that the kids painted in a way of saying, this is how I see myself. And then what we did is we talked about what it was like when we have to deal with things that are not true.

So I'm going to read a poem here that's called "False". And "False" is a collaboration between two characters talking to each other about how absurd it is to live where there's such deceit.

"The black sky shines in the morning. So, the green sun shines on my hair. So, I walk on the purple ground. So, my red lips shine on the plants. So, my pink shoes shine on my glasses. So, my brown coins shine on the garbage can. So, my yellow teeth shine on the water. So, my orange eyes shine on the desk. So, my green ring lights a fire. So, my blue fingernails shine on the blackboard. So, my gray notebook shines on your nose. So, my red lips shine on the clock. So, my silver eyes shine on the ceiling. So, my violet car shines on the moon. So, my purple green dress shines on the sun. So, my silver red and black paper shines on the wall. So, my maroon body shines on the flag." Signed, Jeannie Turner and Nancy Ortiz.

Rocky Flats is not a safe place. It is false. Let's protect the opportunity for children to live

in an honest world. Thank you.

MS. ERIKSON: Lynn Segal and Scott Hatfield.

BY MS. LYNN SEGAL:

Lynn Segal, Boulder. I remember when we lived in Salt Lake, at one point our family had to drink powdered milk because the cows were eating grasses. They were doing above-ground testing in the area and ten years later a particular dormant phase for leukemia, to happen, my mom died in Washington at 39 years of age.

So I'm not really impressed with the situation at Rocky Flats, naturally. We have a fence in Israel, folks heard about the fence, 30-feet high cement fence, this is the kind of fence we need here. Actually, this is a very expensive fence, I'll tell you, very expensive. And you and I are paying for it, actually. But in Israel, it's actually outside of the green line where it's not supposed to be so it's actually having to be torn down. We should put it up here. That would keep animals out definitely. I don't see a deer that could cross that.

No particulates need be redistributed. That's why we need a fence of this magnitude. No humans on the site for 240,000 years, times two. That's the half life of radioactivity. Refuse the EIS, the Environmental Impact Statement, and deny certification to the EPA for subsequent

wildlife refuge status.

I remember hearing about this at City Council, the first time I heard wildlife refuge, I thought the same way as the gal that said, refuge, what? No refuge.

This is a Superfund site. John Till's study of the 32 picocuries per gram, we need much lower than that. I remember my dad, he lost his wife this way, was complaining that John Till's study was too liberal. I suggest much less.

The precautionary principle must be considered. The cascade of effects from the remaining results of this weapons plant can never be adequately assessed. There is not enough money and resources to do it. And if there were, there would still be unknowns. That is why the precautionary principle needs to predicate all our considerations of diplomacy, foreign relations and global trade policies and the USA Neo-Absolutism. This is a new term I heard at the war colloquium at CU last week.

Neo-Absolutism is our abuse of power and arrogance on virtually every country on the face of the planet. Any foreseeable use of this land of any type, any use, serves as a validation for the establishment of future DOE nuclear weapons plants, which are being actively considered by our administration.

Weed management, use the micro (phonetic)

recommended by Glen Ackland to reduce threat of fires, a little bug that eats all the weeds and then dies and then there cannot be airborne transport of the particulates. Also, a sprinkler system on the entire area to include the buffer zone for light use surrounding the wind, heavy wind and fire threat days and assure that there's not too much water use that that would be the medium for redistribution in the aquifers. Thank you very much.

MS. ERIKSON: Scott Hatfield and Bob Findlay.

BY MR. SCOTT HATFIELD:

Scott Hatfield, Boulder, Colorado. I urge you to adopt the no action alternative and keep people out of the area. There's a lot of hot spots that people don't know about. In my opinion, they'll never find all the hot spots, the memorandum sampling method, and there's just too many places that haven't been hit or sampled.

Dow going out there in the '50s and such and dumping, burying, hiding stuff, and they could have done a good job of hiding some of that stuff.

Another concern is the incineration fallout from unknown vast quantities of mixed radioactive waste. The residues here, they're talking about 71,000 kilograms of radioactive ash, just from the incineration. I think in the subsequent hearings that's what it was down to, 36,000, but

that was the first figure I heard.

Also, I've been involved with this Rocky Flats issue since 1983. There's a real problem with the culture of secrecy and deceit. An incomplete cleanup is going to cause a lot of problems too. You'll have long-term migration problems, you have streams down gradient from the DOE site. There's a problem with actinides. The radioactive particles have been characterized by DOE as staying near the surface and migrating laterally mostly with rain.

So you have that accumulation and DOE is saying that it doesn't infiltrate virtually into the soil. So you have this accumulation up near the soil. So burns shouldn't happen, you should control the weeds. You should probably check for bioaccumulation, acceptable species, maybe do some tissue tests. Wildlife will be contaminated, that's going to be a problem, birth defects, mutation. You get people on there, kids will be crawling around eating all sorts of dirt with actinides near the surface. Dust needs to be minimized. Access and development will increase that.

It seems like a big green washing effort to just sweep the problems under the rug here, put a happy bunny face on it. Look at the Rocky Mountain Arsenal.

You've got school kids intentionally exposed to live nerve gas bomblets and these are in areas that the

Feds have already designated as being cleaned. It reminds me of -- some people wanting to go there reminds me of talking to homeowners in the '80s that lived there saying, hey, doesn't bother me, can't see it, can't smell it. It's all okay.

MS. ERIKSON: Bob Findlay, Mike Donley.

BY MR. BOB FINDLAY:

I'm Bob Findlay, a CU student. I trust the EPA and Colorado Department of Health will make an accurate risk assessment of the site. Therefore I support the proposed access, but I believe the addition of a public rifle range and a place to throw clays would be appropriate to this site. A public rifle range would be a practical alternative to hunting.

MS. ERIKSON: Mike Donley and Jim Morris.

BY MR. MIKE DONLEY:

I'm Mike Donley. I'm coming as a citizen of Boulder and also as a CU student. I'd just like to say that Plan A is definitely the best course of action as to what's still left on the site and the safety of the people that are interested in using the site. And I just want to say that this feels -- your representation here feels awfully reminiscent of misinformation of the past, especially when it refers to the atomic fallout test that she talked about in Utah, that were being exposed to downwind fallout.

If this were a real representation of the site there, that big blob that says DOE retained would have crisscross patterns of all the stuff that's been left underground, in the pipes, between buildings. Building 771 should be a big star on there in the way the contamination is still left at the site.

And I just think that it appears that once the DOE says this is clean and Fish & Wildlife is so eager to get its hands on it, that the Fish & Wildlife Service can be held responsible for like -- the DOE can be absolved of any doubt if they say it's clean. They give it to the Fish & Wildlife Service and any sort of problems arise in the future, who is to blame? Are you guys going to say that that's contamination after the site was cleaned up? What if it's you find on the lower end of the site in the buffer zone that's coming close to Indiana Street, you find 300 picocuries in the soil, are you still going to do anything? Are you going to have any fence whatsoever?

And that raises another question of a lot of people to make an informed decision before entering the site, having a sign there saying this site was exposed to radiation, even in this spot, even in the buffer zone, they are above normal background levels of radiation. And there should be a sign that says, if your child falls, you should wash his cuts, clean the child's clothes, wash the child

thoroughly once you get home. And you should also have fences around the industrial zone showing radioactive signs and you should allow people to make an informed decision on if they want to use the park or not, but it should be an unbiased sign stating the facts. Thank you.

MS. ERIKSON: Jim Morris.

MR. HUGHES: This is the last person that's signed up to speak. Obviously we do have a little bit more time for people who want three minutes. I've got the sign-up sheets, you can meet me over there.

BY MR. JIM MORRIS:

There's some good news, like LeRoy Moore and a bunch of the folks at the Peace Center managed to force the DOE to clean up the soil. Before that they were going for a much more dangerous level of plutonium. So if all of you get upset and talk to your neighbors and write letters to the editor and stuff, we can improve it, we don't have to go through this dog and pony show with the Fish & Wildlife people pulling the wool over our eyes.

Basically the DOE lies. It always lies. It's got so much power and it wasn't regulated by environmental laws until, I don't know whether it was the '70s or something where finally the military started having to obey some of the cleanup laws.

Just quickly, some of the things I've noticed

over time, like they fired Iggy, the scientist that was not finding plutonium moving the soil and then when it rained heavily one summer and the plutonium moved in the soil, they fired him. And when they made concrete out of the toxic pond sludge, it all melted. The oil drums of plutonium leaked and incinerated, it caught on fire. Building 371 cost up-teen millions and it was contaminated when they first started it.

They lied about midnight burning. They lied about dumping radioactive substances and volatile organic chemicals into the drinking water supplies for Broomfield and Westminster. They just lie all the time.

They lie in other places. Like they drill test wells and they drill them in solid rock where there wasn't any water. There's supposed to be wells to test water. They don't consider tornados, high winds, stream beds moving, Arvada building housing, earthquakes, et cetera. These guys are liars.

Just a sellout because they don't have to clean it up as much if it's a wildlife refuge. That's the reason they don't want to monitor or look anymore, because if they find any more waste, they might have to clean it up and get upset.

No access, Alternative A. Sample the rest of the site, get them to post a bond, realize -- like the local

politicians, Romer, Lamb, Skaggsworth, they all supported Rocky Flats at first until they were repeatedly lied to. And after they were lied to, then they finally started listening to the citizens.

So it's only when you guys get upset and then DOE starts lying over and over to politicians and to us that we'll find out how bad it is. They don't want us to find out. They're just a criminal agency.

In the last year, last summer, they tried to downgrade radioactive waste so it could be disposed of in a normal sanitary waste, no special treatment. They also tried to recycle radioactive waste. I don't know what else I can say. It's criminal to do this working for the Fish & Wildlife, it's criminal to work for the PR agency. You're like tobacco lawyers.

MS. ERIKSON: Rich Andrews is the last one, unless somebody else signs up.

BY MR. RICH ANDREWS:

I'm Rich Andrews. I'm an environmental engineer. I worked in the uranium industry until I couldn't stand it. And that was approximately 25 years ago, approximately. I got out because there is no separation of any aspect of the uranium or the fuel processing system or cycles for weapons and we can't go on with this.

The Fish & Wildlife Service unfortunately has

become the pawn of the agency, ERDA, the DOE and all the contractors that operated that place out there. You don't have an alternative in your EIS that meets my views. My views are close it, fence it, pave it over.

With all of the money that's been spent on writing memos over the last 15 years, we could have already closed this and paved it over permanently. And that's what ought to be done with it.

It wasn't safe from the minute the Atomic Commission stepped onto Rocky Flats, it wasn't safe when Dow was there, when Rockwell was there or any operator since. It is contaminated. It will be contaminated for more than this human civilization has existed.

We cannot allow it to be used for anything other than absolute closure. We should declare this site a national sacrifice zone.

Rocky Flats is Colorado's erosion. Erect a monument at the perimeter that says, this site is forever closed. This monument stands to acknowledge mankind's low point in its intellectual and social evolution. We can't -- and we commit to never go down that path again.

I ask you, the Fish & Wildlife Service, to take heed. I say you are the pawns of all these other people and I feel sorry for you because you've been put into a horrible position. Close it, seal it.

MR. HUGHES: I'm going to ask Dean to come take the microphone and say a few words in response to anything that he heard as well as address the questions that have been asked. And if we have time, there may be some more.

MR. RUNDLE: I want to thank all of you for coming out tonight and participating in our process. We also appreciate the overwhelming support for the alternatives. Actually, there is an important message I do want to give you before I get into questions.

I know that many of you are frustrated about the scope of a Comprehensive Conservation Plan. Many of the testimony tonight addresses issues that are cleanup issues. And I need to make it completely clear to everyone here that U.S. Fish & Wildlife Service is not responsible, nor do we have the authority to make cleanup decisions at Rocky Flats. It is clearly and unequivocally the authority and responsibility of the Department of Energy with oversight from the Environmental Protection Agency and the State of Colorado. You should be glad of that. You would not want the Fish & Wildlife Service to be making cleanup decisions on this site. Making nuclear weapons and the cleanup aftermath is not our core business, our core business is managing land for wildlife and wildlife habitat.

Early on Mike talked about one of the things

that's made this a challenging process for us, this time line that we are given by law. And that is that this is very unusual for us to be in this position of writing a Comprehensive Conservation Plan before we acquire land.

The plan that we have presented to you, the alternatives we have presented, are based on the pretext that there will be a complete and effective cleanup of this site and that the site will be certified as safe for wildlife refuge use, protective of a refuge worker and people who might be less exposed than the refuge worker. And that will be certified by the public health agencies that are overseeing the Department of Energy and the cleanup.

Unfortunately, the way this cleanup is progressing, it is an interim process and all those cleanup decisions that will be made by the DOE, EPA and the State of Colorado have not yet been made. There is no record of decision at this time, the remedial investigation and feasibility study is not yet complete. The comprehensive risk assessment is not complete, yet we are required by law to complete our planning process by December of this year.

So what that means is, these alternatives are proposed with the understanding that this will be certified as safe for those things when these things are done. If new information comes to light before the refuge comes in, it's

very clear in the statute that cleanup trumps anything in the refuge.

There is additional data collection that is ongoing. We have deer tissue samples that are being submitted to laboratories for analytical analyses for plutonium, americium and uranium. If we find out from that analytical test that there is contaminant tissue, of course that will affect any final decision to implement this proposed hunting plan.

The Fish & Wildlife Service agrees that more characterization is needed. We have asked the Department of Energy for this, they have supported us as this being done. And I believe, Mark, at this time, over 500 additional locations are being sampled in the buffer zone to look for contaminants in the soil.

There are other -- it's great to see everybody here tonight. In some of these situations I believe you're not addressing your concerns to the people who have the authority to make the decisions that you want to see changed.

Questions about what type of boundary will be between the DOE retained lands and lands that may be transferred to the U.S. Fish & Wildlife Service will not be made by the U.S. Fish & Wildlife Service, they will be made by the Rocky Flats cleanup agreement parties, the DOE, the

EPA and the State of Colorado. We will provide input to that, you also provide input to that too.

I think it's very unfortunate that one of the Citizen's Advisory Boards, which is a formal group of citizens that informs the Department of Energy, has their meetings, there are one or two members of the public who participate and address these types of questions and concerns to DOE and EPA and the State Health Department when they are present in those settings. So I would encourage all of you to avail yourselves of the opportunities to talk contaminated issues to contaminant decision makers.

Q. When is the next one?

MR. RUNDLE: I think they're the first Thursday of every month.

Q. And where are they?

MR. RUNDLE: College Hill Library in Westminster. Thank you.

Other opportunities for you to have input are through your local elected officials who represent you on the Rocky Flats Coalition of Local Governments, and I also encourage you to make your comments and ideas directly to the RFCA party agencies.

So cleanup trumps -- there's been a lot said tonight about the overall dangerousness of the entire Rocky Flats site. I can tell you that as of today, I think

earlier we were talking about 5 picocuries per gram maximum contamination than the lands currently proposed to transfer to Fish & Wildlife.

I don't know of any credible scientific evidence of dangerous levels of contamination in the lands that are proposed to be transferred. We'll take more samples, if we find higher levels in this sampling, obviously that will cause us to alter our plans or more likely cause DOE to alter its cleanup plans and to expand them.

I guess that about covers it. I think the most important thing that we all have to do, Fish & Wildlife Service and the public, is to engage the RFCA parties as important decisions are going to be made about long-term stewardship, the institutional control plans and how this site is going to be monitored and how the remedy is going to be maintained for the long term. Those decisions are upcoming and we will be involved in that and I encourage all of you to use the appropriate venues that are available to you to communicate your concerns and desires about that.

The DOE will be responsible for those institutional controls, not the Fish & Wildlife Service.

Before I go on, I'd just like to acknowledge John Rempe. John would you like to say anything about the refuge? John is with DOE.

MR. REMPE: For those of you who don't know me, I'm John Rempe, R-e-m-p-e, I'm with the U.S. Department of Energy out at Rocky Flats. We are the agency that is responsible for the cleanup. We are the agency that will be responsible for managing the retained lands after the cleanup is over.

Really, the only thing I wanted to say tonight, and not to take away from the purpose of the meeting, we will be hosting an open house on April 14th. Mike, can you write this down? Thank you. We'll be hosting an open house regarding the cleanup on April 14th from 6:00 to 8:00 in the evening. We have yet to choose a location for this and we will advertise that through a community advisory through our local government action, but also on our website, which is www.rfets.gov.

And quite simply -- we hope to see many of you there, not all of you there, and be able to answer your questions about the cleanup. Very simply this process has evoked a lot of interest in the cleanup and we would like to get a chance to tell you what we know about the site, how we plan to clean it up and how we plan to take care of it afterwards. So hope to see you there and thank you very much.

Q. What's the phone number?

MR. REMPE: If you have specific questions about the meeting place, why don't you just call me. My number is (303) 966-6246. And we'll get you the information you need.

MR. RUNDLE: Thank you, John. And we need to make sure, if we can, to contact the people that were at Westminster last night because the time that I had was 3:00 to 5:00 p.m., so hopefully we make sure we do that.

I'm going to try to answer questions that I can that are within the scope of our plan and our decision making pool. The first question from the testimony that Mike captured was, why select Alternative B. And I think there was a larger question there about why a preferred alternative was proposed.

It's our responsibility to bring to you a preferred alternative. This decision is an executive decision made by the regional director of the U.S. Fish & Wildlife Service, so the process we're engaged in now is to get your input and feedback back on the proposal.

We believe at this point that Alternative B is the best of the four plausible alternatives to meet the intent of congress in establishing Rocky Flats as a future National Wildlife Refuge, to meet the purposes of that established in the legislation, the missions and goals of

the National Wildlife Refuge system and in concert with feedback that we got during our public scoping process.

So we presented these alternatives, we're required to present a preferred alternative, that is part of NEPA, and that's what we've done. And we're accepting and we'll definitely consider the comments that we're hearing during this formal comment period.

The second question was, why take the risk of exposing people to contamination. And again, I'll say that this is -- this plan is predicated on a safe and effective cleanup that is certified by the Environmental Protection Agency. There is probably not zero risk, but the cleanup levels that are being implemented now, are designed to be protective of the most exposed people for the future use of the site.

The future use of the site, as brought forward by congress, is to be a National Wildlife Refuge. The cleanup is to be based on protection of a refuge worker. And I believe, Mark, the current levels and calculations are three times ten minus the fifth or 1 in 300,000 chance of cancer above background for refuge workers.

This is the minimum requirement for a cleanup is 1 in 10,000 chance above background. So that's the risk that we're talking about. Visitors would not be on the site working on a daily basis would have the lowest risk.

The next question was about horse access and why it would only be allowed in the southern part. And we got a lot of feedback from the folks during scoping about different types of access that they wanted. We had originally proposed only foot and some limited bicycle access on some trails, there was a large input requesting the equestrian use be accommodated as well.

Part of what we do to try to avoid conflict between different groups is use temporal space and zoning. That was our thought on this case. Some people want to be on those types of multiple use trails, some people want pedestrian only, some people want bicycle. Only there's a big mix and we were trying, in our proposals, to balance that issue.

If Alternative A is selected, how do you keep people out of the site. Once again, this is really outside of the scope of our plan. If I recollect, we're talking about out of DOE retained lands, and that's a decision that will be reached by the RFCA parties and when the institutional controls are determined at the time of the final record of decision. So you'll have an opportunity to engage in that public process with those decision makers.

How is one supposed to know when they've crossed a boundary? We will be responsible for the external boundary of the site after land is transferred. All our

proposals call for us to maintain the existing five-strand barbed wire stock fence around the site. Our boundaries will refer to National Wildlife Refuge boundary signs that say National Wildlife Refuge, all unauthorized entry prohibited. And they will be posted at appropriate intervals around the site and corners marked as well.

Q. What is an appropriate interval?

MR. RUNDLE: Typically on rural sections we use about a quarter mile, but an urban area, if there's a lot of traffic, we may go closer than that. And we post them on the corners. That's typical. And it would depend on the use. Where we've got private pasture lands on the south, where there's only one person at this time that has access, I think it's a quarter mile is probably adequate, if that land is developed later for residential use we probably would put up signs a little bit down there.

If terms of the markers of the boundaries between the two properties, again that's outside the scope of this plan. We will be making recommendations to DOE on this. We want this boundary to be clearly and as permanently marked as possible.

If it's deemed safe by the RFCA parties, we would prefer the boundary not preclude the movement of wildlife between the two ownerships or unnecessarily detract from the aesthetics of the site. But again, that's going to

be something determined by somebody else. And whatever the institutional control plan calls for, we'll certainly respect and live with that because cleanup trumps refuge in all cases.

What if high contamination levels are discovered in the buffer zone? We're going to be -- like I said, there's more looking to be done. The institutional control samples are being taken. We do what's called a Level 3 -- excuse me, a Level 3 contaminant survey. We're required by DOE policy to do a contaminant survey on all lands before they're acquired in the U.S. Wildlife Refuge System.

Level 1 survey is typically done when there's farm lands. And that may be simply a check with the health departments to see if there are any known dump sites. An inoculate survey of the site is looking for old drums and farmsteads and things like that.

The Level 3 survey is the highest level survey and this involves collecting analytical data from soil and byota, the sampling of deer tissue, we'll be reviewing aerial photographs looking for disturbances that are not documented to see if there's sites we need to test.

We heard a lot about clandestine nighttime dumping, things like that. We at this point aren't aware of any of that in the land proposed in the

National Wildlife Refuge. If you know where something is, talk to Mark Sattelberg and point it out on the map and we'll go look.

I think that's all the questions. DOE is going to have to come and get anything that they left on the site. We're not going to be responsible for picking up anything. The only thing we'll be responsible for would be any contaminants that we would cause to be released through our management, such as if there was a misuse of an herbicide or a spill of hydraulic fluid from a tractor while we are managing a refuge, that would be our responsibility.

Q. One of your earlier responses to one of the questions about the risk of exposure, you said EPA will certify. Is that the same EPA that certified that downtown Manhattan was safe after the two towers came down? I used to work at EPA when it was an honorable association, but I can't say that's true now, but if you're relying on them now, you shouldn't either.

MR. RUNDLE: I don't think there was a question there.

Q. Well, is it the same EPA?

MR. RUNDLE: To my knowledge, it's the same Environmental Protection Agency.

Q. How often will your contaminant surveys be done?

MR. RUNDLE: We will do a pre-acquisition contaminant survey. DOE will be responsible for long-term monitoring of the effectiveness of the remedy.

Q. In the buffer zone?

MR. RUNDEL: If it's required by the long-term monitoring plan, which we don't decide, you guys need to talk to the RFCA parties about that. I'll say it again, the Rocky Flats cleanup agreement parties that make the decisions are the Department of Energy, United States Department of Energy, United States Environmental Protection Agency, and the State of Colorado, Department of Public Health and the Environment.

Q. Can you tell us how much resolve is being paid, whether it comes out of your budget or DOE's budget?

MR. RUNDLE: I don't know the exact amount of the contract, but I believe we can get that for you. They are contracted to the U.S. Fish & Wildlife Service, DOE has provided funding to us for the completion of this Comprehensive Conservation Plan EIS.

Q. Are there staff members present here now?

MR. RUNDLE: We have three contractors.

Q. You had mentioned that you have taken deer for sampling for americium and plutonium; is that right?

MR. RUNDLE: And uranium. The deer were collected last year in a cooperative effort with the

Colorado Division of Wildlife for chronic wasting disease. 26 deer were taken for CWD testing, which we use that opportunity to collect tissue samples from all those deer, muscle, liver, bone, lung and kidney.

Q. My question is, has the muscle been characterized for a volatile organic carbon tetrachloride?

MR. RUNDLE: We're not putting that in right now. To our knowledge, there is a carbon test plume in the industrial area, but it's a groundwater issue, to the best of our knowledge.

Q. I understand that you're going to be testing fauna. How about flora, are you going to do any vegetation testing?

MR. RUNDLE: I don't know. The plan is not complete yet.

MR. SATTELBERG: Right now the plan is not to test any of the --

Q. Why not?

MR. SATTELBERG: Mostly because there's just studies done by CSU.

Q. I've seen studies that say plants do uptake plutonium into their roots.

MR. SATTELBERG: They do take some up, but not very much. You have to look at which animals are going to be eating the roots and whether or not they are going to

transfer through the food chain.

Q. And therefore no sampling is necessary?

MR. SATTELBERG: We may, it's just really up to the DOE.

Q. At this point there's information on two occasions, I don't know if Lisa Morzel is still in the room, from Boulder City Council, she asked John Rempe to provide samples of vegetation for analysis. He refused twice without reasonable funding. I think this is a matter -- it's something we should insist on before you agree to burn 500 acres each and every year. You must do this out of decency, for God sake.

Q. Why allow hunting?

MR. RUNDLE: Good question. As Bini put on her chart here, there are -- the U.S. National Wildlife Refuge is basically for two reasons. One is to provide a wholesome outdoor recreational experience, and also for population control of ungulates.

Our organic legislation, the National Wildlife Refuge Improvement Act of 1997, identifies six priority public uses for refuges, and they were listed -- and hunting is one of them. These are the things that congress said we should provide to the public on National Wildlife Refuges whenever it is compatible for establishment purposes of the refuge.

Q. Hunting with a bow, like in Vermont, hunting with a bow in a ten-year period left something like ten times the number of injured deer than hunting with a gun. I mean, I'm against hunting, but hunting with a bow leaves far more injured animals. Surely there's more wholesome activities like hiking rather than hunting and murdering animals.

MR. RUNDLE: I'll take that as not a question.

Q. I have a question about your soil survey from the contamination. Are you going to at all account for hot spot possibilities or will you be taking an overall average of the hot spots?

MR. RUNDLE: What is it, Mark, it's 5 samples and 4 more composite testing every 30 acres.

Q. Can you clarify what he said?

MR. RUNDLE: I'm sorry, Mark?

MR. SATTELBERG: The sampling calls for gridding the entire site in 30-acre grids and then taking five subsamples from each 30-acre grid and composite into one sample.

MR. RUNDLE: So there will be about --

MR. SATTELBERG: Total subsamples will about 570. Those would be composited into about 115 samples across the buffer zone.

MR. RUNDLE: And what would that -- or if you can give me how much of that increase or knowledge of what we have now in the buffer zone.

MR. SATTELBERG: The sampling plan is set up to give us 90 percent confidence that we find everything that's out there. There's only a 10 percent confidence that we've missed something.

Q. My question is, I understand that the buffer zone, the zone that's going to be turned into a refuge, will have to be cleaned, certified cleaned before Fish & Wildlife accepts it, but the zones that are going to be kept by the DOE is still going to be contaminated. Everyone agrees to that. How are -- how do you control for movement of that contamination onto the Fish & Wildlife Service land?

MR. RUNDLE: This is really again a cleanup question. We don't decide. But the surface, from my understanding, is cleaned to a depth of three feet. So we know there's going to be some residual contamination and it's going to be a pathway cut off of three feet of clean soil. So if someone did walk on the surface and where that is, I really think as long as there's long-term stewardship and how we maintain that remedy, and that's a decision that RFCA parties will make, and we all need to engage it.

Q. If this site is opened for public use, what type of information will be provided to the public about its

history and contamination?

MR. RUNDLE: I think that's a very good question. And we do have a safety objective in all of the alternatives about educating people. We have not gotten yet to the specifics that of. I think that would be an important thing for you to provide in written comments if you have specific language that you think we should consider when we do a sign plan out there, but there will be a safety education component regardless of which alternative is finally selected. And that may be signs, it may be brochures, things like that.

Q. Are you aware that if there were five people in a room and one is dead and one is running a temperature, spiked temperature, and you took a composite or an average of their temperatures, you'd have everybody alive. I think it's not good to take a 30-acre site where there could be a hot spot and then average it to other places where there could be no contamination. And I put it into the form of a question. Are you aware?

MR. RUNDLE: I am not. Again, that's something that needs to be taken up -- I'm not an expert on design and those types of samples.

Q. You said the DOE is responsible for the cleanup decisions, is Fish & Wildlife providing comments and guidance to the cleanup levels to protect from the

resources?

MR. RUNDLE: We are. We do have two contaminant people working with DOE, we do review plans, we do provide comments and suggestions to them.

Q. Nd are you providing the same comments you would if it was a private company that was responsible for the contamination?

MR. RUNDLE: Absolutely.

Q. My understanding is that while the concentration has been on surface cleanup, there will be, in fact by their admission, little or no cleanup below three feet. And so I'm sure there are many, many industrial sites that would fit into this category where the contamination is below three feet. Think of a lot of gas stations, in particular, using tanks. My question is, does this pose a great new opportunity for Fish & Wildlife to expand their operations across the nation by declaring these sites wildlife refuges?

MR. RUNDLE: That's really outside the scope of our plan. This site is designated as a future refuge by congress.

Q. I would just be interested in hearing how you feel about being placed in a position where you're responsible for an area which you have not qualified yourself as a qualified member of the DOE and the area that

is yours and managed by you and the contaminated area is still the property of the DOE. How do you feel about that?

MR. RUNDLE: I'm not sure I understood. Could you restate that briefly so I can give you an answer?

Q. I'm interested in hearing how you feel about your position in which you're maintaining the lands in which you have not had any control in the standards of safety or the signage between your lands and also the contaminated lands that are nearby.

MR. RUNDLE: As I said before, we are not providing cleanup. I do have considerably more trust in the health agencies that are overseeing the cleanup than some of the other people in this room. I'm not an employee of the government, I work for you. And we're the executive branch. Congress passes laws and we execute them to the best of our ability.

Q. I think I missed it. What did you say the Fish & Wildlife was considering as the dangerous level of PU in the soil?

MR. RUNDLE: You know, we don't set that standard. All I can say is that right now, to our knowledge, the landscape outside that green blob, the highest levels are 5 picocuries per gram. The State Health Department and the EPA are not requiring any cleanup of any

of that land that is proposed to be transferred because they don't think there needs to be cleanup there to be protected of the most exposed person.

Q. I was actually wondering if you had started to think about any sort of safety protocols similar to the Rocky Mountain Arsenal, such as zero dust policy or constant misting to kind of keep the soil from redispersing itself?

MR. RUNDLE: I believe they do have dust control going on.

Q. I mean, when it was turned over to you and you all are monitoring the area, do you have that for your own safety protocols?

MR. RUNDLE: We have not been considering doing that because we're not in the cleanup business. We will not be cleaning up this site, it will be certified for the uses that are proposed.

If you look at the back of the plan, we went to the State Health Department and EPA and said, we're considering using grassland management tools such as prescribed fire, grazing, using tillage equipment to do some site restoration. Is this safe? Can we do this? And there are letters from both the State Health Department and the EPA, and you can read those, and their answer was, yes, in the areas that we anticipated would be transferred.

The intent that I've gotten from the State

and EPA is that the lands that will be transferred and not required to be retained by DOE will not require any institutional controls to be protected.

Q. I had a question. I'm concerned about burrowing animals such as prairie dogs that may go below the three-foot level that is certified as cleaned, and if you plan on dealing with that situation?

MR. RUNDLE: Again, we're concerned about that as well because we want this remedied to be state protected in the long term. The exact requirements of doing that again are part of institutional controls and outside the scope of our plan, but we do address the issue and concern about prairie dogs.

If you read about the prairie dog management, that's proposed in the various alternatives. We do not want to exacerbate the situation. We will not accept -- well, Alternative B would allow acceptance of relocating prairie dogs. We'll do that with some municipal governments to accept prairie dogs. Our proposal is that we not accept any prairie dogs and we also want to manage our vegetation to deter movement of prairie dogs toward the boundaries. so we really need to be careful about where vegetation heights are reduced to various grassland management techniques.

We don't want to make it easy for prairie

dogs to invade the buffer zone. We have made recommendations to DOE about the types of vegetation that they should receive and to their retained lands and it's a very important component of preventing prairie dog invasion to maintain a robust and tall vegetative cover on these sites.

Q. I'm confused. If you could help me understand, I think I heard you say that -- you were just referring to requesting permission to do fires in the buffer zone. Is that --

MR. RUNDLE: We have proposed, in several of the alternatives, that we would use prescribed burning as a grassland management technique. Also, in several alternatives we propose to use grazing, either as a grassland management technique or using goats as a weed control technique as part of integrative pest management.

We also may, in some alternatives, use some tillage to recede areas that are invaded with exotic vegetation. So we went to the health agencies and asked them about what they thought about those ideas and their responses are in our plan.

Q. So it seems to me like I've also heard that we're in agreement that there is not a very well understood characterization of the contamination in the buffer zones.

Is that -- am I right?

MR. RUNDLE: Well, what I think I said is we don't have any data right now that says there's dangerous levels of contaminants out there.

Q. That's because we don't have data on it.

MR. RUNDLE: And as I said earlier, the cleanup is more important than the refuge. And if we find that there are levels -- we have to be done by December. All these decisions are made by then. I don't know how long it will be until land may be transferred. There has to be a record decision, there has to be certification. It may be in 2007 or '8, it may be a lot longer than that.

Q. If this is going to be entitled a wildlife refuge and if those are the six goals of the wildlife refuge --

MR. RUNDLE: Those are the priority public uses of National Wildlife Refuges we allow, as opposed to hang gliders or model airplanes, those are the goals of the refuge.

Q. I'm just thrown by, all of a sudden if we're talking about -- sounds like you're trying to manage it as a cattle ranch again. And if you're going to be killing off or discouraging things like prairie dogs which support about 160 other wildlife species, that doesn't sound like a wildlife refuge. Assuming it's safe for humans or animals,

are you intending to just use this as an extension of a cattle ranch or is it really a wildlife refuge?

MR. RUNDLE: Absolutely not. There are several ecological factors that are important in the evolution and the maintenance of healthy grasslands. One of the natural ecological pressures on grasslands are grazing by bison. If we use cattle grazing it will be as a grassland management technique. It will be short rotation, intensive grazing to emulate natural grazing patterns. So we would be using cattle to manage grass, not grass to feed cattle. Does that make sense?

Q. Yes. And I would hope that you wouldn't be killing off predators.

MR. RUNDLE: No, we're not into that. The prairie dog issue, as I said, we are concerned, we don't want to exacerbate any problems with prairie dogs moving towards the retained land. Also, the black tail prairie dog is typically a short grass species. Rare habitats on the western side of the Rocky Flats live in native tall grass who are native-habitat types. We think that prairie dogs in that portion of the refuge would not be part of the natural environment because black tail prairie dogs are not a tall grass prairie species.

Q. They're short grass?

MR. RUNDLE: That's correct.

Q. So you don't have any intentions of restoring this to any short grass prairie?

MR. RUNDLE: If you look at this habitat map up here, you can see that portions -- the short grass is short and mixed grass, these green colors, so the eastern part of the site is short and tall grass prairie. We have a map that shows current prairie dog colonies, here and here, so there's not a lot of prairie dogs on this site now.

We went under the various alternatives allowing to expand to certain acreages, but we don't want to encourage them toward the DOE lands and we don't want to encourage them toward the tall grass areas.

Q. I just want to thank you for making this so much better than the scoping meetings where we really could not have a discussion like we have now, which I think resulted in a flaw to the EIS because it didn't represent very many people and didn't represent good informed opinion.

My question to you is, I've counted 30 people who spoke to you here, and out of those 30, four people supported your plan. Two of those represented, I think a bicycle association and an equestrian association, so basically less than 10 percent or around 10 percent of the people supported your plan. What are you going to do about

it?

MR. RUNDLE: Well, we're going to complete -- first let me address what you said earlier. I appreciate the comment. We did change our meeting format and I know that some people, including yourself, have an opinion that the scoping process was flawed. We do not accept or agree with that. We believe the scoping process was appropriate and effective.

One example I would give of that is that last night there were 44 people at the meeting in Westminster, only seven chose to speak. The way we did our scoping, everyone was engaged. So we can argue that, but I do not accept your assertion about the scoping process.

That said, we are about a third of the way through the public comment period on the Draft Environmental Impact Statement, CCP, so we've heard a lot of good testimony tonight. And much of that was not within the scope of our plan and not within our decision making authority.

We have two more public meetings to go. We will be receiving comments, I'm sure, from many more people through a written process or E-mail. We'll take all this back and evaluate those, make recommendations for changes to the regional director. Eventually a decision will be made

by the regional director of the Fish & Wildlife Service, and the final document that comes out, the EIS and the CCP will be split into two separate books. The Environmental Impact Statement will include the comments that are made here and our responses to those comments. So some will probably be accepted and some will probably not and we will provide an explanation of that in the final document.

Q. I have a question about water supply, a two-part question. Who is planning to provide clean drinking water for recreational uses, and if so, where are you going to be pumping it in from?

MR. RUNDLE: I've never done a word search, but I don't think the word play is in the CCP. There are no picnic benches or jungle gyms and there are no watering points, except if we have a visitor contact station, we would provide water there. Probably at this point we'd have to have that imported through a cistern, we're not going to use groundwater.

Q. I would hope you wouldn't.

MR. RUNDLE: There frankly is not enough groundwater on the site.

Q. If you're going to be letting handicapped people in, you're going to have to stick with ADA rules and all that. Does that bring up more -- does that bring up more laws that you have to abide by? Do you have to provide

them with water or you don't have to?

MR. RUNDLE: We have to provide equal opportunities for access. The one trail down through the Lindsay Ranch will be a full accessible trail in terms of grading and surfacing, so it will be wheelchair accessible. I think all the alternatives, except A, provide a portable toilet, which would have to be accessible on the site, but there are no recreational facilities and neither are there at most of the trail heads of the managed spaces in the area either.

MR. TRENHOLME: Providing water isn't a requirement of EPA.

MR. RUNDLE: This is wildlife recreation, not city park recreation and we would expect people to be prepared.

Q. In the newspaper it said that DOE and Kaiser-Hill would get a $700 million bonus if they complete the cleanup by 2006. If that's accurate, do you feel that you might doubt whether they are scientifically honest when they say the cleanup is completed.

The reason I'm asking that is, I've just been reading a book called Science Under Siege and it talks about, in various cases, like agency scientists will say something about protecting tortoises in the desert or lakes near Vail and they get their research trumped by the higher

political appointees within the agency. So since that seems to happen within USGS and USWS, why wouldn't that happen at the DOE and EPA?

Q. It goes with his question. And why wouldn't you be concerned taking over such an endeavor?

MR. RUNDLE: That's really outside the scope of our plan. There's nothing in our CCP about trusting these agencies. I can say that in my experience working four years at the Arsenal is that the State Health Department is not a pawn of federal agencies when it comes to enforcing cleanup. So I have a significant level of trust in the regulatory agencies.

Q. I was wondering, once one of these alternatives is decided on, what sort of sampling, if any, would be taking place at the site and who would be in charge of it or has that not been decided yet?

MR. RUNDLE: First of all, the final decision may be none of the current alternatives, based on what we hear from the public and during this process. In fact, I would suppose that whichever is selected, there will be some alterations or changes based on what we're hearing from you tonight and at the other public meetings and any written comments.

We will be directing our Level 3 pre-acquisition contaminant survey, surveys required after

that will be part of the long-term monitoring plan that you should engage the Rocky Flats cleanup agreement parties about. And thank you once again for coming this evening. We appreciate it.

. . . WHEREUPON, the public hearing was concluded at 9:00 p.m.

CERTIFICATE OF DEPOSITION OFFICER

STATE OF COLORADO)
)
COUNTY OF DENVER)

I, SANDRA A. SMITH, Certified Shorthand Reporter and Notary Public, State of Colorado, certify that said public hearing was stenographically reported by me at the time and place heretofore set forth, and was reduced to typewritten form under my supervision as per the foregoing;

That the foregoing is a true and correct transcript of my shorthand notes then and there taken;

That I am not a party to nor in any way connected with any of the parties to said action nor otherwise interested in the outcome of this action.

My commission expires May 23, 2005.

IN WITNESS WHEREOF, I have affixed my signature and seal this 24th day of March, 2004.

_____
Sandra A. Smith
BOVERIE, JACKSON, BUSBY & LA FERA
1735 East 16th Avenue
Denver, Colorado 80218
303-329-8618

PUBLIC HEARING ON

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

AND COMPREHENSIVE CONSERVATION PLAN

FOR THE ROCKY FLATS NATIONAL WILDLIFE REFUGE

Wednesday, March 17, 2004
6:30 p.m.

at
The Arvada Center
6901 Wadsworth Boulevard
Arvada, Colorado

Panel Members: Richard Trenholme
Mike Hughes
Laurie Shannon
Dean Rundle
Jody Erikson

TAKEN BY: SANDRA A. SMITH, CSR

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MR. HUGHES: We're going to begin. I want to start by welcoming all of you here tonight. My name is Mike Hughes, I'm with Resolve and I'm part of the planning team. I want to say a couple of words about tonight's agenda and the approach to tonight's meeting and then I'll give the floor to Laurie Shannon who will talk about the Environmental Impact Statement and the Draft Comprehensive Conservation Plan for the Rocky Flats National Wildlife Refuge and give you some information and then we'll open up from there.

I hope that each of you brought an agenda and so I'll say a few words about that. As you can see right at the top of the agenda, tonight is a formal public hearing on the Draft Environmental Impact Statement and Draft CCP. We've been getting a lot of feedback from previous public workshops and public engagement efforts that what we most need to focus on is fairness, that is giving everyone the same opportunity to speak.

So we will provide you with three minutes to come to this microphone and speak about the Draft Environmental Impact Statement and the Draft Plan, offer any remarks that you have specific to information that you think will alter some technical point in the Plan or in the Environmental Impact Statement, specific comments about the alternatives that we're evaluating, anything that's relevant

to the evaluation of its thoroughness, et cetera.

Once you've had that three minutes, and then each person who wishes to have three minutes, will have that opportunity to do that formal comment, then we'll turn to, if there is time, questions, and I will give you the opportunity to ask questions, get clarification. And in our previous two meetings we have had that opportunity so we've been able to move all the way through the speakers list and provide question and answer.

Couple of ground rules right at the top for the comment period and that feeds into the question and answer period, we want everyone to have their full three minutes. So even if you enthusiastically agree with what they're saying, we want you not to interrupt what they're saying so that they have the full benefit of their three minutes. You might also hear things that you disagree with, so we ask that you give the respect to the speaker and not interrupt them in any way as they're giving their three minutes.

Because we are providing this equal three minutes, when we get to the question and answer period of time, if there's time, we ask that you not get an extra three minutes. So we will ask you to stop if what you do in the question and answer period of time is make another comment, offer some sort of preface to your question, we ask

simply that you ask the question and then we'll answer. So you don't get an extra three minutes by jumping on the Q and A.

I want to say a couple of things about where we are in the process before I turn it over to Laurie, and this is part of the public comment period and public comment process on the Draft and that comment period is extended through April 26th. So this isn't just that you have three minutes and nothing else, you have opportunities to provide written comments, you can go to the website, which is listed here on the agenda, and provide comments.

MR. TRENHOLME: You might mention that it's temporarily down.

MR. HUGHES: Temporarily you cannot do that. The website is not available.

MS. ERIKSON: On those little green pieces there's a fax number and a mailing address. If you didn't get one of those you can get one on the way out.

MR. HUGHES: So fax, mailing address, opportunities for you to provide those comments in other ways other than having three minutes. So don't feel you have to be limited in that manner.

A little bit about where we are in terms of the process, and I'm going to refer to this information behind me. These are the steps that are necessary in order

for there to be a National Wildlife Refuge at Rocky Flats. First of all, the Service, that is the Fish & Wildlife Service, would have to complete the work that you're part of tonight, the Environmental Impact Statement and the Comprehensive Conservation Plan, make those final and issue a record of decision.

Then the Department of Energy is in the process, as you all know, of completing its cleanup of the Rocky Flats site. That cleanup will be concluded, except for the ongoing operation and maintenance functions.

At that point, once they have deemed that their work is complete, the Environment Protection Agency and the Colorado Department of Public Health and Environment would certify the completion of the cleanup.

At that point, DOE could transfer the land to the Department of Interior, and then after that point, the Department of Interior could establish the refuge and begin its management. So we want to emphasize that EPA certification is required before the site can become a refuge.

And as you read the Draft, it's important to know that both the Comprehensive Conservation Plan and the Environmental Impact Statement are written in the context of a certified site, the presumption that EPA certification is complete, and obviously the refuge will not take effect

until that.

With that, I'm going to give the floor to Laurie and then we'll turn to the three-minute comment period. We don't have to let you guess how long three minutes is, we'll help you with cards up here at two minutes, one minute, and 30 seconds, and then remind you that you need to give the microphone to the next speaker. So we'll help you remember where the three minutes are. With that, Laurie.

MS. SHANNON: Thank you. And good evening. Can everyone hear me all right? I'm going to go from board to board and it's hard to do with the microphone. The one thing I want to say about our website, very quickly, is that we do not know how long the web will be down. There has been a court ordered check down of all the Department of Interior Internet access right now and so it's not something that we have done to our website so that you can't comment. So we regret that that has happened, but we all managed to do this before we had the Internet and you can fax or send your comments in writing.

And also, if you need to have copies, again, one of the advantages of having the Internet was people could download the document off the Internet, and if you need a hard copy, we either can offer you a CD tonight to take home or if you sign up your name, I'll be glad to mail

you one and I'll mail them all out until they're gone. We do have a limited number of hard copies. I don't want to have them around after this, so if you need a copy, feel free and I'll mail you one.

With that, I'm going to start and I'm going to just briefly go through four alternatives so you all know just basically what we're here to discuss this evening. And I'm probably going to spend most of my time on Alternative B, that is the proposed action that's before you.

All of the four alternatives have been analyzed, that's what we're required to do under NEPA, the National Environmental Policy Act, but NEPA also asks us to come out with a proposed action and preferred alternative. So Alternative B is our proposed action and this is -- this alternative is what we call the wildlife habitat and public use alternative. And what this does is that it has a strong emphasis on wildlife conservation and habitat management, while allowing for some moderate amounts of public use on the site in the future.

And when we looked at deriving these alternatives, we started to derive these alternatives late in the fall of 2002 and what we took into place or what we took into consideration before we came up with them was that we looked at the Refuge Act and all the things that it said, we looked at the mission of our own agency of the National

Wildlife Refuge system and we also looked at the comments that we had received during a scoping period during the fall of 2002. So those are the kinds of things that went into these alternatives.

Alternative B, I really want to just highlight the things that have changed since we first presented these alternatives last May. And beginning with the southern part of the site, we had a lot of comments from the public that they would like to see some access for horse users, not just pedestrians and bike users, but horses as well. So on the southern part of the site we have made an attempt to provide for some access down here.

The other thing that we tried to do was improve the connectivity, the loop, the ability to do loops and try to improve the connectivity a little bit. That was something else that we had heard in May.

Going to the -- the other thing that we changed a little bit is that we also heard from a lot of people who wanted us to emphasize restoration of the site first before we started getting into a lot of public use programs. So what we would propose is that we would open a trail down to the Lindsay Ranch as soon as we could after the refuge was established and then we would wait for five years while we picked up roads, picked up, you know, we planted some seed and we got our budget and those kinds of

things going before we'd start full implementation of the public use program. And that would go on through by year 15. We would implement all of it under any alternative.

Another change we made, a lot of the other things that stayed the same were we continued to have pedestrian only trails all the way up here in the north. Some of them are seasonal, can only use them on a seasonal basis. We continue -- this trail here continues to be a multiple use trail for bikes and pedestrian access only.

Another thing that we didn't do is that we had a lot of people who wanted us to make that connection from north to south along Indiana and we -- our preference is not to do that because we feel that if there is something done with Indiana, with that road corridor, we would prefer that that connection be made as part of that project or that the communities would make it, because it's very hard to try to get that road corridor and stay outside of the DOE lands that the DOE will retain into the future.

Another minor change that we made dealt with the proposed hunting program. And the proposed hunting program is a limited program. It would be for very highly managed, almost guided, it would be directed for youth and disabled hunters. And that would be for the first two years, and after two years we would look at whether we needed to expand that program to include able-bodied

hunters. And the reason for that is so that we can better meet our target population goals. If we're not meeting them with the youth program and the disabled program, then we would look to expand that a little bit. But it would always be a very limited program. It would be based on target populations.

Those are the basic things under this alternative. We would only have a contact station seasonally operated or weekends only, that kind of thing. It varies from Alternative D, which is the other public use alternative, in that Alternative D would have a full-blown visitor center. All the other things pretty much stayed the same in Alternative B as far as restoration of the site.

Alternative A is our no action alternative, and that really is looking at continuing management of the site under how -- basically how the Department of Energy is doing now with respect to managing their resources, and that would be focussing mostly on the northern part of the site in the Rock Creek area.

The one change that we made in Alternative A was that we took out the option of putting up a chain-link fence around the perimeter of the site. It is still analyzed in the environmental consequences part of the EIS, but is no longer part of any alternative. And the reason

for that is because the cost involved in doing that. Also, we felt that it really doesn't meet our objectives in terms of wildlife management. It precludes having wildlife corridors and we didn't find a lot of support from the community for having a chain-link fence around the site.

Alternative C is what we call the -- one other thing I would mention in Alternative A, it's the one that has the least amount of public use. It would be all guided, just basically VIP-type tours, closed to public use except for special visitors, and that would be the extent of it.

Alternative C is what we call the ecological restoration alternative in that this looks at the idea of maximizing restoration, wildlife conservation and habitat restoration on the site and minimizing public use. And under this alternative, the only public use would be about a 3,000 -- a little over 3,000-foot trail that would go out to an overlook and that would be guided. Again, it would be special cases that we would take people out there.

Alternative C is the one alternative that we looked at for getting rid of the Lindsay Ranch altogether and preserving that with photos and recordation ways instead of leaving it, because under this alternative we look at the idea of restoring the site as much as we can back to pre-settlement, really emphasizing restoration.

And then finally, Alternative D is what we call the public use alternative. And this also looks at having a focus on wildlife conservation and habitat management, really on select plant communities, but trying to maximize, to the extent that we can, as -- within our own funding constraints, the amount of public use that we could have on the site.

Now, we changed this alternative a little bit based on the input that we received last May and again we tried to improve some more connectivity, we tried to make more loops. That's one thing a lot of people wanted to have, more loops and that kind of thing. So we made a few changes to that. And again, this is the one that would have a full-blown visitor center that we analyze those kinds of costs. So I think I covered it all. And we will answer any questions that you may have later. Please feel free to ask Dean, after we get through the testimony, and we'll answer those questions. Thank you.

I forgot the no dog thing. Under none of the alternatives we would avail to have a dog on the site, leashed, unleashed or otherwise. Thank you.

MR. HUGHES: Great to see all the people who are coming here. Each speaker will have the opportunity to speak for three minutes. We ask that you give that speaker the same respect that you would wish to have by not

interrupting, whether you agree or disagree with what they're saying.

She's going to call out two names so that the next speaker knows to perhaps come up here and be prepared to step right up.

MS. ERIKSON: I'm going to have little cards that tell you when you're at two minutes, one minute, 30 seconds and then a stop card. If you don't stop, I'm going to stand up next to you and ask you to sit down.

Randy Olson and Amy Abbott.

BY MR. RANDY OLSON:

My name is Randy Olson. I'm here to represent the Colorado Wheelin' Sportsmen and National Wild Turkey Federation. I'm assistant state coordinator for the Colorado Wheelin' Sportsmen. We are here in support of Plan B. We think it's the best alternative for Rocky Flats in the use of the conservation effort, and more so in allowing the disabled and children or youth to get out and be in the outdoors and experience the outdoor experience.

We have an organization here in Colorado that's 300 members strong, Colorado Wheelin' Sportsmen. There's also another organization called Outdoor Buddies that we work with which is a very large organization.

The National Wild Turkey Federation in Colorado is over 6,000 strong, the National Organization is

over half a million. We do partner with the U.S. Fish & Wildlife Service, we do many activities with the disabled and being in the outdoors, whether it's hunting, fishing, wildlife watching, photography and that type of activity, is a very, very important part to the disabled and to the youth in this state.

We're very pro Plan B. We think that it's the best alternative and we would like to see this plan implemented. And you have the support of the Colorado Wheelin' Sportsmen to help you do that in the conservation effort and working with the children and the youth. And also I'd like to see them open up more for youth activities out on Rocky Flats. We do it already now with the Rocky Mountain Arsenal, partners with bringing the handicapped out, and even though it's once a year, it makes a very, very important part of the disabled person or youth's life to get out and experience the outdoors in any means. It's just so important to have that opportunity and to make use of the Rocky Flats and the area that's going to be utilized out there.

MR. HUGHES: I failed to allow the two people that are sitting next to Laurie to introduce themselves, so let's do that.

MR. RUNDLE: My name is Dean Rundle. I'm the refuge manager for the Rocky Flats project.

MR. TRENHOLME: I'm Richard Trenholme with ERO Resources. I'm part of the planning team.

MS. ERIKSON: Bini Abbott and then Victor Holm.

BY MS. BINI ABBOTT:

My name is Bini Abbott and I live on the West Shore of Standley Lake. What I am not is an animal rights person, I am not in a peace organization, I am not anti-hunting, but what I am is opposed to recreational sport hunting for four days out of the year of animals that are protected 361 days out of the year and fairly used to humans in order to have the good opportunities for photography and wildlife observation.

The definition of a refuge is a place that's safety, shelter, a safe retreat. This chart shows, down by the U.S. Fish & Wildlife Service, yes, they can have hunting, they can have fishing, but they also say that they want these types of wildlife dependent projects to be compatible, and I don't believe they are.

Under environmental interpretation, they have under wildlife that the wildlife will take refuge at Rocky Flats. And under wildlife and people, they have the wildlife comes first. They intend to -- they think that this case of hunting, they will allow ten youth on one weekend and ten adults on another weekend to hunt. They

figure that will cost $5,000, that's $250 per person, and nobody else would be allowed on the refuge at that time.

If there is a need to cull because of population, too much population, then I think it should be the sharpshooters from the Division of Wildlife, not people out there trying.

I think you'll find the perception in this case, perception of the U.S. Fish & Wildlife is more important than actual reality and the perception is, what, a refuge? And then you're going to shoot the animals that become fairly used to humans.

Also, I'm hoping that in the future that we will watch the wildlife through binoculars, through a camera and not through the sites of a gun. Thank you.

MS. ERIKSON: Victor Holm, Clark Johnson. There is a sign-up sheet outside so if you get the urge to speak, you can sign up out back.

BY MR. VICTOR HOLM:

My name is Victor Holm and I'm a citizen of Lakewood. I strongly support Alternative B. I think it's the right combination of public access and ecological restoration.

There are several suggestions that I would like to make on it. One is, I think the visitor center and a combination visitor center, museum, would be a real

improvement to Alternative B. And perhaps this visitor center could be staffed primarily by volunteers, so it wouldn't necessarily increase the cost. The building already exists there and I think it would be a great opportunity for getting the history and interpretation of the environment at the same time.

The other thing that I would very much encourage is, while the public access should be limited to the refuge and not the DOE part, I would hope that the Wildlife Service would spend part of their effort in restoration and management of the entire 6,000 acres instead of just the refuge. Thank you very much.

MS. ERIKSON: Clark Johnson, Anne Fenerty.

BY MR. CLARK JOHNSON:

Thank you. My name is Clark Johnson and I'm from the City Manager's Office here in Arvada and I'm here representing the City of Arvada.

First I'd like to thank the Fish & Wildlife Service for all the work you've put in over the last year with both the public meetings and working with the Rocky Flats Coalition of Local Governments and staff members and citizens throughout Arvada. We think what you've come up with is a good product. And the main point I wanted to get to tonight is that we support the proposed Alternative B, with some minor modifications that you'll receive from us in

our written comments that will be forthcoming before the deadline.

Another thing that I want to make sure gets on the record, we really appreciate the work you've done over the past several months with the open space and park staffs for all of the surrounding communities, trail connectivity, something that's been very important to us, and create a system that both enhances our own existing open spaces as well as the refuge. And I think that you've done that with your Alternative B.

With regard to environmental concerns and issues on the site, the City of Arvada does have environmental issues and concerns about the site and we always will; however, the public uses that are proposed, we feel, are appropriate and safe for the human activity that's planned. And I want to make sure that it's noted that we are not aware of any credible data that would not support the uses that you are proposing within the site.

That being said, we need you, and as a community, we need to maintain vigilance over the industrial area, make sure that the monitoring of the wells and the groundwater systems are maintained through stewardship with the Department of Energy and the Fish & Wildlife Service. And as long as that is done, we feel that the uses that you're proposing are both very suitable and will be an

amenity to the entire region.

Finally, just want to say that we're very fortunate to have an existing working relationship with you, albeit small, but important to us, wildlife refuge at Two Ponds and we hope that the working relationship that we've had with you at Two Ponds, especially recently, and our vision of connecting our nature center to Two Ponds will continue to grow and eventually we'd like to see the Two Ponds National Wildlife Refuge connected to our trail system to the Rocky Flats National Wildlife Refuge and we hope we can partner with you to get that done. Thanks.

MS. ERIKSON: Anne Fenerty and Hildegard Hix.

BY MS. ANNE FENERTY:

I'm Anne Fenerty. My point is that the CCP and the EIS needs to be two separate documents. The present document puts the cart before the horse. The public was asked to make a choice of what kind of recreation they want at Rocky Flats, the alternatives, before they are given sufficient information about the condition of the site.

The CCP needs to be -- needs to follow the EIS. This is the NEPA process. The intent of NEPA, the National Environmental Policy Act, process is to make the EIS the most inclusive public disclosure document about this proposed federal action.

The EIS has to evaluate the effects of this

action on the human environment. The EIS has to evaluate the effects of this particular action on the human environment. This Draft EIS fails to do that.

It also requires the memorandum of understanding between DOE and the Fish & Wildlife Service. The community does not even know the extent of contamination in the area which will remain under DOE control or what kind of monitoring or public protection, if any, will exist.

The EIS fails to disclose the fact that it is dealing with an extremely contaminated Superfund site, a previous nuclear weapons plant which was closed down by the FBI for environmental crimes.

Looking at the EIS and EISs for similar sites, such as Hanford, shows a total inaccuracy of this document. I have now spoken with three environmental lawyers who agree with this assessment. Thank you.

MS. ERIKSON: Hildegard Hix and Gary Ball.

BY MS. HILDEGARD HIX:

I'm going to have to read fast, so you need to use your fast ears. When reading the CCP, EIS document, it was hard to remember that we are not speaking about a pristine piece of land. There was -- where was the industrial history? Where was it mentioned that this highly contaminated site may hold unseen and yet unfound hazards.

At the last two meetings we were told by Fish

& Wildlife that we could not discuss possible hazards as cleanup levels were set by others and that they, Fish & Wildlife, could only discuss their mission. When you are dealing with a former nuclear weapons manufacturing facility, that is not acceptable. People are being asked to make decisions without all of the information.

Actually having done some research, I find that this entire process should have been following the NEPA regulations, in which case the open discussion would have occurred and the public comments would have been published in the EIS. To me it is obvious that the problems come not from Fish & Wildlife here, not the people who did this good job, it comes from the rule making in Washington D.C.

When a National Wildlife Refuge is to be developed on a former nuclear site, or any Superfund site, we need to have a different set of rules. To have recreation a priority on the Superfund sites without first having full and open public discussion is absurd. This does not mean that the Superfund site should never be a refuge, the refuge work in the area of restoration is invaluable.

The species list in the appendix of the CCP is very important and it was very well done. I suggest we have a number of public hearings, talk about them ourselves, how they were established and what they mean. Then I would like to see the site restored, the wildlife managed,

scientists on site and the public kept out for about 20 or 30 years until such time as we can evaluate what has happened, how the weather affects the soil and the manmade structures. And thank you very much.

MS. ERIKSON: Gary Ball and then Betty Ball.

BY MR. GARY BALL:

I'm not very good with science stuff, I'm good with art stuff, so I think the main thing I have to say is, I think that you're going by the amount of radiation that you think is out there, 5 picocuries per gram, or whatever it is, and you're not paying attention to the nature of the radiation itself, whether it's plutonium where one particle inhaled or ingested could possibly be lethal. And I'm thinking about you all being out there every day and what could be out there, I just had to write a little song about it. I don't have time to sing the whole thing, but I thought maybe I could get in a little bit of it and then I'll give you copies and you can make copies for yourselves and then you can sing it yourselves.

It sounds like this: I'm a Rocky Flats ranger, pleased as I can be, and I'm glad to range you, in my SUV. Roll the windows down, take a breath of air, 'palm plants, God, I don't have a care, so it's just forget the dam thing was there, yippy, i-o, ky-yay.

I'm a Rocky Flats ranger, and I'm telling

you, that there ain't no danger, in the job I do. Some say that I'm exposed to plutonium, but the people who say it are really dumb, because the DOE told me that the cleanup's done, yippy, i-o, ky-yay.

I'm a Rocky Flats ranger, happy as a clam, and there ain't no danger, working where I am. There's plutonium dust as far as I can see, but I ain't going to let that stuff bother me, besides it's way outside the scope of my CCP, yippy, i-o, ky-yay.

MS. ERIKSON: Betty Ball and Ken Seaman.

BY MS. BETTY BALL:

Good evening, I'm Betty Ball. Thank you very much for this opportunity to provide comments. I've lived in unincorporated Boulder County for most of the time that Rocky Flats has been here. I'm all too painfully aware of many of the things that have occurred out at Rocky Flats, more aware than I'd like to be. Actually, I wish everybody in this room and everybody who is involved in this process was as aware as I am of the things that occurred there, the cover-ups that have happened, the lies that have been told, the deceit that's happened, and maybe we'd be in a different position today.

I wish it weren't true that this site is contaminated. I wish it weren't true that they're not going below -- three feet below ground level, surface level. I

wish it weren't true that contamination migrates through the soil and the groundwater. But all those things are true. And I am fearful if we go ahead with this proposal, with any of these alternatives, before we get a much better cleanup happening out there than we have now.

I am very fearful of what could result. Actually, I hope that you don't get past number 3 on this chart here. I hope that somehow, with our best efforts, we can convince the Federal Government, the DOE to reassess their thinking and to reassess this cleanup plan before it ever gets to your hands and then you're responsible. So thank you very much for this opportunity.

MS. ERIKSON: Ken Seaman and Dan Shier.

MR. HUGHES: If the remaining speakers would do as they do and say your name, that would help us. Thank you.

BY MR. KEN SEAMAN:

My name is Ken Seaman and I'm representing myself and the Colorado Coalition for the Prevention of Nuclear War and I'm not here to support Plan A or Plan B or Plan C or Plan D. I'm here to oppose them all.

In 1983 I viewed a motion picture entitled Dark Circle. The film described and depicted conditions at and around the Rocky Flats nuclear weapons plant. And among other horrors, the film showed farm and domestic animals

with various birth defects, animals born on properties close to this nuclear facility. It was a most disturbing film, a film that deserved wider circulation than it received. Perhaps it should be revised -- or revived in light of the current controversy of using Rocky Flats as a human and animal playground.

Clearly there are facts and opinions on both sides of this issue of whether or not Rocky Flats can be sanitized to a level for human and animal creatures to frolic and to enjoy, but that is the great unknown in this life and death equation.

Experts on both sides press their claims and have made -- but none seem to have the whole truth. So as long as one seemingly insignificant shred of evidence exists, evidence that living creatures might, and I repeat, might be endangered by treading on this questionable land, let us act on the side of caution. Let us not risk the consequences of being wrong. Let us keep the injured place closed forever. Thank you.

MS. ERIKSON: Dan Shier and Mag Seaman.

BY MR. DAN SHIER:

My name is Dan Shier. I live about 15 miles south of Rocky Flats. And I have been a patrol, a volunteer patrol for Jefferson County open space for the last two years. I've done 300 hours on trails and I could say these

trails are getting used more each year. We need more trails.

To make that comment, I generally support Plan B. I think that the whole business of who is on the trails, I think I can speak to that because as part of my volunteer duties, I talk to people about the trails and how they use them. And the fact is, the bicycle riders are the people that intimidate. If you say, well, we're going to have a trail up here, we're going to close it to horses, but we're going to open to the bikes, I think you'll find the average trail user thinks that isn't a very great idea.

A lot of trail users really do like the idea of having some trails that are pedestrian only, and I think that's the plan, that's a good idea, but I can't understand why a trail would be open to a bike and not horses.

I would -- I haven't done any of the economics, but I know that if you have that much trail, it takes quite a bit of money to maintain it properly. And maybe that's a trade-off with the visitor center, I don't know. I don't know how many people would use the visitor center.

The last point I would make is that I think that the plan you've come up with with regard to the hunting is an excellent one and I would certainly support that. That is all I have to say.

MS. ERIKSON: Mag Seaman and Charlie McKay.

BY MS. MAG SEAMAN:

Good evening. My name is Mag Seaman and I'm a concerned citizen who lives in Denver, Colorado. I am opposed to the Rocky Flats so-called Wildlife Refuge. I have been opposed to Rocky Flats since the '70s. It was toxic then and it is worse now. It is not a person-friendly place. It's the work of people who care not about generations to come.

Those who are acquainted to Rocky Flats workers know the dangers of the land. Many have suffered from a variety of cancers. The land, the water, even the air have been and are still polluted, polluted beyond the level that any animal or human can sustain. We know some of the studies that have been done here, this is not a place for a wildlife refuge.

My appeal, then, is to close the area to animals and to humans, especially to children. I know very many wonderful innocent deer and uninformed people who will surely be harmed by this lethal land. Thank you.

MS. ERIKSON: Charlie McKay and Andrew Ross.

BY MR. CHARLIE MCKAY:

My name is Charlie McKay with Church Ranch. We all -- most or at least the total southern half of the Rocky Flats plant back in the '50s was taken from us under

threat of condemnation, and I think one thing that we missed tonight here is that a lot of this land was expanded in the mid-'70s. Prior to the mid-'70s, it was in private ownership. And I jokingly say, tongue in cheek, to the Rocky Flats people, that the stuff on the southern end which butts up against our present ownership, you guys haven't owned it long enough to screw it up.

The core area, I mean, they've done a great job by taking the big green area, the core area, and treating that a lot differently, so that may address some of the questions and points that were raised tonight.

One small point is on mining. That mining definition that you have there is slightly incorrect and I think I've sent you a memo on that. I'd also like to say that I've worked with this department and they've been very outreaching and very open and very willing to listen to my concerns and they've also been good about not giving in on everything but just listening and saying, okay, we'll take that into consideration, and I appreciate that.

I would like to see the water rights through the plant, not only private water rights, but City of Westminster water rights, protected. We've talked about noxious weeds and all the stewardship things and farmers and ranchers, and we are still farmers and ranchers and we ranch right next to the plant. We'd like to see you have the same

responsibilities we do to take care of noxious weeds, and the prairie dogs. And presently we have the coyotes that live on Rocky Flats that think that our cattle herd's calfer is their restaurant, and hopefully somehow or another we can address that instead of continuing to let it flourish.

Plan B I think is pretty good. It's a nice compromise that allows people to use it and it addresses a lot of the things that were talked about. No plan can be perfect, but that's a pretty good one. Thanks for letting me speak.

MS. ERIKSON: Andrew Ross and Judith Mohling.

BY MR. ANDREW ROSS:

My name is Andrew Ross, I'm a citizen of Arvada. And firstly I'd just like to say, I think that the fate of the A and B series ponds should have been considered within the scope of the EIS, because whether or not the ponds are left in place or taken out, it will have an environmental impact upon the refuge. And I understand why it was left out of the scope of the EIS, but I'd like you to take into consideration putting that in the final Draft.

With that said, I'd just like to say, I'm supporting Alternative B. I think it's a very good alternative. I support the adding of equestrian uses, it's compatible with the surrounding uses, especially the south portion where there are a lot of horse properties; however,

as it was mentioned earlier, my own personal experiences in the area, hikers, bikers and horses don't always mix very well and maybe there can be some way that you could limit that interaction, because sometimes it can be very emotional interaction between horses and bikers and hikers.

Lastly, I'd just like to agree with Victor Holm, Plan B could be enhanced by adding a visitor center at the building at the West Gate. Thank you.

MS. ERIKSON: Judith Mohling and Doug Magee.

BY MS. JUDITH MOHLING:

Happy St. Patrick's Day. I'm Judith Mohling and I'm grateful to speak a second time. In the whole scheme of science, politics, Fish & Wildlife Service, Environmental Protection Agency, the Colorado Department of Public Health and the Environment, Department of Energy, general public, and Rocky Flats, these hearings are a little window of truth, I feel.

It may be that the people speaking who are opposed to allowing public access onto that lovely but eternally contaminated land, actually have a less bias, less political view of Rocky Flats than those who have informed decisions all along. And we who are opposed may have knowledge about the contamination of Rocky Flats and the dangers that will lurk there forever that you actually don't know.

The little windows of the hearings is the way our government lets us at least pretend that the decisions are truly made democratically. I feel that the compelling fantasy that the Fish & Wildlife seems to be living in, as exemplified by the gorgeous and thoughtful Draft document, has to pause for these hearings and the collective remarks that come to you in our allotted time and everything that's said at the hearings, you have to pause and really, really listen.

And I heard, Mr. Rundle, that you said at the second hearing last week that, quote, as of now the decision has been made to go with Alternative B. And I hope that all that means is that you had to have something in the beginning and then you would listen to all of these remarks and give it your sincere attention without having a closed mind.

What are your intentions considering the outpouring of statements that are opposed to public access at Rocky Flats? There's no reason -- there's no reason or necessity that the public ever has to be allowed onto Rocky Flats. It lies within the mission of the Fish & Wildlife Service to manage the land carefully and close it to the public. Since there's so much controversy about it, why don't we just keep it closed.

Plan C comes closest to what I'm talking

about, and I wish that you would work as hard as you can for dedicated funds for long-term stewardship, and I wish that you would manage and restore it without people as thoughtfully as you produced this wonderful plan. Thank you.

MS. ERIKSON: Doug Magee, Thomas Rauch.

BY MR. DOUG MAGEE:

My name is Doug Magee, I'm a resident of Arvada and I'm also the coach here of the Arvada Park Advisory Committee, but my comments tonight are my own and not of the committee. Thank you for the opportunity to make my comments.

I think the document was very well done, easy to read. I support Alternative B. I think it's the best balance between restoration, public use and also environmental education and outreach. I do like the fact that you're using mostly existing roads and not creating new trails throughout the site. I'm encouraged by the proposed trail connectivity between the proposed refuge and the various municipalities that surround Rocky Flats. Arvada trails would connect into it Westminster, Boulder as well.

The hunting program, there's been a number of comments, and I have to disagree with Bini, I do believe that the hunting program would work, but I really do oppose it going to able-bodied individuals. I would really

encourage that it stay with youth and dis -- people with disabilities. And if you have to add another weekend to do that, I would encourage that and not go to able-bodied hunters.

I do propose or suggest that you eliminate the off-trail usage that would be permitted seasonally on the south end. I think you're going to get that anyway, but I wouldn't encourage that. I would propose you keep it all on the trails.

And my final comment is about limiting your prescribed burns. I would hope that you could find other weed management, weed control methods that you would use first before you used prescribed burns. Thank you.

MS. ERIKSON: Thomas Rauch and Jim Morris.

BY MR. TOM RAUCH:

Good evening, I'm Thomas Rauch, I've lived in Denver since 1966. As a long time peace activist and opponent of the production, possession and use of nuclear weapons, I celebrated when Rocky Flats' mission as producers of nuclear weapons components officially ended in 1992. I'm grateful to all the men and women who have done and continue to do the dangerous and demanding work of cleaning up the radioactive and other hazardous materials in the contaminated buildings and land at Rocky Flats since 1992.

I look forward to celebrating the completion

of the current cleanup work in 2006. Even some of its citizens have pressed for a more complete cleanup.

What do I want for the future of the Rocky Flats property, first I want no public access to the property because of the remaining contamination of the site with radioactive and other hazardous and toxic materials.

The Department of Energy admits that such materials will remain in the soil and water even when the current cleanup work is completed, and no one knows the full extent of this contamination because it has not been thoroughly studied.

Second, I want the U.S. Government to provide resources for continuing to identify and remove the remaining contaminants from the property. Third, I want the property to be preserved as a wildlife refuge for the present with ongoing research on the effects of the contamination on the wildlife to determine if the Rocky Flats site can be a safe wildlife refuge for the long term.

I know the question always comes up, well, your ideas may sound great, but where do we get the money for it given the budget situation and the looming deficits. The answer lies precisely in the political and military arena that created Rocky Flats in the early years of the Cold War. The U.S. was turned away from its policy of world military and economic domination, including the domination

of outer space.

The U.S. must take the leadership in assuring that all the nations, including our own, destroy the weapons of mass destruction and assuring that no more weapons are produced. This can be accomplished by a truly international and verifiable process, a process that will require extensive and intrusive international inspections of all nations, including our own, possessing or seeking to possess weapons of mass destruction. If we did this, we could cut our military budget at least 75 percent and perhaps more.

Visionary, idealistic, of course it is, but that's what most so-called reasonable people said when other human beings began urging the ambush of slavery or when a small band of women demanded the same rights as men in this country, rights guaranteed to all by the Constitution, but never afforded to women after that time.

If human beings have the ability to create weapons of mass destruction, and we do, surely we have the ability to get rid of them, if we ever will. Thank you.

MS. ERIKSON: Jim Morris and David Maxwell.

BY MR. JIM MORRIS:

I'm Jim Morris and I'm worried about the cleanup. I don't trust DOE's promise to clean it up when they gave it to you. And my experience over the years has

led me to doubt whether DOE is trust -- worth trusting.

Some of the recent articles have talked about the chairperson of the grand jury, two of the workers at the plant, and the FBI agent that led the raid all claiming that the DOE lied and said there was no midnight burning, they lied when they said they were not polluting the water supplies by dumping stuff that was radioactive substances and solvents into the water supplies.

My own history of watching the plant and going to hearings has been, sometimes it seems as people were speaking to me also. I'd be told there was monitoring and that the samples were always being analyzed and then a month or two later I was told there was no money to analyze the samples, the deer samples weren't being monitored.

I had friends who told me rumors that plutonium is moving into the groundwater toward Marshall Landfill. Iggy Litaor, the Israeli scientist that said plutonium was moving in the soil, they fired him right after he found it moving. They kept giving him grants and then there was a huge rainfall one summer and it moved a lot, they fired him.

So I just have this theory that DOE doesn't speak truthfully or doesn't know what it's saying when it speaks. So I don't think you can rely on the plant to be clean. So I really want the plant cleaned below three feet.

I think it should be surveyed so you can find what's there and we should have -- maybe you can think of something, a bond or something to try to guarantee that DOE is going to pay for the cleanup.

Like if it's 10 years from now or 30 years from now, nobody is analyzing either in the known dump sites or the other places maybe appearing as streams moving or we have heavy rainfall or lots of prairie dogs dig down, whatever it is that's occurring. Where is the money going to come from? Is it going to come -- I'd like the money -- I'd rather have the money go to you than DOE. I'm sorry, I'm not saying this right. I don't want your budget, the general budget of Fish & Wildlife to be cut. And maybe because something has to be cleaned up here because DOE dumped it on you.

So people here have fought successfully to stop the highway being built through the contaminated area, fought to have better cleanup levels, and I hope that you'll join us and I hope that all of us will speak up to try to get a better cleanup.

MS. ERIKSON: David Maxwell.

BY MR. DAVID MAXWELL:

Good evening. I'm David Maxwell, I am a resident of Arvada for 20 years. My background is air quality meteorology. And in the '80s my neighbors used to

ask me, what's going on at Rocky Flats, thinking that I know all the answers, even though I wasn't employed by them, and I said, I don't know. I really don't know what's going on. There's a lot of secretive stuff going on. And then after the FBI raid in 1989 and the removal of the contractor at the time, I ended up being hired by EG&G in 1990 to help with the cleanup of Rocky Flats in the air quality field, make air quality assessments of what was going on inside the facility, inside the ductwork and hazardous and contaminated buildings with plutonium, americium and uranium as well as the monitoring networks outside, the facility on the plant boundary and the ring around the industrial areas as well as in the communities.

And after six and a half years at Rocky Flats, I was pleasantly surprised that at least the air quality inside the buildings was maintained there. There was nothing or very little going outside of the buildings or the stacks pertaining to hazardous chemicals or radioactive materials. The reclamation going on at the facility and our air monitoring showed that there was well below any serious levels, that doesn't mean there aren't any problems.

In short, I would support Alternative B to make it a wildlife habitat and public use. There's nine square miles in the buffer zone and I think there's a lot of good activity. I support the monitoring that will continue

and adequate funding to make sure that some of the points other people have brought up about contamination outside Rocky Flats downstream, places like where I live and others, are at least we had the opportunity to see data and examine results and had periodic hearings to see how things are going.

So anyway, I do offer some expertise and I am satisfied at least that the cleanup is going properly. And my time there in the early and to the mid-'90s, it was a good time and I felt very good about the air quality at the site. That's what I can address, the air quality, both on the site and in the communities, was at a safe level. Thank you for letting me speak my mind here.

MS. ERIKSON: The last two are Shaun McGrath and Lisa Morzel.

BY MR. SHAUN MCGRATH:

My name is Shaun McGrath. I'm a Boulder City Council member and the City of Boulder's representative on the RFCLOG. I want to make some initial comments on the Draft Comprehensive Conservation Plan, but I want to first emphasize that these comments are not intended to serve as the complete and final position of the City, rather I'm going to highlight some areas of critical importance to the City in any refuge plan. The City intends to provide formal written comment prior to the April deadline.

First, a general policy, the City has long advocated for closure and cleanup of the weapons production facility at Rocky Flats. We continue to work with the other local governments in that area through the RFCLOG to argue for federal funding and attention to these issues. Proper cleanup of the site remains our first priority.

Beyond the cleanup and closure, the City supported the Udall-Allard legislation in 2001 which resulted in having the site designated a wildlife refuge. This was important to the City of Boulder not only to protect the site from future development, but also preserve federal ownership of the site. Protection from development was an important part of our vision for the landscape given the efforts made by Boulder and Boulder County in setting aside open space adjacent to the site. Federal ownership is critical in our view to address the uncertainty of the public health issues and so that if any problems are detected 20 years from now, the liability will be with the federal government, not local communities, to address those problems.

Second, to the specific refuge proposals, as previously stated by the City we support the wildlife vision as desirable and compatible with our community goals. As a neighboring landowner, the City supports the Draft goals conserving and enhancing native ecosystems, plant

communities and wildlife species. The proximity of the refuge lands to other open space lands provides an extraordinary conservation opportunity. The refuge lands will make important contributions and regional efforts to protect the values of native grasslands, shrublands and foothill riparian areas.

The City maintains that the focus of management planning should be, one, the unique conservation opportunity of preserving a large and rare habitat unmatched anywhere along the Front Range of Colorado, and two, the preservation and restoration of native plant and animal communities.

Management actions, therefore, should focus on the following: Plan conservation areas and visitor facilities, work to restore lands that have been degraded, conduct management in the context of elevated soil contamination levels, and keep any further fragmentation of the landscape to a minimum.

The City supports Alternative C, which we believe strikes the best balance for a refuge setting. This alternative calls for limited public use and minimal facility development focussing instead on restoration and management activities to try to replicate pre-settlement conditions.

Jumping ahead, other comments, we would like

to know the status of the DOE, Fish & Wildlife Service -- actually, I'm at stop so I will provide you with my comments as a part of the record, if I may. Thank you.

MS. ERIKSON: Lisa Morzel.

BY MS. LISA MORZEL:

I'm Lisa Morzel and I'm a resident of the City of Boulder. For the past seven years I've been an elected representative of Boulder and been a founding member of the Rocky Flats Coalition of Local Governments. Tonight my comments are my personal comments and don't reflect the City of Boulder or the Coalition.

I've always supported having Rocky Flats cleaned up properly to the highest standards reasonable in establishing Rocky Flats as a wildlife refuge. Knowing the complexities of this site and its past use, a wildlife refuge maintained under federal control is the best future use for this former nuclear weapons site.

In considering any scenario or alternative, it is important to proceed slowly and with caution. One of the objectives of any plan must include ecological restoration of the site to open the site to the public without first -- this first being accomplished would be short-sighted and would not serve the broad, long-term community interest. It's very important for the public to fully appreciate that the open space that will be left on

Rocky Flats is not just any open space, but one that developed nuclear weapons for close to 50 years and there is a legacy left from that.

In the end state agreement signed by five members of the seven-member Coalition, the decision was made to focus the cleanup more on surface remediation than on the subsurface. Specific areas in the subsurface of the DOE retained lands are contaminated and will be left as such. Caps and other monitoring systems will be put in place. Prior to allowing access to the site, DOE and Fish & Wildlife must clearly state how access to the DOE retained lands will be restricted. The purpose is to ensure that no one plays in the pond, walks on the caps, damages the groundwater and surface water monitoring stations.

These important controls will be retained by DOE and we want to ensure that visitors to the refuge stay clear of these systems. It is important to proceed with caution and to have ample time to ensure these caps and other monitors are working as envisioned. It is also critical that time be given to ensure that the assumptions made by the regulators of the site are proven correct.

I urge citizens living near Rocky Flats to support this former nuclear weapons plant to be converted into a wildlife refuge. I personally support Alternatives A and C, but more important than any specific alternative is

that we proceed slowly and with caution on opening the site to the public, that the site be ecologically restored and that time be given on the order of 15 years to ensure caps and other monitors for contamination are working. No reason exists to rush this. It took 50 years to contaminate this site, it will take at least 15 from now to ensure public exposure on this site will be safe. Thank you.

MR. HUGHES: Anyone else want that three-minute opportunity? If not, then we'll turn to questions. I'll ask Dean to come to the microphone and if there are factual questions, pieces of information that you have in the Draft Environmental Impact Statement, we can take those questions now.

Q. My question relates to all the alternatives and that it is not answered in any of these documents, physically what is going to isolate the industrial area from the rest of the facility? Are you going to put up a fence? Are you going to put up a wall? Are you going to put up a sign? Physically what's going to be out there so if you adopt Alternative B, how do people know they're not supposed to go into the industrial area?

MR. RUNDLE: That's a real good question. Before I field that question, I do want to make a general statement. I know that many members of the public have indicated a frustration about the scope of this plan, that it does not answer questions about the cleanup. And there is very good reason for that. And the reason for that is that U.S. Fish & Wildlife Service is not a decision maker when it comes to some of the issues.

Among those issues are the ones that you just raised about how the exact delineation of the retained lands will be. I think that's something you should be happy about, in that cleanup of nuclear weapons former production facilities, is not the core business of the U.S. Fish & Wildlife Service, that is the responsibility of the Department of Energy with oversight from the other parties to the Rocky Flats cleanup agreement which are the State of Colorado, Department of Public Health and Environment and

the U.S. Environmental Protection Agency. And those agencies have a great deal more expertise than we have in terms of cleanup.

We are not disinterested in the cleanup, and let me emphasize that. We are going to be working out there, we want to have a safe landscape for our workers and any visitors that are invited out there. At this time, although there are -- have been several statements about widespread and dangerous residual contamination throughout the entire site, boundary to boundary, we do not know of any credible scientific evidence that there are dangerous levels of plutonium or the types of contamination in the vast majority of the buffer zone. Indeed at this point the regulatory health agencies are not even requiring lands proposed to be transferred to the refuge to need remediation to make them safe for use by refuge workers or visitors who will be much less exposed.

Now, we are in a different situation with this planning process than typical. This is very unusual for us to be preparing a Comprehensive Conservation Plan for a National Wildlife Refuge before we have actually acquired the property. Typically when we're going out to use our own land acquisition funds to buy a piece of property, we go through a NEPA process to decide whether or not a refuge should be established.

In this case, that's not necessary because Congress said there shall be a National Wildlife Refuge. It's required in the statute. The time line provided in that statute was for us to complete this process by December of 2004. So we are on a statutory time line and we're going to do our best to execute that law that your elected representatives brought forward in the congress of the United States.

And we understand all of the cleanup decisions made by those cleanup decision makers will not be made by the time that we have to finalize our plans. So this plan, as Mike said at the beginning, is based on the premise that in the context that lands that will be transferred to the U.S. Fish & Wildlife Service that will become part of the National Wildlife Refuge system, will have been effectively cleaned up to levels that are safe for refuge workers and any less-exposed people which would include visitors.

We are gathering more data. We have deer tissue samples that were taken last year that are going in to be analyzed to see if there are contaminants, americium, plutonium or uranium in those deer tissues. If we find out that there are, clearly that will affect the final decision on some of the uses that are proposed for this site.

Additional soil samples are being taken in

the buffer zone as we speak. Much better characterization than we currently have. Currently we don't have any evidence of dangerous levels in the buffer zone. We're continuing to look, and if that scientific data indicates that our plans are not safe or not appropriate, obviously those plans will have to change.

So although I really appreciate all the great attendance we're getting at these meetings and input we're getting from folks, it's important for all of us to talk to people who make decisions about cleanup, about cleanup issues, as opposed to refuge management issues. And there are good venues to do that. The Rocky Flats Citizen's Advisory Board, which is a formal group of citizens to advise the Department of Energy on the cleanup of this site. I wish as many people attended those meetings on the first Thursday of every month. So there's an opportunity there. That Rocky Flats Coalition of Local Governments meets monthly, if you live in Jefferson or Boulder County, those municipalities have elected governments, or the Department of Energy and the regulatory agencies.

We have very important decisions that are upcoming that many of you mentioned tonight, and that is, how are we going to ensure long-term stewardship of residual contamination that will remain in the DOE retained lands.

I'm confident that if we have closure, the

pathways for that will be cut off and we won't be exposed to things three feet underground. I think it's important that we work with the RFCA parties to make sure they stay where they are.

So back to your question, sir, the decision on that is outside the scope of our plan because the demarcation of that boundary between the ownerships will be made by the RFCA parties, not by the Fish & Wildlife Service. We will have input to that. Our input will include, and we haven't formalized it yet, that that boundary be very clearly and as permanently marked as possible so that anybody, anyone on the site legally or illegally would know whether they were on National Wildlife Refuge or Department of Energy stewardship property.

I think we would prefer that if it's deemed safe, that the boundary not be a barrier to the movement of wildlife across the landscape or not create an unnecessary disruption in the visual characteristics of the site. But that remains to be seen and that will be decided by the RFCA parties in their institutional control plan. And I would encourage you all to participate with the CAB and the RFCLOG and DOE decision makers about that.

Before we go to further questions, I would like to ask Joe Lagare, with the United States Department of Energy, just to come up for a minute. I'm not going to ask

Joe to field questions tonight, but I think he has some things he'd like everybody to listen to tonight. Thank you.

MR. LEGARE: Good evening and Happy St. Patrick's Day. My name is Joe Lagare, I worked out at Rocky Flats since 1986. I actually showed up the day our cleanup agreement was signed and I've had the principal responsibility of implementing the agreement. Additionally, I was one of the chief combatants for DOE and the revised soil action levels working with the State Department and EPA and the communities.

We had a lot of issues, specific community meetings in those past eight years and the organizations that Dean mentioned, if you go to those meetings, you'll get right into a pretty detailed issue about a landfill or groundwater monitoring or something like that.

One thing is certain, in my experience, over eight years, which is relatively short compared to some of your involvement with Rocky Flats, we've made better decisions because of community involvement. Sometimes we hate to admit that because everybody likes to be right, but we really have, particularly with the soil action discussion.

One of the things we wanted to offer up here, and it doesn't have to be a one-time deal, Dean had mentioned to me, you know, we're getting a lot of cleanup

questions and we want to talk about how we're going to manage the refuge. Obviously there's a series of checks and balances before it ever gets to be a refuge. We need certification from the EPA and the State Health Department, for example, it's not just a, trust us with a whistle and a prayer, here, Dean, here's the title, there's actually quite a lot of process and public process to ensure that the refuge is, when we turn it over, is as represented.

Having said all that, it's difficult now to get into a meeting where there's the broad view again. Tell us again the big picture about the cleanup and how that relates to how Dean is going to manage the refuge. So what we're talking about and what we've scheduled April 14th, but specifically for that purpose we have the Fish & Wildlife Service, the DOE and quite probably the other parties to the cleanup agreement, State Health Department and the EPA, in the same room where we can talk about those issues of transition and explain to me again why you think this is safe for a refuge.

So clearly you heard some of those comments tonight, you heard them as part of the written comments that came in at the previous meetings, so we want to provide the opportunities in a forum. This meeting in particular will be at Broomfield City Hall and they've agreed to host that meeting, 8:00 to -- excuse me, 6:00 to 8:00, and so please

come out if you have those questions. You're not a regular, so to speak, at our cleanup meetings and you're looking for a forum to get your big picture questions answered. Explain to me how you're going to tell me that the cleanup is safe. Explain to me what the site looks like when you leave, surface and subsurface. Tell me who is going to be there. In fact, he's here right now. Dave Winus (phonetic) is from Legacy Management of DOE, he's running the team that's going to take over from environmental management some time in the future here.

So just an unpaid, unpolitical announcement for coming out for. Those of you that have an interest and maybe some of the discussions we have in the other forums are just to focus on the specific remediation. Come out on April 14th. If we have a large turnout, who knows, maybe we'll have another one. We'll see how it goes. Maybe we'll have another one, but I just wanted to offer that up.

MR. RUNDLE: Before you ask any more questions, I caught one question during testimony that I did want to address. There was a statement made that I had said at Boulder the other night that Alternative B has been selected. And I want to clarify if there was any misunderstanding.

Last Thursday a comment was made, a question was asked, why are you proposing this alternative at this

point. And my response to that, and somebody correct me if I'm wrong or misspoke it again, but we are required to bring to you a preferred alternative during this Draft phase. This does not mean that there's a decision made at all.

We are getting a lot of very good valuable comments. I would be very surprised if the final decision is exactly any of the current alternatives that are being presented tonight. Every stage we have made modifications based on the input we have received from the public and from local governments and other government agencies. So Alternative B is our preferred alternative. The law requires us to tell you what we're proposing to do so that we can get your feedback on that.

It is not a decision at this point at all. So I hope that's clear.

MR. HUGHES: For those of you who like meetings that go in a straight line, you're in the wrong one. We're going to go back to a three-minute comment period. We've had someone join us who wants that opportunity for three minutes. The meeting isn't over yet, so we're going to ask he or she to come forward. We'll do that now, if that's okay. We'll give you three minutes and then we'll get back up here with questions.

BY MS. PAULINE REETS:

My name is Pauline Reets and I'm a

representative of the Audubon Society for Denver. We have worked over at the Rocky Mountain Arsenal dating back in the late '80s when the Arsenal was being considered as a wildlife refuge. And so some of the issues are similar. There was a contaminated area, there was a lot of wildlife, there was some -- there's a lot of value in preserving that wildlife, and so we work to have that area kept as a -- designated as a refuge, which it was in 1991. As a future refuge, I should say, not right away.

So I guess my -- I have a couple of questions. First of all, I have to admit, I have not been able to access the full plan. I got on the website and I got to the summary and the next day I went back and it was down. So I haven't read the full thing. Therefore, my comments are pretty preliminary.

We feel that overall the most important thing is public health and safety. And once those issues are settled, if they can be, then the question of public use comes up. This is actually not a very big area. It's going to have open space on three sides, which is wonderful, unlike the Arsenal, which is going to be completely surrounded sooner of later. So our feeling about public use is, you'll phase it in, the public would probably do something like Alternative 3. I don't know if you can combine alternatives, that's one of my questions.

Can you in fact say, we'll do Alternative 3, which is very limited public use, only tours, only one trail open, very restricted public use, very supervised for the first 10 or 15 years? Then we can move to perhaps somewhat more use, something along the line of Alternative B.

In any case, I think a visitor center would be a really useful item no matter what alternative you decide on. It can educate people about the site, about the natural features of the site, but also about the history of the site as a nuclear bomb plant. And I think that's really important. People don't want to lose that. They certainly didn't want to lose it at the Arsenal.

I think the key word in any of this is going to be flexibility of management, because you have to be able to open and close areas if you get any nasty surprises, you will also have to close areas if you have nasty rafters, want to keep trails out of the creek bottoms, and I would say, in general, you need to really manage that site to prevent erosion, degradation of the site.

So that's what we're concerned about once the public health and safety issues are taken care of. Thank you.

MS. ERIKSON: Just for those of you who may come in, her comment about the website, the website is in fact down.

MS. SHANNON: You know, if you need a copy of the Plan, you want a hard copy, please, we have a sheet out here, you can sign up your name, I'll be glad to mail you one. Or we have some available now, we'll give you those. But again, we apologize, but the Department of Interior, we have been -- it's a court order, it has nothing to do with Rocky Flats or anything else, but all Department of Interior is shut down right now for Internet access. Thank you.

MR. RUNDLE: So you know how to get a hard copy then? There was a question that she asked during the last statement which was, can you combine alternatives. And the answer is, absolutely. Any of these alternatives can be modified before a final decision is made.

We're required, and what we try to do is present a range of reasonable alternatives. Any of these alternatives we believe can meet the purposes of the refuge established in the special legislation, the missions and goals of the National Wildlife Refuge system and be responsive to at least portions of the public comment that we've heard during scoping.

So any of these are plausible. Like I said, I won't be surprised if the final decision is exactly any one of these right now. The final decision is made by the regional director of the United States Fish & Wildlife Service. And after the public comment period, we'll go

back, we'll look at the totality of the comments, we'll discuss that, we'll prepare a final Draft at that time, the CCP will be separated from the EIS. They will be published as two separate companion books. I guess at this rate they're going to be books when we get done. And the regional director will make the final decision on that and it will be published in the Federal Register.

Q. Is it too early to ask about what the trail surface would be initially? What are you looking at?

MR. RUNDLE: What we are proposing is to use existing roads and disturbed areas for almost all the trails. I think there's one small foot only loop on the north side that would require a small amount of new trail construction.

We typically, on other refuges, use crushified (phonetic) as hard trail surfaces and I would think that at the Flats we probably would use that on some trails, or depending on the seasonality of the use and the slopes and things like that. We do want to minimize erosion impacts definitely.

Q. So you're not looking at like in the City parks open space where they have the concrete trails for the hikers and bikers and the dirt trails for the horses?

MR. RUNDLE: We won't have -- I don't want -- it would be extremely unlikely that we would have impermeant

surface trails.

Q. What would be the purpose of separating out multi-use and equestrian?

MR. RUNDLE: Well, the reasons that we have -- I think Bini took her sign down, but the priority public uses of the National Wildlife Refuge system are wildlife dependent. So we viewed horses and bicycles as a means of access to engage in bird-watching or wildlife photography or wildlife interpretation. We're not opening just to provide the recreation that is inherent in bicycling or riding on horseback.

Now, we're not going to go arrest people if they jog on the trails and don't stop and look at a bird, but the purpose for providing this access is to provide access for wildlife dependent recreation.

We have proposed -- we got some feedback from the public, well, all three uses can go on the same trail, it's okay, some people say, well, I don't mind the horses, but I don't like the bicycles, they're too fast. Other people say the bicycles are fine, but I don't like the horses. And we frequently use temporal or zoning strategies to separate users, give people a choice of what type of conflict they may want to be interested in, what types of conflicts they'd be willing to accept or what.

I don't know if that -- in the Draft plan

there are Draft compatibility determinations and one of those involves the multi-use trails in our plan that are proposed. And I can tell you that the whole issue of the equestrian and bicycle use within a National Wildlife Refuge is one of considerable debate on a regional and national scale.

Q. I was wondering, on your main trail on the south and kind of your only trail, why does it go so close to the DOE zone? Is it because of topography or present roads? Why not stay more along the perimeter?

MR. RUNDLE: That's a good question. Well, the proposed trails are cited for -- a couple of things went into that. One was, where are there existing roads that are already disturbed sites that we don't have to do additional disturbances. We tried, in most cases, to avoid the steeper slopes where erosion problems would occur and we also tried, since there's not a lot of off-trails, mostly on-trail uses proposed, we tried to provide trails that did provide interesting vistas and opportunities to look down.

You won't see many trails in the right corridor running adjacent to streams, but those are some of the more picturesque and wildlife -- heavily used parts of the site by wildlife, so a trail looking up on a ridge top looking down and into those riparian areas, that was part of the process.

So that trail you see would be on the edge or near the north edge of the impediment on the south side of Woman Creek, and it's really not as close as it looks. You have to remember the scales of these maps we're talking about. That's a 6,000-acre site, so while there's only half an inch on this map, it's actually hundreds of yards on the ground.

Q. My question was, you made reference to the buffer zone, the refuge area, the DOE area, is the buffer zone part of that or beyond that?

MR. RUNDLE: That's an excellent question. Generally, when we talk about Rocky Flats, we talk about the industrial area which is a fenced 400-acre site that's kind of -- and actually it's really about like this, okay. And that's industrial and the rest of the site was referred to as the buffer zone.

One person in testimony earlier mentioned about the expansion of Rocky Flats in the 1970s, the original site from up until 1974, was only 2500 acres, about like this. And these additional lands were acquired from the 1968 fire. I think that was in '70, '71, I believe that's right. So when we talk about the buffer zone, we're talking about outside that fence.

Now, you'll notice that the DOE proposed retained lands, and it is true that the final definition of

those lands has not been completed yet, won't be until the cleanup is done, but it includes the industrial area where there will be contaminants left below grade in the industrial area. It also -- we call it the upside down fetal prairie dog shape, but these legs go out, there's a landfill here, sanitary landfill here that's going to be retained. This leg goes out and covers the settling ponds, the A and B series ponds in the Woman Creek branch that we talked about, and this is where -- this area is I believe a 7 picocurie per gram line for residual surface soil, contamination of plutonium.

The main contamination that actually escaped the industrial area is called the 903 Pad. In other words, the wind blew, the plutonium blew to the east. Plutonium levels in most of this out here are like less than 1 picocurie per gram. There may be more contaminant stuff, but we're talking about the buffer zone outside where -- that is not exactly the same as the land that DOE wants to retain.

Q. This kind of green area?

MR. RUNDLE: Yes.

Q. Real quick, you said 6,000 acres, does that include the industrial acreage?

MR. RUNDLE: The entire site is about 6,238 acres, I believe. And if you remember, that current DOE

land, that's about 1200 acres once we have a 5,000-acre refuge.

Q. You talked about trails for horses and bicycles and able-bodied people, how is the U.S. Fish & Wildlife going to access the property, if that should come about, for the mobility impaired?

MR. RUNDLE: The DOE portions of the trail system, that would be 100 percent ADA accessible in terms of grade, slope and surface. Not all the trails, particularly the one going out to the Lindsay Ranch and overlooking the Rock Creek Reserve, would be wheelchair accessible.

Q. I think you said last week that you anticipate having a staff of four for Plan B and eight for Plan D. How can you realistically expect to keep people on the trails, when there's so many miles of trails and out of the DOE retained area, with such a limited staff and especially considering your goal of having a seamless boundary for transition of wildlife --

MR. RUNDLE: That's a good question. We aren't thickly staffed in the National Wildlife Refuges. I feel pretty good about the proposal in that regard for a couple of reasons. One is, I do use personally a lot of the open space trails and the trails in the national forest. I think compliance by the public using this area is pretty good. The leash law compliance is not very good, but the

staying on the trail compliance is pretty good.

This is not the only site that we manage that has hazards in it. I can give you examples. The last place I worked, the Tijuana Slew Refuge in Southern California, we had really significant biohazards in the estuary there because of raw sewage and things coming in from Mexico, and we had a very small staff there as well, but we had very good compliance with signage and active law enforcement. And I think that that will be adequate.

Now, the staffing that's proposed here that we think we need to run Rocky Flats, it's also augmented by law enforcement, full-time law enforcement personnel over the Rocky Mountain Arsenal complex who will work both sites, and also by maintenance personnel, administrative staff at the complex headquarters at Rocky Mountain Arsenal. We're not going to duplicate two full refuge staffs at stations that are so closely located together. So there actually would be more than four people on the site at different times. And, Laurie, your input.

MS. SHANNON: The only other thing I'd add is under B and D where you have public use, we also have volunteer programs. And while volunteers don't do law enforcement, they certainly tell you what's going on out there and they certainly advise the refuge as to things they see or hear.

MR. RUNDLE: We probably won't have as many as we've got now at the Arsenal program, but we do not have a problem with people leaving trails and passing signs that say area closed. It's not a significant issue for us. So most urban refuges, we have a bigger problem probably in rural refuges where the primary uses are seasonal hunting and things like that.

Q. In all the alternatives you're going to do restoration and enhancement to the Preble Meadow Jumping Mouse habitat, what do you know about existing populations or numbers or vitality, anything as far as that?

MR. RUNDLE: It's not a large population. I don't know. Mark, do you remember what the max estimate was?

MR. SATTELBERG: I've seen numbers anywhere between 20 to 100.

MR. RUNDLE: And that's typical with small mammals. You can go survey for them one season and find zero or two and several months later or the next year you may find hundreds just because of their reproductive ecology.

The heaviest concentrations are in the Rock Creek range, but there are also occupied habitats in the Walnut and Woman Creek drainages. So I think the real significance to the site, Prebles, it's only one of two

federally-owned sites.

Q. Do you have any data on the large predators, like mountain lions and things like that that are out there?

MR. RUNDLE: We just have anecdotal information on those. We do know that because of the current count activity, that all that open space you mentioned, that that's one of the qualities we see at Rocky Flats, even though, as you said, it's a reasonably small future refuge, is that you do have -- you still have movement of large mammals from the Rocky Mountain Front Range. Bears have been photographed on the site, that's usually a late summer or early fall hyperphasing thing. There are a pretty good population of fruited shrubs and things in the riparian areas that draw berries. I'm sure lions occur there occasionally. I don't know if we got any pictures, but I think there's some track anecdotal stuff.

Elk, we're not sure what's going to happen with elk. In the past they've been occasional visitors coming down in the wintertime. Last summer I think we had 11 cows, 9 cows, something like that, a small number of calves down on Rocky Flats. That is a concern to us. We'd like to help move in and out of seasonally, we're not -- we don't want to see a resident elk population develop at Rocky Flats out on the planes next to the suburban areas, that won't be good for the elk or for the people around.

Q. Is it okay to give two quick remarks and a question?

MR. HUGHES: Can you just give a question? We wanted to give everybody exactly the same bite at that apple.

Q. What is your relationship -- what is the relationship of Fish & Wildlife to a possible museum?

MR. RUNDLE: That's a good question. We are very open to partnering with a future museum. I think we do have partnership goals for each objective, so I think that there's a good potential. If a museum is established, we could have a very close working relationship with them.

We do not have a formal role in the establishment of a museum. A museum exists, it is a 501-C3. At this point in time, the Refuge Act says that the Secretary of Energy may establish a Rocky Flats Cold War museum, so there's really decisions being made there by the Secretary of Energy. And however that goes, we do participate in board meetings of the museum, Cold War museum. I think Laurie goes to most of them. So we would be interested in partnerships with them for site interpretation regardless of where the facilities are.

Q. Besides tracking and relocating, what other methods will be used to exclude prairie dogs from the habitat area?

MR. RUNDLE: I think we have to be really careful about where we use certain grassland management techniques at certain times of the year. One of the best ways to prevent unwanted prairie dog invasions is to maintain a robust and tall thick vegetative cover. So, for example, that would impact where and how short-term grazing was used to emulate bison grazing or where fire lines were put for prescribed fires so that we know there's a burn area, or if there's a wild fire you can get rapid prairie dog invasion into that new burn area. So we'd have to plan those areas to not encourage prairie dogs into the site. So they don't like thick dense grass.

We make recommendations to DOE about the re-vegetation of industrial areas and the retained lands and we encourage them to do things like plant shrubs around the site that would perhaps make it less likely for prairie dogs to invade those areas and also to do the best they can to ensure a tall robust stand of native grasses on those sites.

MR. HUGHES: Before I go back to anybody who has already asked a question, are there any of you who have not asked one who want a shot?

Q. When you capture and then publish this public comment, would you provide us with copies of Mr. Ball's song?

MR. HUGHES: Can they have copies of the song

when you print the final?

MR. TRENHOLME: Yes. The public transcript will be in the final EIS.

MR. RUNDLE: And we will respond in writing to these comments, both verbal and the written ones.

MR. TRENHOLME: Substantive comments.

MR. RUNDLE: If we get 50 identical substantive comments that are basically the same, we may respond to them in one response acknowledging where the comments came from.

MR. HUGHES: Any other new questions?

Q. Are there plans for underpasses going under Highway 93 or Indiana or to the north under 128, both for people and animals? And who pays for them?

MR. RUNDLE: Right. Good question. I think we acknowledged the desire for the maintenance of corridor activity with the surrounding open space, but since those highways are not going to be part of the National Wildlife Refuge, that decision is outside the scope of this plan. But we will work and are working with highway planners, for example, were involved in the scope on the Northwest Parkway and we certainly will work with their neighbors and C-DOT as those plans occur. We don't have the money nor the authority to say, thou shall put in an underpass under Highway 93 or 128.

MR. HUGHES: I'd like to make a little announcement about an open house. The Northwest Corridor Environmental Impact Statement will have three public open houses to look at the universal alternatives for the Northwest Corridor Transportation. They are April 14th, same time, and April 15th and April 21st. And in one of the alternatives you will see cul-de-sacs 93 about there, that eliminates this section of 93, takes the road around that way to connect the wildlife habitat on both sides. I don't know that that alternative will survive, but it was proposed and it's active at the universal alternative phase.

Golden is April 15th or 14th. Arvada, this location, this very building, April 15th, and then Broomfield. And I don't know where -- we don't have a location for Broomfield on April 21st. The Colorado Department of Transportation's website has an EIS link for the Northwest Corridor EIS. So you can go there, propose that alternative or any other one you want.

Q. Are you thinking eventually of managing the grasslands with prescribed burns and do you have any idea what problems you might have with that?

MR. RUNDLE: The answer is yes. And I think in Alternative B and Alternative C we do propose in those alternatives to use prescribed fire as a grassland management tool. It also -- does A too? And Rock Creek

mostly.

Alternative D would preclude prescribed burning or grazing as grassland management tools. There's a lot of issues with managing prescribed fire, particularly urban or suburban landscape, everything from smoke management and impacts to highways, and of course, at this site we know that because of the past uses of the site there are particular concerns. We, during the development of this Draft, went to the Environmental Protection Agency and the Colorado Health Department and said we would like to be able to use prescribed fire and grazing as grassland management techniques, can you tell us, with your knowledge of the site, if that will be a safe thing to do. And their letters and response are appendices in the back of the Draft and we got the concurrence from the health agencies saying it would be safe with certain conditions.

We also know, because of the sensitivities, that even if they said it's safe, there might be some areas where it might not be a good thing to do. And if you look up here, there's a map that shows areas where we would not use prescribed fires, mostly along this east side where even though the levels of surface plutonium were very low, they are higher than in the rest of the proposed refuge lands and it's also because of the smoke issues. So we're saying we would not use prescribed fire in that area.

Q. How is grazing restored to -- who is going to be doing the grazing?

MR. RUNDLE: Good question. Grasslands evolve under a variety of ecological conditions that drove their evolution and our grasslands here. Fire and grazing by bison made of ungulates were primary factors in driving grassland ecosystem health.

To really restore grasslands, you need to restore the ecological functions and values that drove the development of those ecosystems. So we have proposed, in Alternatives B and C, I don't know about A, is there grazing in A? In Alternatives B and C we could use grazing for a couple of purposes. One would be the use of sheep or goats, specifically as a weed control effort to use a biological control of weeds. We also would use, as biological control agents, insects as well as herbicides, fire, as well as a pest management program.

We would also propose that we could use short rotation intensive grazing by cattle to emulate bison grazing on the site. And this would not mean permanent cross fencing that you can do with electric fences and solar chargers, and what you do is overstock your pasture with a large number of animals for a very short period of time, let them do what the bison did, which was move through every year or two, basically graze it down to nothing and trample

new sheet into the ground and then get them back out.

So we would not use similar grazing systems, for example, that you might see on border open space, there are different goals there, but their cultural heritage that they're trying to emulate, we would probably do it differently than they do it.

Q. So you're not going to bring bison back?

MR. RUNDLE: No. There's no proposal in any of the alternatives. This is a small site and there are some parts of natural environment that probably are not feasible to restore given the context of the lands.

Q. You're going to be investing a lot of resources in restoring the prairie, ecosystem, revegetation activities, is there a possibility that -- you talked previously about, you can work with them, but you can't force them to do something, that they can do something on their property that would have detrimental impacts on your trying to restore the prairie system?

MR. RUNDLE: There's certainly a potential if they don't do it right. Let me add, when we talk about prairie restoration, for the most part of the site we're very fortunate. This was ranch land and not farmland prior to government acquisition, so the sod along most of this land has never been broken and we have the full genetic biological makeup of the native floor along this site. So

restoration is really driven more by control of noxious weeds and the restoration of these natural environmental processes, such as grazing and fire, and in some cases there will be, under B and C, the kind of tan area, the southwest corner, that is a tame hay meadow that was put in, and under those alternatives we would restore that to native species using tillage perhaps or actually getting seed, hopefully local eco-type seed and killing that smooth grass and receding that native.

DOE is not doing restoration, they are revegitating. I think if they do it right they can provide a habitat cover that's not necessarily emulating the exact native prairie, but would provide habitat for ground nesting birds and things like that. If it's not done right and if we don't -- we need to work with the legacy management, that when Kaiser-Hill leaves, if we don't have a good stand advantage out there, the damage could be that it would become a source of invasive weeds, if we don't get a good stand of revegetation on the site.

So it would be hard for us, if we go -- if DOE -- I don't want to knock their stewardship, they've done a good job at weed control, it's not over with yet, but they have not been silent. They have been stewards of this landscape controlling the spread of noxious weeds, EM has, and we look forward to them continuing that. So we hope

it's successful.

MR. HUGHES: It's 8:30, the Arvada Center isn't going to throw us out if there any other questions.

Q. What are the plans for the wildlife to do to enhance the raptor population and song birds? You talked about big animals and stuff, but birds are my concern.

MR. RUNDLE: That's really a good question. When I started with this outfit, we did a lot of enhancement work and we don't do a lot of enhancement work anymore. In terms of trying to make the land produce more than it -- or trying to change the landscape by, for example, putting in nest boxes and nest platforms or extra hawk perches and things like that.

What we would like to see is restore the habitat to as close as it was before settlement and try to enhance, not species richness by bringing in more species, but enhance it for the native species that belong there.

I think on most prairie refuges we probably have too many Red-Tail Hawks and not enough Swainsons and Ferruginous Hawks. So we're not planning any enhancements in terms of artificial structures or planting of additional trees to encourage tree nesting or anything like that, what we want to do is make it the best habitat it can be for those bird species that were native to the prairie Front Range interface.

Q. The chunk of land that's in the southwest corner is currently used for grazing, that's not part of the refuge?

MR. RUNDLE: Section 16, the state school section.

Q. And so you talked previously about that there is availability through the land and what's it called, land conservation?

MR. RUNDLE: Land and Water Conservation Fund.

Q. And using that money to purchase additional acreage to expand the refuge. And I was wondering if there was any thought to obtaining that property so we don't have maybe Rocky Flats the amusement park someday that can possibly be built on there. So in order to protect that, is there any possibility of any added grassland to the refuge?

MR. RUNDLE: Well, we're not proposing any additional fee land acquisition in the CCP. And one thing that we cannot use Land and Water Conservation money for is to acquire land that's owned by a state. We can buy private land, we can buy land from municipalities and local government, if they're willing sellers. The only way that Section 16 would ever be acquired will be on a willing seller basis through a land exchange with the State of Colorado. That's not being proposed by us at this time.

Doesn't mean that it can never ever, ever happen, but that is land managed by the State Land Board and I think your resource there is to talk to the State Department of Natural Resources about whether or not that land should be part of their trust or something like that.

They do have a trust, a conservation trust, I think it's maxed out right now, but there is a potential of working with State folks to put that land into a conservation status.

MR. TRENHOLME: You might mention that part of that Section 16 has been mined for aggregate.

MR. RUNDLE: There's also private water rights there. The lakes are going to stay there, that's privately owned, basically, even though it's on State land.

MR. HUGHES: Other questions? Dean, anything?

MR. RUNDLE: I'd just like to thank everybody for coming out tonight. We're getting really good attendance and great questions. Thanks for the opportunity to answer those. And we'll be at Broomfield tomorrow night.

. . . WHEREUPON, the public hearing was concluded at 8:40 p.m.

CERTIFICATE OF DEPOSITION OFFICER

STATE OF COLORADO)
)
COUNTY OF DENVER)

I, SANDRA A. SMITH, Certified Shorthand Reporter and Notary Public, State of Colorado, certify that said public hearing was stenographically reported by me at the time and place heretofore set forth, and was reduced to typewritten form under my supervision as per the foregoing;

That the foregoing is a true and correct transcript of my shorthand notes then and there taken;

That I am not a party to nor in any way connected with any of the parties to said action nor otherwise interested in the outcome of this action.

My commission expires May 23, 2005.

IN WITNESS WHEREOF, I have affixed my signature and seal this 29th day of March, 2004.

_____

Sandra A. Smith
BOVERIE, JACKSON, BUSBY & LA FERA
1735 East 16th Avenue
Denver, Colorado 80218
303-329-8618

PUBLIC HEARING ON

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

AND COMPREHENSIVE CONSERVATION PLAN

FOR THE ROCKY FLATS NATIONAL WILDLIFE REFUGE

Thursday, March 18, 2004
6:30 p.m.

at
Broomfield Recreation Center
Lakeshore Room
280 Lamar Street
Broomfield, Colorado

Panel Members: Richard Trenholme
Mike Hughes
Laurie Shannon
Dean Rundle
Jody Erikson

TAKEN BY: CHERYL M. ROBINSON

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MR. HUGHES: We're going to begin. My name is Mike Hughes, and I'm a member of the planning team that's been working on the public process as well as the Draft Comprehensive Conservation Plan and Draft Environmental Impact Statement.

So I want to start by saying thank you all for coming. And I want to say a couple of words about the agenda, the way the meeting will proceed tonight, and then we'll get started.

You can see from the agenda that we've got some ground rules at the top, and then I'm going to go through the individual sections of the agenda. Tonight is a hearing where, as you can see, we are recording verbatim the comments that you're here to make on the Draft Environmental Impact Statement and the Draft Comprehensive Conservation Plan.

Now, we've been asked to ensure that there is balance and fairness in how that is done. And so what we've decided is that everyone will get precisely the same amount of time to make their comments. So each of you will get three minutes to comment on the Drafts and we'll -- again, we'll be recording all of those comments.

In order that each of you has the full use of that three minutes, we ask that you not interrupt one another while you're speaking. So, whether you agree or

disagree, we want you to simply hear the comments as they're being spoken and not interrupt in any way, that includes with applause if you agree with something. We want people to get their full three minutes. So we ask that you give them the respect of letting them finish what they have to say. We're going to ask that they offer you that same respect in turn to give you the full benefit of those three minutes.

At the end of each time, when each person who has signed up to speak has had that opportunity, we will, time permitting -- and I think time will permit -- turn to some question and answer. So Dean Rundle, the refuge manager will come forward and say a few words, but then also give you an opportunity to ask questions of clarification about the Plan and the Draft Environmental Impact Statement.

What we ask that you not do is use that time to get three more minutes. So we're going to ask that you actually ask questions, rather than make additional statements.

So we'll do that, take the time until questions run out or until 8:30 or something in between, and then adjourn the meeting.

I want to say a couple of things about what we ask you to comment on, and then a little bit

about the premise that underlies the Draft Plan and Draft Environmental Impact Statement.

First of all, the kinds of comments that we're looking for: Questions about the accuracy of the information contained in the Environmental Impact Statement or the plan. So if there's some factual -- some piece of information that you come with that contradicts or amplifies or alters in some way the information that's in the plan, that's useful.

The adequacy of the environmental analysis would be something that would be useful for you to comment on, the reasonableness of the alternatives. So if there are aspects of the alternatives that you think don't comport with that analysis that you think ought to be altered in some way, that's useful and helpful information.

And then, obviously, changes or revisions that you would recommend in the documents themselves. So we ask that you stick to the plan and your comments on it.

Let me just say something about the basis for that plan, and I'm referring to this second board here (indicated): The steps to refuge establishment. The service -- the U.S. Fish & Wildlife Service, that is, is in the stages of this meeting as a part of their

completing the final Comprehensive Conservation Plan and the final Environmental Impact Statement that will carry with it, when it's done, a record of decisions. In order for that -- for Rocky Flats to become a refuge, the following steps also have to happen once that record has been signed. The Department of Energy has to complete its work on Rocky Flats -- its cleanup efforts. Obviously, the Department of Energy will continue to monitor and be part of the site, but their cleanup will have to end.

Then the Environmental Protection Agency and the Colorado Department of Public Health and Environment will have to certify that cleanup. Then DOE would be free at that point to transfer the land to the Department of the Interior for the creation of the refuge.

At that time, the Department of the Interior would formally establish the refuge, and then the U.S. Fish & Wildlife Service can begin implementing the plan in its final form and managing the refuge.

So the document is written from this perspective, as if the site certification has occurred; that is, that the EPA certification is complete. So that's that premise that underlies the draft itself. It's written from the perspective that that has occurred.

So, with that, I'm going to give the floor to Laurie. She's going to say a few words about changes that have happened since we last met in a public forum in the Draft Plan and the Draft Environmental Impact Statement. And then we'll give you three minutes for each of you who have signed up three minutes for the comments.

MS. SHANNON: Thanks, Mike. Good evening. The first thing I want to let everyone know is that the comment period has been extended to April 26th, as our one board shows up there.

And, also, as of early this week, you can no longer get to our website because of the Department of the Interior -- there's been a court-ordered shutdown of all the Department of the Interior's Internet access. So it has nothing to do with Rocky Flats, but, unfortunately, you can't get to our website right now. So I know some of you who might be trying to get online and trying to submit their comments, unfortunately, can't.

And we all lived at one time without Internet and we managed to get through public process at that -- in those days, and so we will continue to be able to do that. So people can either write their comments to me or they can fax them to me or they can deliver them in

person. Whatever works. Please give us your comments, we'd love to have them.

Or -- and the other thing I'd like to mention, if you want a hard copy -- the beauty of having the website is people who want to go look at the plan can get online and download it and get copies. So if you're not able to do that and you'd like a copy, we do have some compact discs out on the sign-in table, and if you really would like to have a hard copy, I will give those out until they're gone. I have a limited number and please sign up and let us know, and I'll mail one out to you, if that works.

So with that, I'm going to talk about the -- briefly talk about the four alternatives that we're here to discuss tonight. I'm not going to go into long depth about them, just so we're all on the same page -- briefly what each one contains. And I want to highlight the things that have changed since we first presented those last May.

What else with respect to that? Okay. To start with, what went into our alternatives? How did we generate them? Back in the fall of 2002, we held what we call our scoping period, where we went out and we had people tell us what the issues were. And following that process in late fall, we began to develop the

alternatives for the refuge.

And the things that went into creating those alternatives included what we heard out of scoping, what the Refuge Act says, and what our mission and policy of the national wildlife refuge system is. So there's kind of -- those kind of components went into crafting these alternatives. And we did present a draft set of them last May, and we received comments on those. And then really what this is about is, is looking at the full Draft Plan and Environmental Impact Statement.

So I'm going to start with Alternative B, because it is our proposed action. And under the National Environmental Policy Act, we are required to look at all reasonable alternatives and to evaluate those all objectively, but we are required to come out with a preferred or a proposed action, and that's what we have before you.

Our proposed action is Alternative B. It's what we call a wildlife habitat and public use alternative. This alternative -- it looks at trying to have a very strong emphasis on wildlife and habitat, while allowing for some moderate opportunity for public use and access on the site. We feel that that's kind of a middle-of-the-road from all the things that we've heard -- from what people have told us.

What I'd like to start with is just a little bit of what we've changed since last spring. And one of the primary things that we changed, and based on public comment, was that people told us that they wanted to have some horse access. And so we did -- one of the things we did was in the southern part of the site, the trails down here (indicated) would provide for horse access, bike access, and pedestrian access. And that has changed, we didn't have that before.

Up to the north, the pedestrian-only trails are still there. This multiple-use trail over here (indicated), this is also a multiple-use trail, that is the same, it's a bike and pedestrian-only access.

The other thing that we did change is that we -- as soon as we established the refuge, we would look at putting a trail down to the Lindsay Ranch fairly soon after. But then, because we heard from a lot of people that they wanted us to look at restoring the site first and really focus on habitat conservation, that we would look to wait for five years and then implement the rest of the public use program. And it would all be implemented by year 15.

That would give us a chance to focus on wildlife and habitat birds, and it would give us a chance to get our budget together, funding, and those kinds of

things.

This alternative offers a visitor contact station; we would have a few offices there. Whereas, Alternative D, which I'll explain in a minute, has a full-blown visitor center. It's one of the differences between the two.

One thing that people told us they wanted us to do was to put in a north-south trail. And we would still prefer not to do that, because we know that there's going to be some changes along Indiana, likely, in terms of the transportation corridor. And if there is something done, we would like to see that done as part of that project. Or, we would like to see the community put it in. But it's very difficult for us to put in a trail, try to make -- next to the transportation corridor, and next to the DOE-retained land, and try to fit all that in. So that is our preference, we do not make that change.

We did try to -- one of the other things we changed is that people told us they wanted to see a little more loop -- loops -- people to be able to make loops and some connectivity, and we tried to work on those kinds of things as well.

I think that covers that. Oh, one other thing: Hunting. I know Bini is going to shoot me here

if I miss this one. We -- as in -- as we presented last May and as you will find in the document now, we do propose a limited hunting program. And we did make some modifications to that.

What we are proposing is that it would continue to be a very limited, managed program that would only be for a couple of weekends out of the year; and it would be targeted towards the first two years towards youth and the disabled. And as Bini has -- is in our compatibility determination, we would look at having about ten hunters a year.

After two years, if we are not meeting our target population goals, we would look to expand that to able-bodied hunters as well. It's not a done deal; it's just that we would look to see if that could be accommodated.

All right. I'm going to move on to Alternative A. Alternative A is our no-action alternative. And it basically would look at focusing our habitat and restoration efforts primarily in the Rock Creek Reserve, the northern part of the site. And pretty much very limited management, the rest of the site -- the rest of the refuge.

The one change that we made on Alternative A is that when we proposed it last spring, we proposed

having a chain-link fence all the way around the site, and we took that option out. We have analyzed that in Chapter 4 of the Environmental Consequence chapter, but we found that (a) it's too expensive to do that; (2) we did not have -- there was not community support, or very little community support; and (3) it really precludes wildlife from being able to move from adjacent open space and onto the refuge and back out again. So it's really -- it's not good for wildlife from our perspective.

Alternative C is the ecological restoration alternative. And this alternative -- somebody's phone's ringing -- Alternative C is the alternative that focuses on ecological restoration of the site and offers very, very little public use on the site. Alternative A is similar in terms of public use as being very limited, guided -- just almost no public use except for kind of VIP-type tours.

The difference between A is under Alternative C we would have a trail that would overlook the former Lindsay Ranch. And under Alternative C, we would take out the whole Lindsay Ranch buildings under that alternative, because our focus would be on trying to restore the site to -- as much as we could to a presettlement condition.

We really didn't make much changes to Alternative C from last May.

And then under Alternative D, which is the public use alternative -- that's what we call it -- this would be trying to focus on certain plant communities and wildlife species, really trying to target -- target those species, but, at the same time, being able to maximize the amount of public use that we would have on the site.

And, as I said earlier, under this alternative, we looked at having a full-blown visitor center on the site. We did make some changes from last May. We tried -- based on the input we had, we tried to improve some of the loops that people could do and also some connectivity in that as well.

I think those are the main points. Did I miss anything, Bini?

MS. ABBOTT: I think it was 10 of disabled youth -- or of youth, and 10 disabled, making a total of 20, I think.

MS. SHANNON: She knows. Okay. One of the other things that I save her -- for part of her three minutes is that -- and these are Bini's graphics. They're great, too.

MS. ABBOTT: Except the underlines are mine; you can't blame them for that.

MS. SHANNON: We have six priority public uses that the Fish -- that in our Improvement Act, in our organic act, that Congress has said that the Fish & Wildlife Service should try to provide. And those six uses are: Hunting, fishing, wildlife observation, wildlife photography, environmental education, and environmental interpretation.

And while our purposes of the national wildlife refuge system are geared towards wildlife conservation and habitat management, Congress has said that it is appropriate to have public uses on national wildlife refuges. And that those are the six priority ones and that, if you can, you should try to provide those.

So, with that, does that help you?

MS. ABBOTT: Yes, thank you.

MR. HUGHES: Dogs?

MS. SHANNON: Dogs. There's my other cue. Dogs. Under none of the alternatives would we allow dogs onto the site, leashed or otherwise. So that's not up for discussion tonight.

MS. ABBOTT: And what is the reason that you don't want dogs?

MS. SHANNON: Can you hold that question?

MR. HUGHES: Let's hold that one. We'll

write it down as a question; we'll get to it.

MS. SHANNON: All right. Thanks, Mike.

MR. HUGHES: Okay. Again, particularly for those of you who've come in since the start of the meeting, here's how we are going to handle the next part of the meeting. This is formal comment on the Draft Environmental Impact Statement and the Draft Comprehensive Conservation Plan, three minutes per speaker. Again, we ask that you let each speaker have their full three minutes by not interrupting them, and we'll ask them to do the same for you when it's your turn.

Since you'll be speaking about the plan to the people who are responsible for producing it, we've asked three of the lead staff to come here -- and I'll give them a chance to introduce themselves in just a couple of minutes -- so that you can speak directly to them about your response to the content of the plan.

Since none of us have that internal clock that tells us exactly when three minutes is up, Jody is going to help with that. So she'll remind you when you have two minutes, when there's a minute left, and when you have 30 seconds left. And then she has a nice little red sign that says, Stop. She'll stand up and stand next to you, should that be necessary, once you've reached the

stop point. When Jody stands up, you know what that means.

We ask that when you come to give your comments that you use the microphone, despite the fact that the room is relatively small, and my voice certainly fills it. So we ask that you come to the podium, speak to the staff here, and give your name first.

Lastly, this isn't the only way to provide comments. Laurie talked about mail, fax, and hand-delivering. We have written comment forms here. So if taking this three minutes isn't your preferred method of providing comments, that's fine; there are lots of ways to do that. And so you're free to add written comments.

MS. ERIKSON: And the address and the fax number are on these little yellow or green sheets on your chair.

MR. HUGHES: So, I'll ask the three people here to introduce themselves, and then Jody will read two names, and we'll get started.

MR. RUNDLE: My name is Dean Rundle. I'm the refuge manager for the Rocky Flats refuge project.

MR. TRENHOLME: I'm Richard Trenholme with ERO Resources. I'm part of the planning team.

MS. SHANNON: And you all know me. I'm

Laurie Shannon, the planning team leader here.

MS. ERIKSON: Mike Bartleson and then Bini Abbott.

BY MR. MIKE BARTLESON:

My name is Mike Bartleson. I'm an employee of the City and County of Broomfield. I've been involved in Rocky Flats' issues since I started with Broomfield in 1973, over 30 years.

There are many aspects of the refuge plan that we have reviewed. We've looked at all of the documents. We have full-time staff that thoroughly reviews all documents with not only the refuge, but with the cleanup process.

Based on our review, we see Alternative B as being a rational approach to a good balance between wildlife and habitat issues and use by the public. It is a very valuable resource to not only the City and County of Broomfield residents, but all of the residents along the front range.

So I want to thank you, the Service, for being responsive to our comments, particularly the connectivity input with the trails that will connect Broomfield's future trails with this area. Thank you.

MS. ERIKSON: Thanks, Mike. Bini Abbott and Lisa Gill.

BY MS. BINI ABBOTT:

My name is Bini Abbott, and we live on the west shore of Standley Lake. What I'm not is a member of a peace group or an animal rights person. I'm also not antihunting. But what I am is opposed to recreational sport hunting of the deer four days out of the year while they are protected 361 days out of the rest of the year, so that people can have a good opportunity for wildlife observation and photography.

Under the environmental interpretation, they had four subtitles, and those are: "Habitat Restoration." And under Wildlife, colon, they have, "Wildlife take refuge at Rocky Flats." This is from the big book that's published for this case. Then under C, under Wildlife and People, colon, "Wildlife comes first." And I underlined first.

The definition of a refuge in most people's minds and in the dictionary is a place of safety, shelter, or a safe retreat. The large book states that they are figuring that the hunting for these 20 people, two weekends a year, will cost annually about $5,000, which is $250 per person. And they intend to close the whole rest of the refuge at that time, which I think is unfair to spend that much money for those few people, and nobody else gets to use the refuge. I also

think it will be a shock as people are taking the trails and, all of a sudden, find out, Whoops, can't go on it today.

If there is a need to cull because of the overpopulation, I feel the animals should be shot by a sharpshooter from the Division of Wildlife.

And, according to the open space that's surrounding it, I've talked to Boulder -- Boulder City and Boulder County, and neither one has had an overpopulation problem so far. And what bothers me is they're going to try to have the hunting program the first two years, but not do a population check until the third year, and then not change things until 15 years.

I think the perception is going to be that it is not good for fish and wildlife. I also have a letter signed by Mark Udall and Wayne Allard regarding the shooting range that they had at Rocky Flats, and Sheriff Stone was asking that they be retained.

Okay, I'll be really quick.

So I'm hoping that you -- instead, the people see pictures and look at wildlife through binoculars, through a camera, but not through the sights of a gun. Thank you.

MS. ERIKSON: Thank you, Bini. Lisa Gill and LeRoy Moore.

BY MS. LISA GILL:

Hi. My name is Lisa Gill, and I'm a resident of Rock Creek. I'm here to talk about -- I understand that Alternative B is probably the most likely outcome of these meetings, and I have a question: Why are -- why is the refuge allowing humans to use the site when we're trying to save the animals? The refuge is meant as a home for species all around Colorado, and if we let humans use trails and horses -- well, we're causing a disturbance to the environment. We're promoting invasive weed dispersal.

And, also, I understand that throughout most of the alternatives, fire is going to be used as a mitigation to reduce invasive species. So, in effect, by letting humans use these trails and by constructing buildings, we're promoting invasive species, but then we are trying to use fire to reduce them. So I don't understand how those two come together.

And, also, I do not want equestrian use of the refuge. If I were to go out to Rocky Flats, I would like a place where I don't have to step into horse manure. There are other parts of the front range or other parts closer to Boulder, Broomfield that allow horse use -- equestrian use, sorry. So I think that Rocky Flats should be for us to enjoy if we are going to

be allowed that opportunity. Thank you.

MS. ERIKSON: LeRoy Moore and David Waddington.

BY MR. LEROY MOORE:

I'm LeRoy Moore with the Rocky Mountain Peace and Justice Center, a consultant with that organization.

I would like to commend and resolve the Fish & Wildlife for a process that's being used in these meetings, that I think it's considerably improved over the last round when you did the scoping hearings.

There are two organizations that -- there are a number of them -- but, actually two organizations that make studies of radiation exposure and make recommendations to U.S. government agencies. One of them is called the International Commission on Radiological Protection, headquartered in London. The other one is the National Council on Radiation Protection and Measurements, a U.S. organization located in Washington. I happen to be a member of two of that body's committees.

Both of these organizations do all of their work regarding radiation standards -- setting of radiation standards. They do all of their work on the premise that there is no such thing as a safe dose of radiation. Now, stated differently, what that means is

that any exposure can be harmful.

And in the case of Rocky Flats, we're talking especially about plutonium. It is known -- it's admitted by the government agencies itself, that the plutonium -- tiny particles of plutonium were dusted over the whole of that site. Plutonium has a half-life of 24,000 years; it will remain dangerous for a quarter of a million years. In the environment, it's a permanent danger.

It is dangerous in very tiny amounts. Not dangerous if you don't get it inside your body, but if you get it inside your body -- a particle of plutonium, the smallest amount you can take in can cause cancer at some later time or some other health problems of a severe nature.

So it's about this that we're particularly concerned at the Rocky Mountain Peace and Justice Center. We think it's a mistake to subject people to this kind of exposure if it's not absolutely necessary. So the question that I put -- I've raised this question before, I'll raise it again: Why take the risk of exposing people to plutonium on the Rocky Flats environment, people including children and other vulnerable members of the population? Why take the risk if it is not absolutely necessary?

I could point you to a fact sheet we have over here on the table (indicated) if you'd like to pick it up to get a little get more information on that. Thank you very much.

MS. ERIKSON: Thanks, LeRoy. David Waddington and Laura MacGillivray.

BY MR. DAVID WADDINGTON:

Good evening, ladies and gentlemen. I am David Waddington. First of all, I support your recommendation for Alternative B, as in baker.

I noted in Section 2.0 -- 10, page 70, a desire to have a Cold War Museum and a combined visitor center. I note that only Alternative D, as in dog, supports this. I would certainly recommend that this be added to B, because I think it's a well-worth thing. I think it's a shame to have those buildings and not be able to use them.

I understand there is a possible water problem, and I would recommend working with Arvada for planning to develop on 72 that they might be able to get water up to that location.

Section 2.10, page 67 talking about transportation. I think you need to consider having underpasses to go under 93 and Indiana.

Mowing and fire. I definitely support it,

but I would ask that you time it so that birds and ground-living animals are past the young stage, birds are able to fly, before you do.

Mineral rights. I understand that sand and dust from mining is damaging various lands in the wildlife refuge. I would recommend immediate action, any way possible to stop this from occurring and preserve the grasslands that we have.

You have planned for one restroom in Alternative B. I think with 16 miles of trails, people getting all around, you should plan for a restroom -- at least of a port-a-potty type, to use a generic term -- at each parking lot. And if you have entrances on the east side for trails coming in, I would recommend one at each of those. Thank you.

Fences. I definitely support your barbed-wire fence. But I would consider that when highways have much more increased traffic, in particular, you provide underpasses for wildlife, that maybe you can get the highway construction to put in some better fences if necessary. I thank you for your time.

MS. ERIKSON: Thank you, David. Laura MacGillivray and Gary Brosz.

BY MS. LAURA MACGILLIVRAY:

Hi. My name is Laura MacGillivray, and

I'm a student at the University of Colorado at Boulder. And I know you don't want me to talk about this topic, but it is an integral part of my concerns about the Rocky Flats National Wildlife Refuge.

I'm only asking for your open ears and respect, even if you decide to disregard what I have to say to you. I know you don't want to talk about it, but I feel that possible contamination of the soon-to-be wildlife refuge needs to be addressed.

I believe that Alternative A is the best choice at this point. The cleanup of the area is currently under the supervision of the Department of Energy and the EPA. Therefore, the cleanup of the area is not your responsibility at this point. However, the Rocky Flats area outside of the Department of Energy's retained area will soon become your responsibility.

The EPA is expected to have the area cleaned up and free from contamination before turning the area over to you. My concern is that the area will be handed over to the Fish & Wildlife Service and has not been thoroughly tested for contamination from radioactive materials emitted from the Rocky Flats plant.

There have been thousands of tests for contamination within what would be the Department of Energy's retained area; however, contamination testing on

the refuge lands has been limited.

My request is that Alternative A is chosen until sufficient testing of the refuge area has been completed to ensure the safety of the citizens and workers that would be stationed on the refuge area. Thank you.

MS. ERIKSON: Thank you, Laura. Gary Brosz and Rick Warner.

BY MR. GARY BROSZ:

Hi. My name is Gary Brosz. I'm a city council member with Broomfield City and County. I'm also a member of RFCLOG, the Rocky Flats Coalition of Local Governments. And for those who don't know, that's an organization of area municipal governments that spend a great deal of time overseeing DOE and Kaiser-Hill during the cleanup operations and the planning for postclosure activities, which we call legacy management.

I'm an engineer by trade. I'm a very data-based person, and I've seen issues many times in my career where there's the emotional side of the issue and there's the real, honest data side of the issue. And cutting through the emotion and finding the data is an important step in resolving any issue, especially an issue of a technical nature.

Furthermore, I consider myself to be a

reasonably hardcore environmentalist. I am a card-carrying member of the Sierra Club, Greenpeace, the Union of Concerned Scientists.

I have absolutely no interest in seeing Rocky Flats being left in a state that is unsafe after the DOE departs. It is the goal of RFCLOG to make sure that that doesn't happen. And I am -- I have very high confidence that will be the case.

There's been a great deal of concern through this public input process about potential contamination in the refuge area. I can assure you that a great deal of sampling, actually, has already occurred in the refuge area. We have maps that can show that, if anyone is interested in seeing those.

Also, the planned sampling currently underway is very extensive throughout the entire refuge area. As a consequence, that site, when it closes, will be certified safe; it will be verifiably safe. And it will be safe to levels that are typical any place else you might go on a hike or enjoy the open space in Colorado.

Given that, I have worked with my city council to keep them up-to-date. And our city council over the years -- ex-Council Member Stovall here has been working on this issue for about 20 years. We have a

great deal of information, and we have very high confidence that there is no public risk to open up the refuge. Consequently, we are very much in support of Option B.

MS. ERIKSON: Thank you, Gary. If you wrote your comments down, you're welcome to leave them on the table so the stenographer and Fish & Wildlife Service have them. So Rick Warner and then Randy Olson.

BY MR. RICK WARNER:

Thank you. Thank you for having this meeting. I appreciate hearing all the members of the public here. I think it's wonderful. I also understand that this happened because it's an Act of Congress and the Fish & Wildlife Service has been put in this position.

I have about seven or eight years of experience with Fish & Wildlife. I was actually involved in a Superfund site at the Rocky Mountain Arsenal. I was a member of about three boards there and different groups.

There are problems. Their job is not to clean up sites; their job is not public health. Their job is taking care of the wildlife refuge.

Those sometimes come at odds. Oftentimes, they stand in the way of cleanup activities. They can

sometimes stand in the way of biological studies, and things of that nature. That aside, Rocky Flats is a very dangerous site; it has been a dangerous site; it will continue to be a dangerous site. In no way are the plans that are occurring right now going to clean it up.

I can think back to days when there was a lot of promotion -- public relations promotion out at the Arsenal, when we knew that there was serious, dangerous activities occurring out there, and there would be pictures of young mothers and their young children digging out there, planting trees. We knew that this was not a safe site to be, because we were seriously involved in the details daily on that site out there.

The Sierra Club, at that time, wrote to all the schools in the area to stop sending their kids there. I can tell you from tabling at universities, how many times I was told, Yes, we spent a good many school years -- two or three -- going and traveling to the Rocky Mountain Arsenal and nobody ever told us it was a Superfund site, nobody ever told us it was a toxic site.

And I can tell you the Fish & Wildlife Service has told us many, many times that they would do this on every tour. I heard many times -- in fact, I was on tours where it was not mentioned.

So I can tell you that there are things at

odds here. For this reason, I would prefer Plan A: No public -- in fact, no public involvement out there. In fact, to some extent I have some reservations about some of the habitat restoration.

If you had a -- if your family members get sick, seriously sick at a time and at a point in their lives that you wouldn't expect it, and you look back over their lives and you wonder, What could I have done differently to stop this? As I have recently had to do this in my life.

You don't want irresponsible actions which many people have claimed over the years. This has plutonium, and it's all over that site. It is better to be on the side of caution, rather than on haste. Thank you.

MS. ERIKSON: Thank you, Rick. Randy Olson and Lori Cox.

BY MR. RANDY OLSON:

Hi. I'm Randy Olson. I live in Arvada and I'm the system state coordinator for Wheel and Sportsman, which is a member of the National Wild Turkey Federation. We are 300 strong in Colorado's Wheel and Sportsman, and we're 6,000 members of the National Wild Turkey Federation.

We partner with the Fish & Wildlife

Service on many areas nationally, and our national organization of the National Wild Turkey Federation is 500,000 strong. And the Wheel and Sportsman is over 10,000 members.

We -- I stand here tonight in support of Plan B on behalf of the state of Colorado National Wild Turkey Federation and the Colorado Wheel and Sportsman. We feel it's an ideal opportunity for the State to have a place where disabled hunters and youth can have the opportunity at some point, once the site is clean, to go and participate in an activity that they can't normally do.

We work along with the Fish & Wildlife Service and the other refuges around the United States, which do allow hunting and fishing opportunities. And it goes on to this day and has been. And we are very proud of the association that we have with the Fish & Wildlife Service.

We thank you for that opportunity. And we'd like to stay with Plan B and hope that you will open up, once the site is safe and it's deemed responsible to open that up, and we have the opportunity to come out and work with the youth and even maybe expand the program to work with the disabled and the youth out on that property.

So we support the plan and stand behind you 100 percent.

MS. ERIKSON: Thanks, Randy. Lori Cox and Hank Stovall.

BY MS. LORI COX:

Thank you. My name is Lori Cox and I serve with Council Member Rhodes on the City and County of Broomfield City Council. I also serve with him on the Rocky Flats Coalition of Local Governments.

But I speak to you this evening, not so much in those official capacities, as a 30-year resident of Broomfield. I've lived here for a very long time and have seen Rocky Flats go through a number of changes.

Actually, Alternative B accomplishes what I had envisioned quite some time ago for the site. What's perhaps most attractive to me is the combination of uses. What we're doing is taking a very large piece of ground and allowing a huge range of uses for that ground. And as far as I'm concerned, that's the best of both those worlds: Biking and hiking, equestrian. I think those are all fabulous options.

We very much appreciate the work that you've done on each alternative, but the City and County of Broomfield, the city council members, were concurrent in their belief that perhaps Alternative B would the best

multi-use option.

We would encourage you to sort of sift through all of the political statements and the emotional debate and take to heart the fact that we believe that for the citizens of Broomfield, which is who we're responsible for, would prefer Alternative B. And thank you.

MS. ERIKSON: Thank you, Lori. Hank Stovall and Bob Nelson.

BY MR. HANK STOVALL:

Welcome, everyone, to Broomfield. What are you laughing about back there? I am a 33-year resident of Broomfield. I originally got interested in Rocky Flats when there was a beryllium spill in our reservoir back in 1973.

When I was deciding what comments to make here tonight, I thought about vision, balance, safety, and an amenity that could serve the entire community. This will be a large, 4 to 5,000 acre -- that would be an acre of wildlife preserve that will be available to the public, assuming that Option B passes.

In terms of the history of the site, as some of you may know, it was originally proposed as open space. If it had been open space, the cleanup level would have been much lower. When it was designated as a

wildlife preserve and the affected person would be a wildlife worker, the cleanup level was required to be much tighter.

There's been some discussion about cleanup levels and about risk and so forth. I would submit to you that the majority of the buffer area that's proposed for Fish & Wildlife is no more contaminated than your backyard, which is at or about background, from worldwide testing of nuclear weapons.

Local governments have worked together with the congressional delegation, Senator Allard, Congressman Udall, as well as Beauprez, Tancrado, and DeGette. And at the time when that proposed -- a wildlife reserve was proposed and the legislation was in Congress, the community was in a 100 percent consensus as far as I heard.

At the local government level -- particularly in the communities of Broomfield, Westminster, and others -- have technical staff that follow every day of the week what goes on at Rocky Flats. We work collaboratively with the Governor's office, with the Department of Health and the EPA and with DOE. And on occasion, some consultation with the subcontractor.

In summary, I support Option B. It provides access for the public to the site. It is a

balanced plan. It proposes a moderate annual cost, and it also proposes a moderate number of local -- of FTEs.

With that said, our preference is Option B. I'd like to thank Fish & Wildlife for your collaboration and your outstanding process for getting the public involved. This is a great crowd and a lot of good input. Thank you.

MS. ERIKSON: Thank you, Hank. Bob Nelson and Shirley Garcia.

BY MR. BOB NELSON:

Good evening. I'm Bob Nelson. I'm mayor pro tem for the City of Golden, and I'm here to say I think we all support Option B very much -- or Alternative B, because I think the site belongs to the people, the people of Colorado. And it's a beautiful place, kind of barren sometimes and windy sometimes, but it has species of animals and grasses and shrubs that aren't found any other places readily; and it would be a beautiful place just to be able to go out and walk.

I have visited other wildlife areas in several states: California, Hawaii, Washington State, Colorado, Missouri, and they're all beautiful. They're all just really nice places to go walking.

Mr. Moore states that if you get a plutonium particle inside your body, you're probably

going to get in trouble. This is true. But if there is plutonium out there -- and there probably is some plutonium still on the site -- to the best of my knowledge, plutonium doesn't jump up and attack you. If it's laying on the ground, it's going to be there. It's a heavy element, so it's not going to be -- you know, apt to be moving around a lot.

I am board member, as is LeRoy Moore, of a group of people called the Rocky Flats Cold War Museum. We are trying to establish a cold war museum at the site, and we hope we will be able to work in conjunction with the Wildlife Service to get this done. It will probably be in buildings 60 and 61, which are the west-most buildings that are not on the closure site.

I worked at Rocky Flats for three years four years ago, and I was part of the beryllium testing process, because I was exposed to beryllium. So far nothing has happened, not had a problem with it. And I'm not worried about it. If I do die -- I'm going to do that anyhow, there's no question about that.

So I strongly support Alternative B and think it would be just a great thing for the people of Colorado. Thank you.

MS. ERIKSON: Thanks, Bob. Shirley Garcia and Kevin Standbridge.

BY MS. SHIRLEY GARCIA:

Good evening. My name is Shirley Garcia, and I'm a staff member for the City and County of Broomfield. I am also a resident of Westminster; I've lived there for 26 years. I'm also an ex-worker of Rocky Flats. I worked there from 1982 to 1997. So I can bring balance, I feel, to both sides of the story tonight.

I'm not here to speak, basically, for Broomfield at this point in time. I'm basically giving you my personal opinions, plus my technical opinion, because that's what I do full time. I review data on a daily basis dealing with characterization out at the site and closure and legacy management issues.

I'd like to thank the Service especially tonight for working with us, especially working with the City and County of Broomfield and dealing with our issues and addressing our concerns. I'd like to thank you for working with us towards a vision for all of the communities, that we would have as a community that has one vision in common for our ecological benefits, and also to work with us for our vision for the City and County of Broomfield, working with trails and connections.

Our goal for the CCP is the same as yours, and that's to provide an approach for conservation and

biological diversity at Rocky Flats. We also want to have an appropriate safe use of activities at Rocky Flats. In dealing with data, I can assure you that there's more than sufficient data currently that I've seen, and future data that they're working on that will ensure your safety.

And, again, you have an opportunity to make that decision if you want to go out to Rocky Flats or not.

So I therefore support Alternative B with some minor modifications. You will be receiving a letter from the City and County of Broomfield, so you will be expecting that. You know what my letters are like, anyway.

Let me be the first to volunteer to work with you -- with the Service to foster recreational, educational, interpretive opportunities for the communities. As far as I'm concerned, education is very important to continue legacy management out there. It serves as a stewardship tool to actually maintain the institutional memory of what's out there as far as residual contamination.

We also ask DOE and the RFCA parties to work with us to identify the mechanism to control access to DOE-controlled land, because that's a major concern of

mine. It's hard for us to identify activities if we're not sure what the controls are and who will be actually overseeing controls to ensure that public access is not allowed to the industrial area.

But once again, I'd like to thank the Service for their support and willingness to discuss and address our concerns. And we ask that you continue to keep us involved with the development of your stepdown documents and final trail development along the northern side of the Great Western Reservoir. Thank you.

MS. ERIKSON: Thanks, Shirley. Kevin Standbridge and Lauren Lawson.

BY MR. KEVIN STANDBRIDGE:

My name is Kevin Standbridge. I'm the assistant city and county manager with Broomfield, and I'd like to speak as a custodian and actually owner of adjacent properties to the east. The City and County of Broomfield is in the midst of a planning process for an open space and trails master plan. We have, after careful analysis, decided that it is appropriate to put a trail across the Great Western Open Space immediately east of this site. That trail is intended to tie in to a future trail across the Rocky Flats preserve.

With that, we wholeheartedly support Alternative B, and just through our own actions have

fully demonstrated that we think it's a safe and worthwhile decision. Thank you.

MS. ERIKSON: Thank you, Kevin. Lauren Lawson and Andrew Bennett.

BY MS. LAUREN LAWSON:

Hi. My name is Lauren Lawson. I'm currently a junior at the University of Colorado, majoring in biology and geography. So I come to you in response, actually, to build upon one of the questions that was already posed: If it is a refuge, why are we letting it be used for humans, because of the fact that habitat fragmentation does affect the landscape and it does cause disturbances in the form of trails?

There have been numerous studies that I've read done in the last couple of years about the effect of corridors on habitat fragmentation and how species do not favor crossing corridors, and then that limits their ability to reproduce and live healthy lives. So I do support Option A for that respect. That's all.

MS. ERIKSON: Thanks, Lauren. Andrew Bennett and Tricia Class.

BY MR. ANDREW BENNETT:

Hi. My name is Andrew Bennett, and I'm from Boulder, Colorado. First of all, I'd like to thank the Fish & Wildlife Service for allowing this process to

go on. This is a really great process. I've been to some meetings where you just fill out the little card and turn it in, and that's not so personal. And I really thank the Fish & Wildlife Service for working this out, and I think it's a more personal and publicly involving process.

First of all, I believe that the cold war museum is definitely a good idea. I feel like it's a beautiful part of this transition of our nation into a nonnuclear nation and more of a peaceful nation.

I also feel that -- that it is commendable that the National Wildlife Refuge is being formed in the first place as a refuge for animals and biodiversity, and it's also a way to keep some of the encroaching communities and trails away from the industrial area, which is definitely not clean yet.

Moving on from that, I feel that the grass burning on the refuge area is an area of some concern. I feel that there is possibility and potentially some contamination still in the buffer zone area. And I feel that the grass burning can pose a risk to public health and safety in the area surrounding the site due to the large amount of smoke that's put out by grass burning, and also the fact that plants definitely can take up plutonium and radionuclides from the soil into their

tissues and distribute them to their aerial tissues.

I have a report and a study by the Environmental Protection Agency -- and I will hand it off to you guys -- that details how plutonium is taken up by plants. It's not a field study; it was done in a laboratory, but it was done with several different kinds of soil that -- I think one of them is comparable to the soil that is on the site.

I also feel that the Fish & Wildlife Service should be completely sure that their burning is under control at all times, because if that burning is allowed to encroach upon the industrial area, there could be a massive amount of contamination that is potentially released.

Moving on from that, I feel like the Fish & Wildlife Service and the Department of Energy should really work out a very workable plan to keep people, animals, and their dogs -- people and their dogs, animals, from the industrial area. If this means a fence with some signs, I think we need to do it, because people don't know what's going on in the industrial area. If they are from out-of-state and they're not familiar with the area, I feel like we really need to make sure that that happens.

So I ask Fish & Wildlife Service exactly

what's going to be done, because I have read in the EIS that a seamless boundary is what is needed and what is desired. Thank you.

MS. ERIKSON: Thank you, Andrew. Tricia and then Kristin Pritz.

BY MS. TRICIA CLASS:

Hi. My name is Tricia Class. I'm a senior at the University of Colorado, and I am very much in favor of Option A. If not A, then C.

I would like to go for A because I have been doing a lot of research and everything on the situation, and I feel that we all know that there is contamination in the buffer zone. The limit on contamination is up to 50 picocuries per 3 feet of soil --

UNIDENTIFIED SPEAKER: Per gram.

MS. CLASS: Yes. So anywhere from the top level to 3 feet of soil, you can have 50 picocuries of contamination within that site.

There have been studies done with pocket gophers, and there's also prairie dogs who live on the site that burrow deeper than 3 feet. Underneath 3 feet to 7 feet, they're allowing 7 nanocuries, which is a thousand times more than the 50 picocuries. So if you have this thousand times more contamination from 3 to

7 feet and you have these animals burrowing deeper than this, they actually bring up their soil from their burrows.

Pocket gophers -- there's been a study done by Hankinson that shows that there was -- the pocket gophers displaced over 20 metric tonnes of soil per acre per year. And so this means that a lot of the contamination below the 3 to 7 feet -- that prairie dogs that burrow deeper than 7 feet can bring up this contamination.

And I just want to ask the Fish & Wildlife, I understand that it's out of your scope for the contamination, but I want to know who is liable for any contamination that might happen after it's been passed over to the Fish & Wildlife.

There's other studies been done with winds, and the USGS has done studies about landslides. Landslides have been known to displace soil and bring up the deeper soils. And so I wanted to know just who's going to be in charge of taking care of that and making sure that it's safe for the humans to come on?

Because no matter how much contamination is left, it's still going to be radioactive. Plutonium has a half-life of 2,400 years. That means that plutonium is there. Even though it might be a minuscule

amount, it's still going to be radioactive for 24,000 years. That is way beyond the scope of this project. And I just want to know what's going to happen later on with that.

So just to wrap up, basically, you know, an ounce of prevention is worth of pound of cure. It's something my father has been telling me for my entire life. Just make sure that you know that this site is completely safe for people. The site has not been completely characterized, you don't know where all the contamination is.

I just want to make sure that -- I mean, I'm a runner. I will -- personally, I will never go out on the site. Inhalation of plutonium is the most deadly way of getting sick from this contamination, so I'd just like people to know that.

MS. ERIKSON: Thanks, Tricia. Kristin Pritz is the final one. Kristin?

BY MS. KRISTIN PRITZ:

Hello. I'm Kristin Pritz, director of open space and trails for the City and County of Broomfield. We've been working for quite a long time to develop this plan with other communities and with the U.S. Fish & Wildlife Service and their consultant team.

A lot of work has gone into figuring out

where appropriate locations are for trails and other improvements on the site, where we need to really locate these trails and so on, so that we're respecting the wildlife on this site and the other ecological aspects of the site.

So tonight's meeting, as I understand it, is really to focus on the plans that are being presented tonight and to discuss what plans for the wildlife refuge most represents what we want.

And I think that Plan B, Alternative B, really represents that emphasis on wildlife. That this is a wildlife refuge, and that's extremely important to the whole purpose of the site, and it allows for public access in a manner that does not take away from that important purpose. And for that reason I recommend Alternative B. Thank you.

MS. ERIKSON: Thanks, Kristin. Okay, Mike?

MR. HUGHES: Okay. Obviously, there's time -- if anyone is now interested in having three minutes to make a comment, we'd like to have you come to the microphone. If you would say your name when you get to the microphone, that would be great.

BY MS. MARCI BOURGERY:

My name is Marci Bourgery. I'm a resident

of Broomfield as well as a student at the University of Colorado. I, too, am in favor of Alternative A.

I do not feel like we have been given the honesty that we deserve, and I'm afraid that I cannot trust the -- I cannot trust the fact that the area will be safe. A wildlife refuge is just that, it's for wildlife. It is not for humans to come and interfere with what they need -- the wildlife needs to do out there.

Again, Alternative A -- I see no harm in a wildlife refuge, but I don't see where humans need to go there. There's a lot of open space here in Colorado, and that area has not been determined to be 100 percent safe. And, again, I don't feel humans need to interfere with the wildlife. Thank you.

MR. HUGHES: Anyone else?

BY MR. DOUG GRINBERGS:

Doug Grinbergs from Louisville. I guess my feeling is that if I trusted the Department of Energy, what they've done for the last several decades -- if I trusted companies like DOW and EP&G and Kaiser, whatever their name is, and any other corporate interests that were involved in the maintenance of that facility -- if I trusted all of those entities, I might think it would be great for us to go out there and have an open space

experience, ride our bikes, go ride horses, et cetera.

I don't have great trust in all of these people, in the legacy and the history. I think they have done a lot of environmental damage, caused a lot of destruction. They've hurt a lot of people, they've injured people -- you know, they've hurt people, they've caused health problems. And so, if I felt very safe and secure about all of those people and what they've done in many decades, I could support an open space experience.

I'm a hiker and a backpacker and a runner and a bicyclist, but I don't trust the government. And this is not directed towards the people in this room. I don't trust the people in Washington that are taking scientific data from our government scientists and they're massaging it to suit their purposes.

I don't trust the decisions that are being made. So even if people in this room feel comfortable about what's happening here, I have to inject my suspicions about the people in Washington, that they're not as concerned about our health, our safety, our well-being.

So I'm here to lobby for Alternative A, I guess. Thank you.

MS. ERIKSON: Thank you.

BY MS. NORELL LEUNG:

Hi. My name is Norell Leung. I am a student at CU Boulder. I would like to argue in support of Alternative A. With the point of -- I heard about, like, the Rocky Flats being a seamless refuge, meaning that signs cautioning the general public will not be used. And I wanted to refute that it just goes to show that if you argue that it might create a scare, then that shows that there is a reason for people to be apprehensive about the use of this site. And so I support Alternative A. Thank you.

MR. HUGHES: Ready for questions? One more speaker? Okay.

BY MS. ELIZABETH ASNICER:

Hi. My name is Elizabeth Asnicer. And I was looking back at the history of Rocky Flats, and I remember that in 1989, the FBI raided it. And they convened -- a special grand jury was convened to investigate the environmental crimes.

And in this last March, Judge Richard Matsch ruled that the grand jury was prohibited from talking publicly about what they found. So we really don't know what was found because there was a plea bargain. And there was an $18 1/2 million fine levied against, as I understand it, Rockwell -- it possibly was Kaiser-Hill -- but there definitely was a plea bargain

there.

So the public never heard exactly what was out there or where it was. And at the last meeting I heard that there was going to be some kind of a grid, I believe a certain number of little samples taken, and I remember -- could you tell me what that grid was, again?

MR. HUGHES: I'll get the question.

MS. ASNICER: Yeah. Would you? Because I think it was several acres. And then you have little tiny places, and, you know, the wind blows out there. If you've got a trail, the trail gets worn, the dust blows and the prairie dogs come.

I've got nephews in Golden, and they -- they used to burn -- they incinerated stuff out there. There was an incinerator. We protested that, I remember that.

So I have great concerns, because people want to make it a beautiful place. We want to forget what happened out there; but the plutonium is there, and we can't gauge just where. And if you go out and run out there and breathe in plutonium -- well, who knows?

MR. HUGHES: Anyone else?

(No response.)

MR. HUGHES: Okay. Our approach to the next few minutes is, I'm going to ask Dean Rundle to take

the microphone. He's going to say a few words before we open it to questions and answers. I'd like to start with the questions we have; and then, if there are more questions, we can take those also.

MR. RUNDLE: Thank you, Mike. I guess I have to use this (indicated), but that's okay.

First, I want to thank all of you for coming out tonight to provide your thoughts and testimony and input into this very important planning process here we're going through. It's been very gratifying. This is our fourth meeting and final public meeting. All of them have been have very well attended, and we appreciate very much the thoughtful input that we're getting from many people.

I know that there are people here tonight and people who are out in the community who are frustrated about the scope of the planning process -- input to us that we should be talking more in the Draft Plan and the Draft CCP about contamination and cleanup.

There's a very clear reason that that's not appropriate and why we're not doing that, and that's because the U.S. Fish & Wildlife Services is not a decision-maker in the cleanup process. Rocky Flats' cleanup is the responsibility of the Department of Energy and with oversight by the other signatories of the Rocky

1 Flats' cleanup agreement with the Environmental
2 Protection Agency and the State of Colorado Department of
3 Public Health and Environment.
4 The Refuge Act, which establishes the
5 National Wildlife Refuge, makes very clear that cleanup
6 issues trump any refuge issues. And, I think as Mike --
7 and I'd like to emphasize what Mike Hughes said in the
8 beginning, is that we are preparing this Draft Plan and
9 proceeding with this process in the context of a site
10 that is certified by the State of Colorado and the EPA to
11 be safe for the intended future uses as a national
12 wildlife refuge.
13 We are in a different situation than we
14 typically find ourselves here, and that is because it's
15 very unusual for the Fish & Wildlife Service to be doing
16 a refuge comprehensive plan before we acquire the
17 property.
18 Typically, if we're going out to use what
19 might be called bird resource money or land/water money
20 to buy a private property for wildlife, we do a process
21 to see if there should be a refuge there. There's
22 contaminant surveys to see if there's any old dumps from
23 farms and ranches and things like that, and then we buy
24 the land, and then we get into this planning process.
25 In this case, Congress has required us to

1 complete this plan by December of 2004. We had three
2 years from the date that the law was signed. And because
3 of the way the Rocky Flats cleanup agreement is working,
4 that means that we're preparing this plan in an
5 environment where all the cleanup decisions have not yet
6 been finalized.
7 So, that said, we're planning in the
8 context that we will get to certification, that it will
9 be certified clean for the intended future uses of the
10 site. If -- and there is additional sampling that's
11 going on, and there's a question that we'll address about
12 sufficient soil sampling.
13 The Fish & Wildlife Service -- we have
14 tissue samples from 26 deer that were taken on the site
15 last year to test for chronic wasting disease. Those
16 tissue samples are going to be analyzed for radionuclide
17 contamination, and if we get data back that indicates
18 that the deer are contaminated, obviously, that may --
19 will have an impact on some of our proposals.
20 So cleanup trumps refuge. And you should
21 be glad that we're not in charge of cleanup, because
22 cleaning up sites like this is not the core business of
23 the Fish & Wildlife Service. The DOE and State and EPA
24 are much more competent and have a lot more expertise in
25 those areas.

There are appropriate and other venues for you to engage those decision-makers about cleanup. The Rocky Flats Coalition of Local Governments was mentioned. All of you -- I think most of you who spoke tonight are residents of jurisdictions that are represented on that board. I encourage you to talk to your local elected officials. I can you assure that RFCLOG is very effective and respected by the RFCA parties.

The Rocky Flats Citizens Advisory Board meets the first Thursday of every month, and it would be wonderful to see this many people attending those meetings and learning about cleanup from DOE, EPA, and the State. So there are other venues out there.

With that said, I'd to ask Joe Legare to come up for a minute -- Joe? This isn't a DOE meeting, this is a Fish & Wildlife meeting, but I know a lot of you are concerned about what DOE's doing; and, Joe, if you can make an announcement for them.

MR. LEGARE: Hi. I'm Joe Legare. I've been the environmental manager for DOE of Rocky Flats for the past eight years, very involved in the implementation of the cleanup agreement and working with the regulators and the community in the development of the cleanup levels.

Some comments that come out -- written

comments, and then in this forum, and then last summer when they had the initial meetings -- a lot of questions about the cleanup versus the management of the refuge. And Dean had mentioned some forums where we talk about cleanup issues, and I would agree with Dean saying if you can get out and attend those meetings.

At this point, however, many of those meetings deal with detailed specific issues about specific spots: A landfill or ground water or something. And those are good, go to those.

But something else that occurred to us that we thought would be useful to try and be responsive to what's been heard in this forum and the other ones in the other cities, was to have a session specifically to talk about the interaction between the Fish & Wildlife Service; the DOE; the contractor, Kaiser-Hill; and the State Health Department; and the EPA.

That's going to be right across the street at Broomfield City Hall on April 14th -- there will be other announcements that come out from -- from six to eight in the evening, and I encourage you to attend that.

The specific agenda and format and so on to be worked out, but it's a great opportunity to talk about: Was there dumping at the site? You bet there was. There was quite a bit, and that's what we've been

working on for the past 11 years. How do you know what you know? How much characterization have you done? What is the site going to look like in the next couple of years? When we have a certification from the EPA that it's ready to transition to the refuge, in terms of: What are you leaving behind the subsurface? Is the surface really safe? Is this conservative, or is this kind of the low-budget cleanup? And what kind of models did you use? Those types of things.

Happy to talk about all of those things to help, perhaps, increase understanding. And in some cases, they'll just -- there will just be disagreement on certain points, and that's okay. This meeting and ones like it is evidence that you can disagree, but it's nice to hear your opinions.

So that meeting will be April 14th, as I mentioned. There are other public forums, as well, that are available to talk about cleanup issues; and also there's contact information. If you haven't been involved in these forums and you do want to communicate more with the site, we can get you that information as well.

But I suspect if you just -- if you just put in "Rocky Flats" on a search, you'll get all the -- you'll get the Peace Center website, our website, the

Coalition of Local Governments, and so on. And there will be contact information in there for you. Thank you.

MR. RUNDLE: Thanks a lot, Joe. I appreciate that, and I hope a lot of folks will come. I think that will be a real helpful, good meeting for all of us on April 14th.

Before Mike will start taking questions from the audience, we recorded several that were made during testimony, and I'll try and address those the best I can.

First one: Why are no dogs in any of the alternatives? We look at this -- it is a national wildlife refuge. It's not a local community open space, it's not a city park, it's not a national park. Wildlife does come first.

We also -- as we talked with people in local governments as we began this plan and the scope, and we said, We want to complement the adjoining open spaces, because one of the real qualities of Rocky Flats is that although it's a relatively small site, there is good connectivity to very large chunks of public land through Boulder and Jeffco, Broomfield, Westminster open space, all the way into the Roosevelt National Forest. And all of those land units don't need to provide the same thing.

So we looked around and -- is there access for people who want to walk and walk with their dog? And the answer is yes. Dogs are allowed on leash on most of the Boulder open space trails. Westminster has a free-run dog park just a mile east. So there's not a lack of opportunity for that.

We looked -- leash laws are -- I think, in my experience, in management of refuges all over the country, is a difficult enforcement issue. Many people have dogs that are well behaved and stay at heel all the

time. My personal experience on open space is that there is a high rate of violation and a low -- compliance rate on the leash law on most open spaces is maybe, I don't know, 50 percent, 40 percent.

We have a federally listed native small mammal, the Preble's meadow jumping mouse, on this site; and we feel that we need to maximize protection for those threatened species.

Dogs have a potential -- studies done on Boulder open space -- to cause greater disturbance than pedestrians alone or equestrians alone to some species of wildlife, and it is true that some wildlife reacts more to people than they do to dogs.

But, for all these reasons: Difficulty with enforcement, the waste from dogs that some people don't like on trails, the fact that dogs are allowed and there's plenty of places to take your dog outside, we feel that it's not an appropriate use on the National Wildlife Refuge.

Why is the refuge -- the next issue, yeah. There's a couple of questions about: What does refuge mean? And it's true that if you looked in the Webster's dictionary, you will find some of the words specific for it: Sanctuary, things like that. However, national wildlife refuges are not defined by Mr. Webster or Funk &

Wagnel. They are defined by the National Wildlife Refuge System Improvement Act of 1997.

We are not a multiple-use land management agency, such as perhaps the BLM, managing public domain; or the U.S. Forest Service. They have organic laws in Congress that say, all various uses are given equal consideration. We are a primary-use land system; wildlife does come first.

What Congress also said in that statute -- they recognize that the American people pay for these places. The taxpayer funds the operation and maintenance of these sites. And that wildlife-dependent recreation -- going way back into the second decade of the refuge system in the 1920s, there have been wildlife-dependent uses such as bird-watching, hunting and fishing, that have become traditional uses. And Congress wanted to preserve those in this system when they're compatible with the wildlife purposes.

And the purposes are found in the statute: The preservation and management of eco systems; the protection of endangered species; biodiversity; and, in the case of the Flats, compatible scientific research. Our job is to look at the proposed uses and determine if any of them will materially detract from achieving those purposes.

We believe that the uses proposed do not materially detract. That's a professional judgment that I make with your input. There are draft compatibility determinations in the Draft Plan, and you are certainly welcome to comment on those as well as the EIS and the CCP.

It does not mean that no disturbance at all can be allowed. There will be some disturbance, we acknowledge that. The question that we have to answer is: Is that disturbance biologically significant? Does it interfere materially and significantly with important ecological functions such as reproduction, migration, foraging and things like that?

So that's the best answer I can give on that.

Why take a risk to human health when the risk is unnecessary? Kind of a cleanup question, but we think that there's -- there's no recreational uses that are without risk.

The cleanup area is designed to be protective of a refuge worker, and it's a very safe and effective cleanup that's being planned. NEPA -- or, excuse me, the Superfund law requires cleanup to at least a 10 to the minus 4, or a 1 in 10,000 risk of cancer above background. The cleanup of Rocky Flats is an order

of magnitude better than that.

There have been statements about widespread contamination that's dangerous across the entire site. We have seen no credible scientific evidence that, within the land planned to be transferred to the National Wildlife Refuge, that there are dangerous levels that would create an unacceptable risk. Everybody has to judge -- as I've said before, everybody has to judge that by themselves, what's acceptable for them.

But that's what the risk is out there now. The final calculations aren't made -- but we're talking 1 in a 100,000 or 1 in 300,000 for a person like me who would work there and be in contact with soil and vegetation a thousand hours a year for 15 to 20 years; much lower for a visitor who might walk on trails several weekends a year for a few hours at a time.

The area that is proposed to be transferred to the Fish & Wildlife Service -- the characterization that's been done so far, there are -- levels of plutonium in surface soils are all 5 or less picocuries per gram. This line (indicated) -- DOE has to retain lands for management of the remedy. I'm told that this line right here (indicated) is about 7 picocuries per gram line. And that's in the surface soil. All those heavier concentrations that were mentioned will be

found in the industrial area in the subsurface, with the DOE.

Anyway, most of this that's known right now is less than 1 picocurie per gram. There is additional characterization going on. Although there have been tens of thousands of samples taken, there are some areas of the buffer zone that are not as well characterized. And I think there was a question on that. Mark, do you want to -- just so I don't get the numbers wrong. What are we doing right now?

MR. SATTELBERG: What is being planned right now is there's a grid system that's being overlaid the entire site, 30 acres. Within those 30 acres, there will be five subsamples that are composited into one sample.

In addition to that, if there's areas of concern, there is the ability to go back and do some targeted sampling. If we find something out there that maybe looks a little unusual, we do have that ability. But, essentially, we're going to be adding to the system about 115 additional soil samples in the buffer zone. And that's added to probably a couple of thousand that's already out there.

MR. RUNDLE: So I think that answered --

MS. ERIKSON: Are you going to separate

the refuge area from the --

MR. RUNDLE: Oh, yeah. We do use words in the Draft that we would desire to have a seamless refuge. And what we mean by that is a boundary between the retained lands and the National Wildlife Refuge that, if it's safe, and we think it will be, will not preclude the movement of wildlife across the entire site, and will not unnecessarily detract from the aesthetic values of the site.

One of the qualities that Congress noted in its findings were the visual viewshed values of Rocky Flats. So we don't want to detract from that if it's unnecessary.

We don't think -- that decision, again, will be made as part of the final decision by the RFCA parties in terms of institutional controls and long-term stewardship. We'll provide input to them; I encourage you to do the same thing.

I think that our input, at this point, will be that we want that matter to be clearly and as permanently marked as possible. As many people have said, there will be subsurface contamination left. I'm very confident that when the closure is done, all those pathways will have -- you know, below 3 feet contamination will be cut off. And it will not present a

risk to the users at the surface.

But we want to make sure that nobody forgets where that line is and what was left there in the long term. So we want it to be clearly marked, then maybe some type of signs or obelisks, something that's visible, both to our workers -- so that we don't have somebody inherently stray into that. So that we know that if there are prairie dog colonies that need to expand in that direction, that they have the opportunity to take some kind of management action to help protect that retained area from the prairie dog invasion.

And people need to know that, if they do decide to violate the laws and trespass where they are not allowed to, that they have appropriate notice that what they're doing is illegal.

So we do need to have that marked and posted. We don't need -- there's nothing there, but we don't think it's necessary to put up a barrier to wildlife movement.

MS. ERIKSON: Liability?

MR. RUNDLE: Liability. One thing that the communities -- I believe one reason that the communities supported the Refuge Act was it requires perpetual federal ownership of the site. So the U.S. government is the responsible party here. The Department

of Energy is the responsible -- agency responsible for the cleanup and the long-term maintenance and stewardship of the residual contamination to ensure the long-term protectiveness of the revenue.

If somebody comes out and goes on one of our trails and trips and falls and breaks their leg, then they can blame Fish & Wildlife Service for that, and there is a tort process to go through. We have an obligation not to create particularly hazardous situations or create attractive nuisances with the appropriate use of facilities.

There are hazards involved in wildlife recreation, and, I think, some of the uses that people propose; such as, equestrian use and bicycle riding. My son's a mountain biker and a snow boarder, and I'm sure those are more hazardous than walking into the buffer zone of Rocky Flats. So the U.S. government will be responsible for that.

MR. HUGHES: Okay. We have some time for more questions if you have them. Again, we ask that you not add to the three minutes you already got by making your comments. If you ask a question, we'll give it to Dean.

All the way back there?

QUESTION: In regards to when this plan is

completed, if Plan B should be the final plan, there's been some comment that has been made that -- about the hunting part of it. If that is not included in Plan B and addressed at the time that this final incident comes to fruition, would that issue be addressed -- or could it be addressed without major -- a congressional act to allow hunting on the refuge?

MR. RUNDLE: Okay.

QUESTION: Does that make sense?

MR. RUNDLE: I understand what you're saying. Well, first, let me say that Alternative B is the proposed course of action, the proposed alternative. It has not been decided that that will be the final decision. I honestly -- based on the volume and the quality of the public input we have received, I would be surprised if the final decision is any of those alternatives exactly as presented.

That's the purpose for bringing the draft out, and I'm confident there will be some changes. The final decision belongs to the regional director of the U.S. Fish & Wildlife Service. The planning team will take all of your input, we will make changes that we think are appropriate to make in response to what we've heard, and we will recommend to the regional director a recommended decision. He may ask for some changes in

what we recommend, but there will be a decision made.

Now, I believe your question is: If a final decision does not include a public hunting program, how hard will that be to overcome? It would not require an Act of Congress. It would require the regional director to amend the record of decision. And, although that would be possible before the CCP expires, this is a 15-year plan, we are required to come back to the public to review what's happened after 15 years. I think it would, frankly, be unlikely that following such a large process, if the decision was made not to do that, that a simple request by a group of individuals to reopen the ROD, I think is unlikely; it's not impossible.

MR. HUGHES: We've got a question in front here.

QUESTION: Yes. I'm wondering about the use of -- multiple use of trails and so forth. Many people perceive that as being dirt bikes and snowmobiles and ATVs -- which, I presume, this is actually nonmotorized?

MR. RUNDLE: That is correct.

QUESTION: It isn't specified.

MR. RUNDLE: Okay. Well, perhaps we need to make that clearer. I used the words "multi-use trail" when we did the draft compatibility determination. And,

really, the internal issue might exist to allow anything other than pedestrian. And the uses proposed here -- we don't view the equestrian use and the bicycle access as recreational bicycling or horseback riding. We're viewing those as modes of transportation for people to engage in wildlife-dependent things, like wildlife observation, interpretation of photography.

Now, we're not going to arrest people and write tickets if they ride their bike or jog through the refuge. And we're not going to stop them and say, Did you look at a bird, 'cause if you didn't look at a bird, we're going to pinch you. That's not what this is about.

And we know that in an urban area, people are going to -- if the decision is made to have access to trails, that people are going to use those trails for hiking, and they're not going to pay attention to the wildlife.

But those are valid modes of transportation for people to get from point A to point B, to engage in photography, or to get from one interpretive site to the other, to get to the place where we interpret the history of the Rocky Flats plant or the Lindsay Ranch. And so those are modes of transportation.

No off-road -- off-road motorized traffic on national wildlife refuges is prohibited throughout the

system. I've written more tickets for people driving cars and snowmobiles and stuff off-road than any other thing in the hundreds of citations I've written in my career.

So we enforce that pretty aggressively. You won't see anything in here that's -- we've had requests for model airplane flying. That's not wildlife-dependent. It's not going to be compatible; it's not in there.

MR. HUGHES: Question here?

QUESTION: I was wondering, is it the DOE or the Fish & Wildlife Service that's doing the 30-acre grade sampling?

MR. RUNDLE: Well, the DOE and its contractors are doing that. And they're doing that as part of the conference of risk assessment, and it is regulated by the State and the EPA. We did request additional sampling -- the EPA requested it, and DOE has agreed to do that.

QUESTION: Is that five samples per grid?

MR. RUNDLE: Well, every 30 acres, we'll grab five soil samples. We'll combine those for analysis. So you've really got 500 samples, but we're only going to be doing laboratory analysis on the composites.

But, if you're talking about wind-blown, I mean, that's not going to be -- there's two ways for stuff to get to -- one is a point source like a dump. And you could miss that with this type of sampling. That's why Mark said that we are going to look for other anomalies. The State's already done its work there, which is as far as in the way of tire tracks, fresh dirt. They show up, and we'll review that again.

And if anybody -- I've heard a lot of statements in the last couple of weeks about, I know there was this happened or that happened. If anybody has personal knowledge that there's something that's being missed, I believe it's your obligation to come and tell us. Come and point on a -- draw an excellent map, and we'll go look.

But I think this -- I mean, I'm not a physicist or a chemist sampling-design person; but the folks that do do that, they've come up with a sampling scheme, and our contaminants biologists concur and agree that it is an appropriate way to do the sampling.

MR. HUGHES: Got a question all the way back here.

QUESTION: I have two or three questions and a comment.

MR. HUGHES: Can you please just give us

the questions. We gave everybody their three, so just the questions, please.

QUESTION: Oh, just the questions. How -- will all the animals that will possibly be harvested under the hunting provisions be tested?

MR. RUNDLE: You mean for radioactivity? We haven't considered requiring that. We're going to test the deer now. It would make sense that if they're clean now, and the site's being cleaned up and the sources are being removed, it would be unlikely that it would change later. That's a question I might want to pose to the State Health Department to see if they recommend that we do that.

QUESTION: That was one issue. The other question I had was: I was curious about how those samples are going to be taken? The samples you're going to be taking, I thought it was 300 samples, was it 100?

MR. SATTELBERG: There's about 120 samples -- there will be about 120 samples total, but if you count the five subsamples, it's over, like, 570 subsamples.

QUESTION: What's the actual procedure? Are you just taking -- are going down a certain path? Are you taking the first couple of inches? Tell me how you're doing that.

MR. SATTELBERG: Basically, what they're -- what the sampling plan calls for is less than a square foot, no deeper than 6 feet -- 6 feet? -- 6 inches, I'm sorry. They collect it. They collect the same volume from each point, put it into a bowl, mix it up, put it into the actual sampling jar to transmit to the lab.

QUESTION: If some of those samples that you retrieve violate the standards relative to the amount of contamination that would be permissible, what -- how would you deal with that issue? What would you do?

MR. SATTELBERG: Well, all the subsamples are surveyed in; and so we'd go back to that grid, find those five subsamples and probably sample each one individually.

QUESTION: Okay. And then, having done that, and then, say, you isolated the area in particular, then what would you do?

MR. SATTELBERG: Go through the normal process to see if there needs to be an action taken.

QUESTION: Would you remove the --

MR. RUNDLE: The surface soil cleanup is 50 picocuries. If they find a spot that's hotter than that, the DOE's going to have to expand its cleanup and they'll have a new -- a new site that they'll have to go

in and remediate.

QUESTION: So that's the standard you'd be using then to evaluate --

MR. RUNDLE: In terms of the required cleanup. But if we found -- you know, from what we know right now, this is all 0 to 1 out here (indicated). If we found 10 someplace, I think we'd start looking at where that came from.

And that might affect -- we'd have to consult with the health agencies if they didn't require cleanup, but it was still higher than the 7 that we're looking at now for the retained lands.

MR. HUGHES: Good. Question here. Go ahead. And then one over here. Sir, go ahead.

QUESTION: I was just going to make a statement that --

MR. HUGHES: Actually, we --

QUESTION: -- while the website is down, people might be able to find a copy of some of the information on Google or other websites.

MR. HUGHES: Please, question?

QUESTION: Given the DOE's and EPA's lack of credibility in doing scientific things like this, has anyone proposed, or has it been suggested, that an independent -- truly independent scientific validation be

done of the processes and the methodologies for the testing? Something that passes a scientific, not a political, mandate?

MR. RUNDLE: I guess I wouldn't accept that those agencies you mentioned are unreliable in terms of their testing. But there -- and this is really a question that we need to direct to the RFCA parties.

My understanding is there has been peer review data -- or peer review analysis of various decisions along the way. So it's not totally RFCA parties in many cases. There have been other reviews. The soil action -- I hope I get this right. Mark, help me if I get it wrong -- the Citizens Advisory Board had a significant grant. They hired an independent contractor to view the original surface soil cleanup levels, and that, I think, did have a significant bearing on changing those levels from what was originally proposed in 1996.

You know -- I've -- I haven't been around Rocky Flats for a long time. I've been at the Arsenal four years, pretty close; and I don't see any indication that the Colorado Health Department is in any way inclined to cut slack to federal polluters.

And I put a lot of -- you know, CDPHE tells me, Yeah, this is true. I mean -- and that's not that I don't trust DOE and the EPA, but, I mean, you've

1 got other than federal agencies that have to sign off on
2 this.
3 QUESTION: Just the federal agencies,
4 though?
5 MR. RUNDLE: No, it's the State of
6 Colorado. The State of Colorado does not have a dog in
7 the hunt in terms of -- you know, they're not -- I don't
8 believe the State Health Department, Governor's office,
9 is going to let any fed walk away from an unhealthy site
10 for the citizens of Colorado. That's my personal
11 opinion.
12 MR. HUGHES: Good. Question up front?
13 QUESTION: Is the only place that a person
14 could bring a car and park -- would it be only the access
15 from Highway 93?
16 MR. RUNDLE: That is correct. In all
17 alternatives, the only vehicular access to the site would
18 be through the current west access gate, going north,
19 just at the corner of Section 16 and to the trailhead.
20 That orange line (indicated), that would be the only
21 vehicular access, except for parking lots along the
22 perimeter of the trailheads.
23 QUESTION: So then, would there still be
24 access for hikers, then, to come to the south side of the
25 refuge? Or would they be strictly -- after they park

1 their car, would they only be able to go on the north
2 side of the refuge?
3 MR. RUNDLE: Well, they could go south,
4 but they'd either have to make a long hike, or -- you
5 know. We were asked for loops and we were asked for
6 connectivity. So I think if you wanted to hike the south
7 side or the north side, you could park and do one of the
8 loops that's there. If you wanted to hike all the way
9 through, you'd probably have to leave a vehicle at both
10 ends.
11 MS. SHANNON: Are you asking whether you
12 can access from Arvada? Is that the question?
13 QUESTION: No. I was wondering, though,
14 how -- if you had to park, which is more on the north, I
15 don't see a connecting trail where people could then walk
16 from their cars and then hike on the south side.
17 MR. RUNDLE: Oh, I see what you're saying.
18 QUESTION: Is there a trail?
19 MR. HUGHES: There's a trail. It starts
20 right here (indicated).
21 MR. RUNDLE: Yeah. There is a proposal
22 out there for the front range trail to run from, like,
23 Pueblo up to Fort Collins, or at least the Springs to
24 Fort Collins. That's not sited there. That's a state
25 park lead. We think that's going to go someplace around

the 93 corridor, so we'd have a trail going out the west gate area, not precisely sited right now, that would connect up with that one.

MS. SHANNON: If it went along that corridor, it may not.

MR. RUNDLE: It could go east too.

MS. SHANNON: There's been a suggestion that it go east too, like, going that way (indicated).

MR. RUNDLE: As Laurie said, we did not put a -- you know, the east side along Indiana is not the most scenic or exciting part of the site. You don't get that rolling topography. You're out of the tall grass.

No decision made yet. We think it's likely there will be a transportation corridor improvement, and how we're involved in that is in their scoping, and what we're telling the corridor people is that you need to provide a multi-modal route there if you're going to have a highway or widen Indiana. You need to make provisions there for bikes and equestrians and pedestrians within that right-of-way as opposed to giving the right-of-way up, and then taking more refuge land for more trails.

MR. HUGHES: Question here.

QUESTION: When you're talking about your wildlife first viewpoint, have you taken into

consideration that -- I mean, how have you looked at the cancer latency period with animals that live on the site? You're saying you have an endangered species on this site. How is this endangered species being affected by the contamination on the site? Have you done any studies on that -- or how it might surface? I mean, these animals don't live 20 to 30 years, which is the cancer latency period.

MR. RUNDLE: Uh-huh.

QUESTION: So how might you, you know, determine whether or not these animals are being killed off just naturally by death? Or if, you know, the cancer is actually having an effect on these already endangered -- you know, their numbers are already relatively small? How are you going to put an animal that's already endangered on a site that could endanger them more?

MR. RUNDLE: Well, they're already there. And that's -- to me -- and we don't have a lot -- I don't have any data on whether the Preble's meadow jumping mouse, which is the threatened species out there -- we don't have any sampling for those. We try not to use lethal techniques to sample an endangered species.

But the bioassay is that these animals are there -- there are actually sites within the DOE retained

lands in Walnut Creek and Woman Creek, that have successful mouse populations. Now, I don't think that -- I don't know the particular biology of the species extremely well, but you're talking about a one-to-two-year life cycle max on a mouse. So you're right. It would be unlikely that mortality would be caused by cancer from plutonium.

We have looked -- there have been studies of wildlife uptake and plants done by Colorado State University in the '70s and '80s; we've looked at that. We're going to look at the deer now. And, so far, we have not -- of the data that's available -- had an indication that radionuclide contamination is impacting wildlife populations.

I'm not aware of any die-offs or abnormalities in wildlife that are on the site. And that's -- typically how we monitor on national wildlife refuges is, we don't have the resources to do a lot of analytical testing of soil and water and vegetation, but we do get to things -- because that's one of the great values of wildlife, is that they are such a great indicator of the environmental health for people. If you have rich and abundant wildlife -- I mean, those critters out there -- I mean, they spend their whole life there, not a thousand hours a year and not a couple of hours a

month.

If, you know, they're doing pretty well and they're reproducing well and their populations are stable within their normal fluctuations, I think that's a very good indicator. In fact, for a lot of urban youth, when we do education, they say, What good is wildlife? I don't hunt and fish. And it's the wildlife that tells you if that's a safe place for people.

QUESTION: Okay. So what happens when, you know, maybe they're not dying off from the cancer, but perhaps the contamination is creating gene mutations and everything like that, throughout all their multiple generations. A couple of years down the line, you might see mutations and stuff like that. Who's going to be -- what's going to happen if that ends up --

MR. RUNDLE: We will continue to monitor the populations and the habitat quality for the endangered species. If you look in the wildlife management -- parts of the CCP -- and so there will be live capture. And if our biologists are finding animals that are abnormal, you know, then -- that's when we start asking questions and start asking for funding to look at why that's happening.

Or if the habitat's good, you know, in terms of stem density and species composition, and we get

a handle on the weeds and things, and we still see population problems, you know, that's the kind of thing where we'll go and seek funding to do more indepth testing. But we kind of use that population monitoring on refuges, because we are a management entity and not a research entity. And that's where we go look, is when we start seeing things.

QUESTION: At that point, would you keep humans off the land?

MR. RUNDLE: You know, I don't know. I think it would depend on what we're seeing and where -- and where it was. We're trying to keep people out of the Preble's habitat pretty much. If you look at this trail system, we're staying out of the more sensitive riparian -- I mean, you mentioned in testimony the need for -- to look at corridors and its effects on wildlife. Alternative A, all the roads and the culverts that fragment habitat could stay in. Alternative B, we're pulling most of that fragmentation out and greatly reducing the amount of trail fragmentation.

So most of the trails are not in the Preble's areas.

But I think in Rocky Flats for a considerable amount of time, we'll be pretty sensitive to any changes we see and consulting with the RFCA parties.

And I think that's -- I think these discussions that are upcoming about long-term stewardship and what level of monitoring will go on in the future and whether that would include biomonitoring. Those are important discussions and I would encourage you, if you have ideas on how to incorporate biomonitoring into the long-term monitoring, then we'd like to hear that; and DOE, I think, would like to hear that as well.

MR. HUGHES: Okay. Good. Two more.

QUESTION: Dean, isn't it the case that the sampling method that you referred to actually would have the effect of diluting plutonium concentrations in two ways? One is depth. If you're taking 6 inches instead of the plutonium on the surface, like 3 centimeters or something like that. And the other way that you dilute it is that you take five samples from 30 acres and then average them together. So if there's really a higher level in there, it gets averaged away.

MR. RUNDLE: Clearly, there's dilution -- and Mark can jump in -- but I think what Mark said earlier is that what we think is that there is -- what the current science tells us is it's so low, that if there's anything elevated, we're going to go back and look, because there's probably one of the samples was a hotter spot than the others. So if we see things that --

what's the krig -- what's the name of that map?

MS. SHANNON: Kriging.

MR. RUNDLE: Kriging map, you know, and we see a -- you know, less than one, and we pull a composite of that area that's a three, I figure you're going to see a lot more sam -- I'm going to ask for a lot more sampling in the area -- additional sampling from where that was taken to find out what the maximums are.

I think that -- and, Mark, if I'm stepping on it, let me know -- it's like, if you see those elevated levels, you're going to look for more. And the sampling gives us the opportunity to look at more dirt this way than taking the smaller samples that are less than we --

QUESTION: You don't really answer my question --

MR. RUNDLE: I'm sorry. Mark, why don't you try?

QUESTION: -- as far as it dilutes the sample.

MR. SATTELBERG: Well, as far as the two dilution factors. The first one going down to 6 inches, they get as much as they can at the surface. It's Rocky Flats, so there's a lot of rocks in there. And the rocks, you can't analyze for it. So they have to take

the rocks off until they get the sample.

Secondly, if we were looking for a hot spot, yes, we would probably be diluting the sample; but we're not expecting to see the hot spots in the buffer zone. We're looking for the aerial dispersion, and so we think it's going to be pretty homogeneous as far as the concentrations across the buffer zone.

And so we don't think we're going to be diluting. We're actually just, basically, averaging what we're seeing over that 30 acres.

QUESTION: I want to ask a second question. It has to do with your statement that the concentrations of plutonium in the buffer zone are between 0 and 1 picocurie. The only map I've seen is 5 picocuries or less, and that's over the whole buffer zone. There's a lot of difference between 5 picocuries and 1 or 0.

MR. RUNDLE: I agree that there's a lot of difference. And I think I said two things. I think once I said that all the area that's proposed outside the refuge transfer, that the highest levels we know of in that are 5. And that's over on this side (indicated).

But in the northern and western buffer zones, that map that I've seen shows 1 or less. So, yeah, 5 out here (indicated) --

QUESTION: Could you get me that map? I haven't seen it.

MR. RUNDLE: Yeah, we can get it for you.

MR. HUGHES: Okay. Good. One more question up here, and we're out of time.

QUESTION: I'll phrase it as a question, I think.

MR. HUGHES: Okay.

QUESTION: I think it's great that the Fish & Wildlife Service recognizes the opportunity to restore the area to a presettlement fire regime with the noxious weed burning and prescribed burning. I also noticed in the DEIS that equestrian uses will be used in certain places in some of the alternatives. I'm wondering if the Fish & Wildlife Service has considered the introduction of noxious weed seeds from horse manure in there?

MR. RUNDLE: Right.

QUESTION: And also on trails where there's a higher chance that noxious weeds would plant and take up residence there.

MR. RUNDLE: It's a real good question. And what immediately comes up internally within the Agency -- horses, weeds. I think a lot of studies have been done that -- you know, I'm not sure that it's not a

red herring, because weeds can also come in vibrant soles and bicycles tires and the wind. And if you look at the draft compatibility determination that's in the plan for allowing horse and bicycle use, you will see one of the stipulations there is that we have a volunteer cooperative agreement with an equestrian group that will police manure up off the trails on a weekly basis.

So if we don't get one of the equestrian groups that requested access to step up and say, Yeah, we'll come in and take the manure and weed source out, then we're not going to have equestrian use. We've made that a stipulation in order for that use to be compatible.

I can tell you, though, that there are significant inva -- there's great natural biodiversity on the site and the botanical community sod has never been broken. It wasn't farmland.

The mining activities are almost an unlimited source of weed infestation. And the surrounding -- I mean, we're not alone in this. The open spaces that are managed by local governments also have difficulties. So the weed war is going to be really important to us.

I don't think that with the amount of disturbance caused by the -- this industrial mining over

here (indicated), which really creates that root hold for these noxious weeds to get a foothold and spread, that the recreational uses are a significant weed source.

We are going to really cut down on the width of the -- we're going to put our trails where there's gravel roads now, 90 percent of it. We'll be narrowing those corridors where weeds are common now. As road grading goes on that was needed for the DOE security maintenance, you know, we'll reduce those disturbances. So they won't be zero, but I don't think that horses or hikers are going to be the primary source of weeds at Rocky Flats.

MR. HUGHES: Okay. Do you want to hear something from Joe?

MR. RUNDLE: Sure.

UNIDENTIFIED SPEAKER: He doesn't really, but . . . .

MR. LEGARE: I just want to make sure that something -- it wasn't misconstrued, and I'll get to my question.

And it was: You were talking about an additional 500 samples or so in the buffer zone in the methodology, but isn't it true that that's in addition to about 130,000 samples in 10,000 locations of surface water, ground water, surface soil, and subsurface soil

that we've already taken, that have been qualified?

The actual total number of samples is much greater than 130,000, but those are the ones where we've had qualification at the EPA, and the State has seen as well. And that's really the basis to date for what we know about the site.

In addition, you were talking about these other spots on these 30-acre grids, where there's no suspected contamination, but where we've negotiated and agreed that it was reasonable to take a look there anyway.

MR. RUNDLE: Yes.

MR. HUGHES: Having stretched the ground rules to the absurd, go see Joe on the 14th of April. Any last questions that have to be answered, or shall we say good night?

QUESTION: One question. Could you repeat the location and the time of the meeting on April 14th.

MR. LEGARE: City Hall.

QUESTION: Oh, I'm sorry.

MR. LEGARE: Oh, is it up there?

MR. HUGHES: Broomfield City Hall, six to eight, April 14th. Okay. Done?

MR. RUNDLE: Thank you. Thank you very much.

1 MR. HUGHES: Thank you for your comments.

2 . . . WHEREUPON, the public hearing was

3 concluded at 8:40 p.m.

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1 CERTIFICATE OF DEPOSITION OFFICER

2 STATE OF COLORADO)
) Ss.
3 COUNTY OF DENVER)

4

5 I, CHERYL M. ROBINSON, a court reporter and Notary Public within and for the State of Colorado, commissioned to administer oaths, do hereby certify that
6 previous to the commencement of the examination, the witness was duly sworn by me to testify the truth in
7 relation to the matters in controversy between the said parties; that the said deposition was taken in stenotype
8 by me at the time and place aforesaid and was thereafter reduced to typewritten form by me; and that the foregoing
9 is a true and correct transcript of my stenotype notes thereof.

10

11 That I am not an attorney nor counsel nor in any way connected with any attorney or counsel for any
12 of the parties to said action nor otherwise interested in the outcome of this action.

13 My commission expires February 25, 2007.

14 IN WITNESS WHEREOF I have affixed my signature and seal this 30th day of March, 2004.

15

16

17 _____
CHERYL M. ROBINSON
18 BOVERIE JACKSON BUSBY & LA FERA
19 1735 East 16th Avenue
Denver, Colorado 80218
20 303-329-8618

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23

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