The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.

The mission of the National Wildlife Refuge System 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.

Cover Photo: Non-native smooth bromegrass (Bromus inermis) shown in the proposed alignment of new trail in the Woman Creek drainage of the Rocky Flats National Wildlife Refuge (Credit: Federal Highways Administration)
Environmental Assessment for Improved Visitor Access at the Rocky Flats National Wildlife Refuge

Date: July 2020

This environmental assessment (EA) documents the issues, alternatives, and analysis associated with implementation of aspects of the 2005 Comprehensive Conservation Plan (CCP) for the Rocky Flats National Wildlife Refuge. Specifically, beginning in 2014, the U.S. Fish and Wildlife Service (Service) began working with its partners to provide the public access to the Refuge described in the CCP. The Service began offering its first public tours of the refuge in June 2015. The Service then announced in April 2016 its plans to begin a public participation process to assist with the opening of the refuge to general visitation. The refuge officially opened a network of internal trails in September 2018.

The U.S. Fish and Wildlife Service (Service) prepares this Environmental Assessment (EA) to evaluate the effects associated with the proposed action in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR §§ 1500-1509) and Department of the Interior (43 CFR Part 46; 516 DM 8) and U.S. Fish and Wildlife Service (550 FW 3) regulations and policies. NEPA requires examination of the effects of proposed actions on the natural and human environment. This document is also consistent with Secretarial Order No. 3355 (2017) to immediately implement certain improvements to NEPA reviews and additional guidance from the Department of the Interior to implement this Order (memorandum dated August 6, 2018).

I. Proposed Action

Consistent with its 2005 Comprehensive Conservation Plan (CCP), the U.S. Fish and Wildlife Service (Service) would further improve visitor access to the Rocky Flats National Wildlife Refuge. Working with the Federal Highways Administration and multiple local governments, the Service would improve the 8.2 mile non-motorized trail within the Rocky Flats National Wildlife Refuge, also known as the Rocky Mountain Greenway Trail (see figure below). This work would also include: (1) the creation of improved “off-road” connections to existing regional trail systems, (2) minor improvements to the refuge’s existing main entrance and parking area, and (3) support a partner-led project funded through the Federal Lands Access Program (FLAP) to create two additional connections to adjacent open space lands (see Appendix A for additional details).

Specifically, the Service would ask the Federal Highways Administration to design and construct 3.4 miles of trail and two stream-bed crossings on the refuge. An additional 600 feet of trail would be constructed on lands owned by Boulder County, Jefferson County and the Jefferson Parkway Public Highway Authority (see Appendix A). Construction of trails requires clearing and grubbing of vegetation within the trail bed and placing vegetation barrier and a compacted aggregate material to create the trail. It

1 Additional information on the U.S. Department of the Interior’s efforts to streamline NEPA can be found at <https://www.doi.gov/nepa>.
is necessary for newly constructed trails to cross to both Rock Creek and Woman Creek where a box culvert, short-span bridge, or other type of low-water crossing would be installed. The FLAP project would construct a new bridge over Indiana Street and install a box culvert under State Highway 128 to create a grade-separated crossing connecting the refuge to adjacent open space lands (see Appendix A).

Background

Rocky Flats National Wildlife Refuge (RFNWR or “the refuge”) sits about 2 miles from the foothills of the Front Range at the interface of the Great Plains and Rocky Mountains. The refuge has a somewhat unusual history. It was established in 2001 and came into U.S. Fish and Wildlife Service (Service) stewardship in 2007 following the closure and subsequent cleanup of a nuclear weapons plant operated by the Department of Energy (DOE).

A Record of Decision (ROD) was issued 2005 that selected “Alternative B – Wildlife, Habitat, and Public Use” for future implementation by the Service.2

The refuge was established by the Rocky Flats National Wildlife Refuge Act of 2001 (Pub. L. No. 107-107). Section 3177(e) of this Act outlined the following purposes for 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.

The former Rocky Flats was a large industrial facility, comprised of over 800 structures, including several large processing facilities for plutonium and uranium. The vast majority of industrial activities (including waste disposal), took place in or near the center of the site, in the approximately 300-acre Industrial Area. Lands that encompass the Refuge are acceptable for unrestricted use and unlimited exposure (CAD/ROD 2006). In 2016, the Executive Director of the Colorado Department of Public Health and Environment issued the following statement:

In 2005 and following $7 billion invested in the remediation, my agency (the Colorado Department of Public Health and Environment) and EPA (the Environmental Protection Agency) declared that the cleanup of Rocky Flats was complete. Public access and trails through the Refuge have long been envisioned. As a result of reassuring ongoing surveillance data, the Rocky Mountain Greenway trail through the Refuge does not pose a threat to public health. [Larry Wolk, MD, MSPH, May 2, 2016]

2 The complete Record of Decision is included as Appendix H of the Comprehensive Conservation Plan. Appendices to the final CCP can be found at <https://www.fws.gov/mountain-prairie/refuges/completedPlanPDFs_M-S/rfl_2005 CCPfinal appendix.pdf>.
Further, the Service committed to additional confirmatory soil sampling in areas of new construction (U.S. Fish and Wildlife Service 2016). In June 2018, the Service contracted with a company to analyze soil samples collected along planned trail routes for radionuclides.\(^3\) A total of 48 samples were collected. Data was summarized and are consistent with, if not generally lower than, the radionuclide data used in prior Comprehensive Risk Assessments. It was the opinion of the contractor that they “did not obtain any results from the soil samples collected and analyzed that indicate a higher risk level than presented in the 2006 Kaiser Hill Company report and the DOE (2017) report, which allowed for public access to the Project area.” (Engineering Analytics 2019a). On the refuge, 33 samples (69%) were below background level including 15 reported below detection. The maximum plutonium (Pu\(^{239/240}\)) activity detected was 3.510 pCi/g within the Wind Blown Exposure Unit, which is one-third the Wildlife Refuge Worker PRG of 9.3 pCi/g (Engineering Analytics 2019a). Additional sampling has been completed off-refuge by partners as a part of the Federal Lands Access Program (FLAP) grant (see Appendix A).

### Decisions to Be Made

Based on the analysis provided in this EA, the Service will make two decisions:

1. Determine whether the Service should pursue actions to further improve visitor access to the Rocky Flats National Wildlife Refuge (Alternative B). This EA is an evaluation of the environmental impacts of the alternatives and provides information to help the Service fully consider these impacts.

2. If yes, determine whether the selected alternative will have a significant impact on the quality of the human environment. This decision is required by the National Environmental Policy Act (NEPA). If the quality of the human environment would not be significantly affected, a “finding of no significant impact” will be signed and will be made available to the public. If the preferred alternative would have a significant impact, an environmental impact statement will be prepared to further address those impacts.

### II. Description of Alternatives

This section describes the alternatives analyzed by the Service to facilitate improved visitor access to the refuge:

- no-action alternative
- open space alternative (proposed action)

These alternatives were developed according to NEPA §102(2)(E) requirements to “study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternatives uses of available resources.” The alternatives consider the effects of further improvements to visitor access within the Rocky Flats National Wildlife Refuge and immediately adjacent properties (see Appendix A).

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\(^3\) Additional information on the soil sampling efforts in and around the Rocky Flats National Wildlife Refuge can be found at: [https://www.jeffco.us/3639/Rocky-Mountain-Greenway](https://www.jeffco.us/3639/Rocky-Mountain-Greenway)
In addition, several alternatives that were eliminated from further analysis are briefly discussed below.

**Alternative A – No Change(s) From Existing Plan (no action)**

Management of the refuge is governed by a Comprehensive Conservation Plan (CCP) that was signed by Service in 2005. Development of the CCP was accompanied by an Environmental Impact Statement (EIS) that was prepared pursuant to the National Environmental Policy Act (NEPA).

When the Service prepared its CCP and EIS, it evaluated four alternatives. After public review and comment, the Service ultimately chose “Alternative B – Wildlife, Habitat and Public Use,” because it best satisfies the missions of the Service and the National Wildlife Refuge System, the direction of the Rocky Flats National Wildlife Refuge Act of 2001, and the long-term needs of the habitats and wildlife at the Rocky Flats. Among other topics, the 2005 CCP addresses visitor use programs. The 2005 CCP anticipated that over the next 15 years visitor use facilities would include 12.8 miles of multi-use trail, 3.8 miles of hiking-only trail, a visitor contact station, interpretive overlooks, viewing blinds, and associated access and parking facilities. Bicycles and horses will 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.

The CCP includes analysis of regional trail connections at both Highway 128 and Indiana Street which will satisfy the needs of the Rocky Mountain Greenway Trail. Trail users would cross these roads at grade and there would be no construction of over or underpasses with the no action alternative.

Under this alternative in the CCP, the Service would maintain trails and facilities as described in the CCP. In 2018, minor modifications to this plan were authorized and an existing Categorical Exclusion was invoked for the project.

**Alternative B – Open Space Alternative (proposed)**

Same as Alternative A except:

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In 2012, the Rocky Mountain Greenway was announced by Colorado Governor John Hickenlooper and Department of the Interior Secretary Ken Salazar. When complete, the Rocky Mountain Greenway will form an 80-mile continuous trail, passing through more than 10 municipal jurisdictions, six counties, and four federal land areas. The Rocky Mountain Greenway Trail first seeks to identify trail that already exist near the planned alignment and where necessary construct new trail segments to fill gaps. See <https://rockymtngreenway.org/#/home> for additional information.

Categorical exclusions are classes of actions which do not individually or cumulatively have a significant effect on the human environment. Categorical exclusions are not the equivalent of statutory exemptions. Categorical exclusions for the U.S. Fish and Wildlife Service are found in the U.S. Department of the Interior’s policy manual (516 DM 8). Specifically, “Minor changes in existing master plans, comprehensive conservation plans, or operations, when no or minor effects are anticipated. Examples could include minor changes in the type and location of compatible public use activities and land management practices.” and “The issuance of new or revised site, unit, or activity-specific management plans for public use, land use, or other management activities when only minor changes are planned. Examples could include an amended public use plan or fire management plan.” See <https://elips.doi.gov/ELIPS/DocView.aspx?id=1739> for additional information.
• Working with the Federal Highways Administration and multiple local governments, the Service would construct new portions and improve existing trail segments of the 8.2 mile non-motorized trail at the Rocky Flats National Wildlife Refuge, also known as the Rocky Mountain Greenway Trail. The entrance road to the refuge would change from crushed fines to a gravel, unpaved surface. Minimal signage and a vault toilet would be the only amenities provided. *This work would be funded by the Federal Lands Transportation Program, also known as “FLTP.”*

• Working with its partners and the Federal Highways Administration, a trail bridge would be constructed over Indiana Street and an underpass would be constructed under Highway 128 to provide trail users a continuous trail connection to existing regional trail networks. *This work would be funded by local governments and the Federal Lands Access Program, also known as “FLAP”* (see Appendix A).

During 2017, the Service began work with the Federal Highways Administration to develop preliminary scoping documents for improvements to the 8.2 mile non-motorized trail connecting Westminster’s Open Space trails to Boulder County’s Open Space trails. Design included several components:

• Improvement of the trail to a minimum continuous width and compacted surface material;
• Construction of two riverine stream crossings; and
• Re-routing of existing trail, including: improved grading of the trail through the Rock Creek drainage; adding an extension of the existing trail to the historic Caprock Mine on Section 16 of the refuge; and shifting the trail west and away from the Indiana Street corridor.

Within the refuge: 7,493 feet of trail must be constructed to connect the existing trail system to the proposed trail bridge over Indiana Street; 3,668 feet of trail must be constructed to connect the existing trail system to the proposed underpass beneath Highway 128; and approximately 6,706 feet of trail must be constructed to connect the existing trail system to the Caprock Mine area. A significant portion (52%) of each follows past roadways (FWS Route 400 within the Woman Creek drainage; FWS Route 466 around the Caprock Mine; FWS Route 498 within the Rock Creek drainage; and an undesignated route leading to Woman Creek). Adjacent to the refuge on open space lands, approximately 600 feet of trail must be constructed (see Appendix A).

As a part of the 2016 Federal Lands Access Program (FLAP) grant, participating local governments agreed to develop a confirmatory soil sampling program for areas where construction activities would be undertaken on and adjacent to the refuge. This work was completed by an independent agency. Results are available at the project’s website at: [https://www.jeffco.us/3639/Rocky-Mountain-Greenway](https://www.jeffco.us/3639/Rocky-Mountain-Greenway) and at the Colorado Department of Public Health and Environment at: [https://www.colorado.gov/pacific/cdphe/rocky-flats](https://www.colorado.gov/pacific/cdphe/rocky-flats).

**Alternatives Considered but Eliminated from Further Analysis**
In accordance with the requirements of NEPA, we have identified and eliminated several alternatives from detailed analysis. These issues and the rationale for not discussing them further are briefly described below:

- The use of paved or concrete trails has been proposed by some users. The Service will maintain an accessible trail near the primary entrance of the refuge, but will not consider paved trails throughout the refuge. This type of trail does not meet the natural and aesthetic vision of the refuge or the needs of various trail users (e.g., mountain bikes, equestrian, etc.).

- The Service was also asked to consider “on-road” alternatives where trails and bike-lanes could be constructed along existing paved roadways and/or construction of various off-site trails. This analysis was completed previously (ATKINS, Inc. 2016). Such trails may be important to regional trail networks, but this work is not included within the scope of the Federal Lands Access Program and is not within the scope of this document. Should the opportunity present itself in the future, the Service is willing to cooperate on the development of off-refuge trails that provide further access to the refuge.

- Construction of a visitor center at the refuge will not be addressed in this EA. The Service already operates a large visitor center at the Rocky Mountain Arsenal National Wildlife Refuge and does not see the need for another large facility within the same area. A visitor center represents a large capital investment and recurring operations and maintenance costs that cannot be supported at this location. Consistent with the CCP, the Service may consider a smaller visitor contact station at some point in the future. If the Service proceeds with construction of a visitor facility at the refuge, that decision-making will be accompanied by compliance with NEPA and compliance with other applicable laws.

III. Affected Environment

The resources contained at the refuge are well described in the 2005 CCP and various other documents. The CCP and associated EIS are incorporated by reference specifically for their description of the affected environment.7

IV. Environmental Consequences

For alternatives A and B described in section 2, the following analyzes the environmental effects expected to occur from implementing each of the alternatives. These projects are currently in preliminary design, which focused on the general nature, type, and alignment of trails. For the purposes of this EA, the Service analyzed the potential effects of implementing each alternative at their preliminary design, including the following:

A. Physical Environment

Geology, Soils, and Topography

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7 Please see “Rocky Flats National Wildlife Refuge Resource Inventory” at <https://www.fws.gov/WorkArea/DownloadAsset.aspx?id=2147522147>
**Alternative A**
Continued use of refuge by visitors will require minor trail maintenance and improvement. Without trail maintenance, the result will be the potential for soil erosion in certain locations with heavy use or poor drainage.

**Alternative B**
The proposed action would require approximately 3.4 miles of trail be constructed on the refuge. Work would likely be completed during one season. A significant portion (52%) follow past roadways. Adjacent to the refuge on open space lands, approximately 600 feet of trail must be constructed (see Appendix A). Trail construction would result in a temporary disturbance to the area of the trail and placement of several permanent culverts to cross low-lying areas. In addition, some earthwork may be necessary to provide an appropriate trail grade. Stormwater techniques would be utilized to reduce erosion effects during construction, but any impact soils would be temporary and confined to periods of construction.

**Water Resources**

**Alternative A**
No effect. There will be no changes or impacts to water resources, because there would be no construction of new trails.

**Alternative B**
It is necessary for newly constructed trails to cross to both Rock Creek and Woman Creek on the refuge. There would be temporary affects during construction by placing either a box culvert, short-span bridge, or other type of low-water crossing. This would include temporary loss of wetland vegetation, but there would be no destruction, loss, or degradation of wetlands and would be below the 1/10-acre notification requirement under Section 404 of the Clean Water Act (FWS 2017, 2018a). Once installed, these crossings would be designed to have no effect on hydrology of these drainages. Hydraulic analysis for these crossings requires 2-feet of freeboard for the 5-year storm event; scour protection for the 10-year storm event, and assurance that the 25-year storm event would not wash out the new crossing.

**Air Quality**

**Alternative A**
Continued use of the refuge by visitors consistent with the CCP will require using staff vehicles for maintenance and patrol activities. Regular vehicle traffic activities are not considered significant and will not affect air quality on the refuge or in the larger Denver metropolitan area (U.S. Fish and Wildlife Service 2004).

**Alternative B**
Construction activities associated with trail construction would require clearing and grading of which would result in soil disturbance. As discussed previously, the EPA has determined that no hazardous contamination (including plutonium) occurs above levels that allow for unlimited use of the area.
Use of standard emission minimization measures\textsuperscript{8} and dust abatement would mitigate potential impacts to air quality during construction (Federal Highways Administration 2008).

There would not be impacts to air quality under either alternative and the project is consistent with National Ambient Air Quality Standards.\textsuperscript{9}

\textbf{B. Biological Environment}

\textbf{Vegetation}

\textit{Alternative A}

The refuge is home to more than 600 plant species, of which four are considered rare or imperiled by the Colorado Natural Heritage Program (CHNP) (Nelson 2010). A diverse mosaic of vegetation communities is found at the refuge. The dominant natural vegetation in this ecoregion is short grass prairie, which today comprises only about 20 percent of its original area (Robinson et al. 1995) due to land cover and land use changes associated with factors such as agriculture and urbanization. Two of the vegetation communities present on the refuge, the xeric tallgrass grassland and the tall upland shrubland, are considered to be rare in the region. The continued use of existing trails by visitors consistent with the CCP will have no additional effect on vegetation. To date, there has been no noticeable unauthorized “off-trail” use of the refuge. Refuge staff will continue to monitor and address unauthorized uses.

\textit{Alternative B}

The proposed action would require approximately 3.4 miles of trail be constructed. A significant portion (52\%) follow past roadways. Work would likely be completed during one season. Trail construction would result in a temporary disturbance to vegetation in the area of trails. There would be a permanent loss of vegetation where the trail is located (~1.56 acres). Trail alignments were selected to avoid native prairie habitat and focus on areas where non-native plants have invaded.

Protection of native grassland habitat(s) would be a priority during construction.

\textbf{Wildlife and Fisheries}

\textit{Alternative A}

Public use can have negative effects to wildlife. Human disturbances can be particularly detrimental during certain critical periods of an animal’s life or during the year when animals are in poor condition or more vulnerable to injury (e.g., pregnancy, calving, and fly season) (Geist 1971a,b; Kuss et al., 1990; Phillips and Aldredge, 2000). Research has shown that human presence associated with roads and trails can result in a simplification of avian communities (fewer specialists and more generalists), reduced nest success, and reduced habitat quality (Hamann et al. 1999; Johnson and Temple 1990). Many species are

\textsuperscript{8} Examples of emission minimization measures include reduced idling, proper maintenance of equipment, and use of properly sized equipment. Please see “Potential for Reducing Greenhouse Gas Emissions in the Construction Sector” at <https://archive.epa.gov/sectors/web/pdf/construction-sector-report.pdf>

\textsuperscript{9} 40 CFR §50 – National Primary and Secondary Ambient Air Quality Standards
more likely to flush with increased human presence, resulting in less time spent foraging, with a potentially adverse effect on building suitable energy reserves for egg laying and migration, food delivery rates to young, territory establishment and defense, and mate attraction. Research has shown that various activities result in differing levels of disturbance. Humans on foot results in greater disturbance than humans on bicycles, horses, or in cars (Stankowich 2008). Regardless of the impact, animals generally show decreased flight responses in areas with larger human populations (Stankowich and Blumstein 2005). Trails and roads create habitat edges, which lead to increased predation, parasitism, and displacement of interior-sensitive birds. Trails and roads can restrict animal movement and dispersal.

Alternative B
During periods of construction, there would be temporary impacts to wildlife in the area of construction. Proper timing of construction activities can reduce these impacts. The majority of impacts are considered minor, but mortality of some individuals cannot be completely dismissed. For example, it is possible that an animal may be struck and killed by construction equipment or forced to leave shelter to succumb to predation. The additional 3.4 miles of trails would increase public use in some areas of the refuge, but these changes would not include or affect access to several sensitive wildlife areas (SWAs). The majority of trails follow previous or existing roadways, but any new trail would create additional habitat edges that can negatively affect some species of wildlife.

There is not a significant effect on wildlife and fisheries under either alternative. Maintaining healthy populations of fish and wildlife is the mission of the Service. Refuge staff are responsible for monitoring these populations and are empowered to make changes in management of the project if negative effects are observed. There is minimal effect to fish and wildlife resources through continued implementation of the CCP and additional trail distances and alignments under Alternative B represent a negligible change.

In 2018, the Service established several SWAs within the refuge. These areas were identified for further protection, because they represent important areas for resources of concern. The public is not allowed in the SWAs and neither alternative affects these SWAs.

Threatened, Endangered, and Candidate Species

Alternative A
There is no effect to federally listed or federally designated critical habitat (including the Preble’s meadow jumping mouse).

Alternative B
Formal Intra-Service Section 7 has been requested on this project due to the presence of the Preble’s meadow jumping mouse and its habitats. The biological assessment recognizes that there would be no effect on Mexican spotted owl (Strix occidentalis lucida), Canada Lynx (Lynx canadensis), and Platte River species; the project is not likely to adversely affect Colorado butterfly plant (Gaura neomexicana coloradensis)\(^ {10} \), Ute ladies’-tress (Spiranthes diluvialis) or Western prairie-fringed orchid (Platanthera praeclara); and is likely to adversely affect the Preble’s mouse and up to 1/3-acre of their habitat(s) (U.S.

\(^ {10} \) On November 5, 2019, the Colorado butterfly plant was removed from the federal list of endangered and threatened plans due to recovery.
The greatest threat to riparian areas is unnecessary damage to important vegetation and the potential of spillage of fuel oils from motorized equipment while constructing trail on the refuge. The proposed stream-bed crossings (also described under Water Resources) would be designed to minimize effects to the natural hydrologic processes that occur in these drainages and minimize the potential to create habitat fragmentation to the Preble’s meadow jumping mouse (see Appendix B).

The Refuge recently increased habitat protections for sensitive wildlife species, including Preble’s mice, by further restricting human access to SWAs. While future habitat conditions in the two proposed crossing locations would likely remain consistent for the Preble’s mouse, direct mortality from construction activities cannot be completely discounted.

C. Historic Resources

Alternative A
There would be no change and no effect on historic properties under this alternative.

Alternative B
A comprehensive assessment of the former Rocky Flats identified and recorded 45 cultural sites or artifacts. These cultural resources were not eligible for listing in the National Register of Historic Places (U.S. Fish and Wildlife Service 2005). A cultural resource survey for a proposed trail system at the refuge was completed in the spring of 2018. The Area of Potential Effect for this survey consisted of five meters on either side of the centerlines of the proposed trails and concluded that there would be no effect on historic properties (U.S. Fish and Wildlife Service 2018b). The Colorado State Historic Preservation Officer has concurred with this recommendation in a letter dated July 2, 2018.

The Service added Section 16 to the Refuge in 2012. These trail alignments were surveyed (U.S. Fish and Wildlife Service 2018b) and the Service contracted with a private consultant to complete an assessment on the Caprock Mine located on this property (ARRPA Permit No. FWS.R6.19-01, State Permit No. 2019-75573). This cultural resource inventory and evaluation concluded that the site is heavily disturbed and that the Caprock Mine is not eligible for listing in the National Register of Historic Places due to its lack of physical and associative integrity (ERO Resources Corporation 2019). Construction of the trail would not affect the Caprock Mine area.

The trail connection located at Indiana Street is proximate to the historic Denver, Utah, & Pacific Railroad (5JF.742.1), but is not located in the APE. This segment of railroad was removed in the past. There would be no construction within the previous alignment of the railroad and construction would not affect the railroad bed (see Appendix A).

D. Social and Economic Environment

Alternative A
Continued management of the refuge has a minor socioeconomic impact through employment of refuge staff, purchasing of maintenance supplies, and occasional projects (U.S. Fish and Wildlife Service 2004).
Alternative B
The Service developed a socioeconomic analysis for this proposal that has determined the intensity and economic impacts are generally considered low for the project (ASPN 2017). Direct costs associated with these projects is estimated at $3.75 million and would create temporary employment. The CCP (U.S. Fish and Wildlife Service 2005) states, “visitors will have opportunities to observe and photograph wildlife and to experience the Refuge’s unique habitats, mountain and prairie views on foot, bike and horse.” Recreation is an economic driver, but also provides non-monetary benefits. In 2011, recreational visits to national wildlife refuges generated $2.4 billion of sales in regional economies and over 35,000 people were employed by these activities (U.S. Fish and Wildlife Service 2011). There may be negligible increases in vehicle traffic on roads within and around the refuge during construction and it is anticipated that this project would have no effect on regional transportation goals.

Specific to the FLAP grant, there are beneficial impacts to the area by creating non-motorized off-road trail connections. Direct costs the FLAP projects is estimated at $2.8 and would create temporary employment. Minor impacts to vehicular traffic are expected on Indiana Street and State Highway 128 during certain moments of construction.

V. Cumulative Impacts

As defined by NEPA regulations, a cumulative impact on the environment “results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7).

Past, present, and reasonably foreseeable future actions include continued human development around the refuge, continued mining adjacent to the refuge, increased recreational opportunities at and around the refuge, the Jefferson Parkway proposed along Indiana Street, and the construction of a new electrical substation by Xcel Energy near (but not within) the refuge.

Alternative A
There would be no cumulative impacts on the environment and refuge staff will continue to work with external entities to minimize impacts resulting from these activities.

Alternative B
Same as Alternative B, but there may be minor increases in recreational use on adjacent open space lands once trail connections are completed.

Irreversible and Irretrievable Commitment of Resources

There are no irreversible or irretrievable resource commitments identified by this assessment, except for a minor consumption of trail materials used for constructing and maintaining trails and fossil fuels for routine operations.
References


Agency Coordination

The Service has discussed this plan with other federal agencies (U.S. Department of Transportation – Federal Highways Administration, DOE and the U.S. Environmental Protection Agency), State of Colorado (Colorado Parks and Wildlife, Colorado Department of Public Health and Environment), local governments, and local neighbors and landowners.

Tribes with an aboriginal interest in the Rocky Flats were invited to participate or formally consult in the planning process on this project (Northern Arapaho Tribe, Cheyenne and Arapaho Tribes of Oklahoma, Northern Cheyenne Tribe, Shoshone-Bannock Tribes, and Eastern Shoshone Tribe). A number of nongovernmental organizations are interested in the refuge and were also consulted, including the Friends of the Front Range National Wildlife Refuges.

The Service coordinated internally in the development of this EA as well. Refuge staff conducted the analysis and prepared this document.
National Wildlife Refuge System Administration Act

When making the decision to permit a new use or expand, renew, or extend an existing use of a national wildlife refuge, the Refuge Manager is required to follow federal regulations (50 CFR § 25.21 and § 26.41) and Service policy (603 FW 2). Specifically, we may open a national wildlife refuge for any refuge use, or expand, renew, or extend an existing refuge use only after the Refuge Manager determines that it is a compatible use and is not inconsistent with any applicable law. Consistent with the National Wildlife Refuge System Administration Act, as amended (16 U.S.C. §§ 668dd et seq.), wildlife observation, photography, interpretation, and environmental education are priority wildlife-dependent recreational activities that are encouraged on national wildlife refuges. The Refuge Manager must re-evaluate compatibility determinations under certain circumstances and may re-evaluate the compatibility of a use at any time. A compatibility determination for Wildlife Observation, Photography, Interpretation, and Environmental Education was approved by the Refuge Manager authorizing these uses.

Distribution and Availability

The Service has participated in extensive public outreach, consultation, and coordination with its partners and other stakeholders, on issues related to the proposed action. The Service will make this EA available on its Fish and Wildlife Service Catalog (ServCat). Public comment will be provided and all written comments will be included in the decision file. Copies may be requested from the Refuge.
Appendix A

Summary of Effects Resulting From Adjacent Construction as a Part of the Federal Lands Access Program Grant (FLAP)

The U.S. Fish and Wildlife Service is responsible for evaluating any effects resulting from the construction of the Federal Lands Access Program grant. The table below summarizes the Service’s evaluation of the action alternative of the environmental assessment, which is to construct a trail bridge over Indiana Street and an underpass under State Highway 128 to provide trail users a continuous trail connection to existing regional trail networks. Trails currently terminate at the Great Western Reservoir Open Space. There is minimal off-trail use in the area by those seeking to bridge this current gap to the overlook located at Indiana Street. New trail on the western side of Indiana Street must also cross the 300-foot wide transportation corridor that was previously analyzed by the Service (2011). Additional information on the FLAP is available at the project’s website at: https://www.jeffco.us/3639/Rocky-Mountain-Greenway.

Similar to the work being conducted on the refuge, extensive information on the history, previous studies, and previous human health assessments has been developed by the FLAP Partner Group. This includes summary statistics for select radionuclides at each crossing location (Engineering Analytics, Inc. 2018). Jefferson County and other local governments led effort to obtain additional confirmatory soil sampling in areas of new construction. This analysis is independent of this document. Results are consistent with past soil sampling efforts. At the Highway 128 location, all samples were returned below background levels for plutonium (Pu$^{239/240}$). At the Indiana Street location, the maximum plutonium (Pu$^{239/240}$) concentration was 14.000 pCi/g and the mean of all samples was 4.078 pCi/g (Engineering Analytics 2019b).

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<tr>
<td>Vegetation</td>
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<tr>
<td>Wildlife Fisheries</td>
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<tr>
<td>Threatened, Endangered, and Candidate Species</td>
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<tr>
<td>SOCIAL AND ECONOMIC ENVIRONMENT</td>
</tr>
<tr>
<td>HISTORIC PROPERTIES</td>
</tr>
</tbody>
</table>

Overall, there would be minor temporary impacts associated with construction of the FLAP project. The completed trail is considered to be beneficial.

References:


2019. Preliminary Results. Prepared for Jefferson County, City of Boulder, Boulder County, City and County of Broomfield, City of Arvda, and City of Westminster. <available on-line at: https://www.jeffco.us/DocumentCenter/View/18590/Preliminary-Results?bidId=>

Potential Conservation Measures for Preble’s Meadow Jumping Mouse

The greatest threat to riparian areas from the Alternative B described in the EA is unnecessary damage to important vegetation and the potential of spillage of fuel oils from motorized equipment while constructing trail on the refuge. The proposed stream-bed crossings would be designed to minimize effects to the natural hydrologic processes that occur in these drainages and minimize the potential to create habitat fragmentation to the Preble’s meadow jumping mouse. To further minimize threats, the Refuge would complete several important conservation measures:

<table>
<thead>
<tr>
<th>Conservation Measures for Preble’s Meadow Jumping Mouse</th>
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</thead>
<tbody>
<tr>
<td><strong>Preparation:</strong></td>
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<tr>
<td>1. The proposed stream-bed crossings are designed to be perpendicular to riparian corridors to reduce the amount of potential disturbance to sensitive wildlife species.</td>
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<tr>
<td>2. Prior to construction, designated critical habitat for the Preble’s meadow jumping mouse in the area of the project will be clearly identified “on the ground” through staking.</td>
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<td>3. Potential hibernation habitat would be removed by the August prior to commencing construction to discourage Preble’s meadow jumping mouse hibernation in affected areas.</td>
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<tr>
<td>4. Willows will be cut and stored prior to construction. This will require less “grubbing” and allow for rapid regrowth in the area. In addition, cut willows will provide stock for immediate replanting after construction.</td>
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<tr>
<td><strong>During Construction:</strong></td>
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<td>5. A resource advisor from the Service will be assigned to all aspects of the project. The individual will ensure minimum impacts to Preble’s meadow jumping mouse habitat throughout the project and will be on-site during any construction activities that occur within designated critical habitat. The individual will also be capable of identifying any federally-threatened plants that may occur within the project area.</td>
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<tr>
<td>6. Any construction activities within critical and potential habitat for the Preble’s meadow jumping mouse will occur prior to May 1st when mice emerge from hibernation.</td>
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<td>7. An appropriate spill containment kit will be required whenever motorized construction equipment is working in or near riparian corridors.</td>
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<tr>
<td><strong>After Construction:</strong></td>
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<tr>
<td>8. As soon as practical after construction, Refuge staff will complete riparian restoration including plantings of coyote willow (<em>Salix exigua</em> Nutt).</td>
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<td>9. Refuge staff aggressively attack invasive plant species utilizing an Integrated Pest Management (IPM) approach (use of biological, chemical, and mechanical control techniques) which reduces the threat of chemicals on Preble’s mice while controlling target species.</td>
</tr>
</tbody>
</table>

11 Hydraulic analysis for these bridges require 2-feet of freeboard for the 5-year storm event; scour protection for the 10-year storm event, and assurance that the 25-year storm event would not wash out the new crossing.