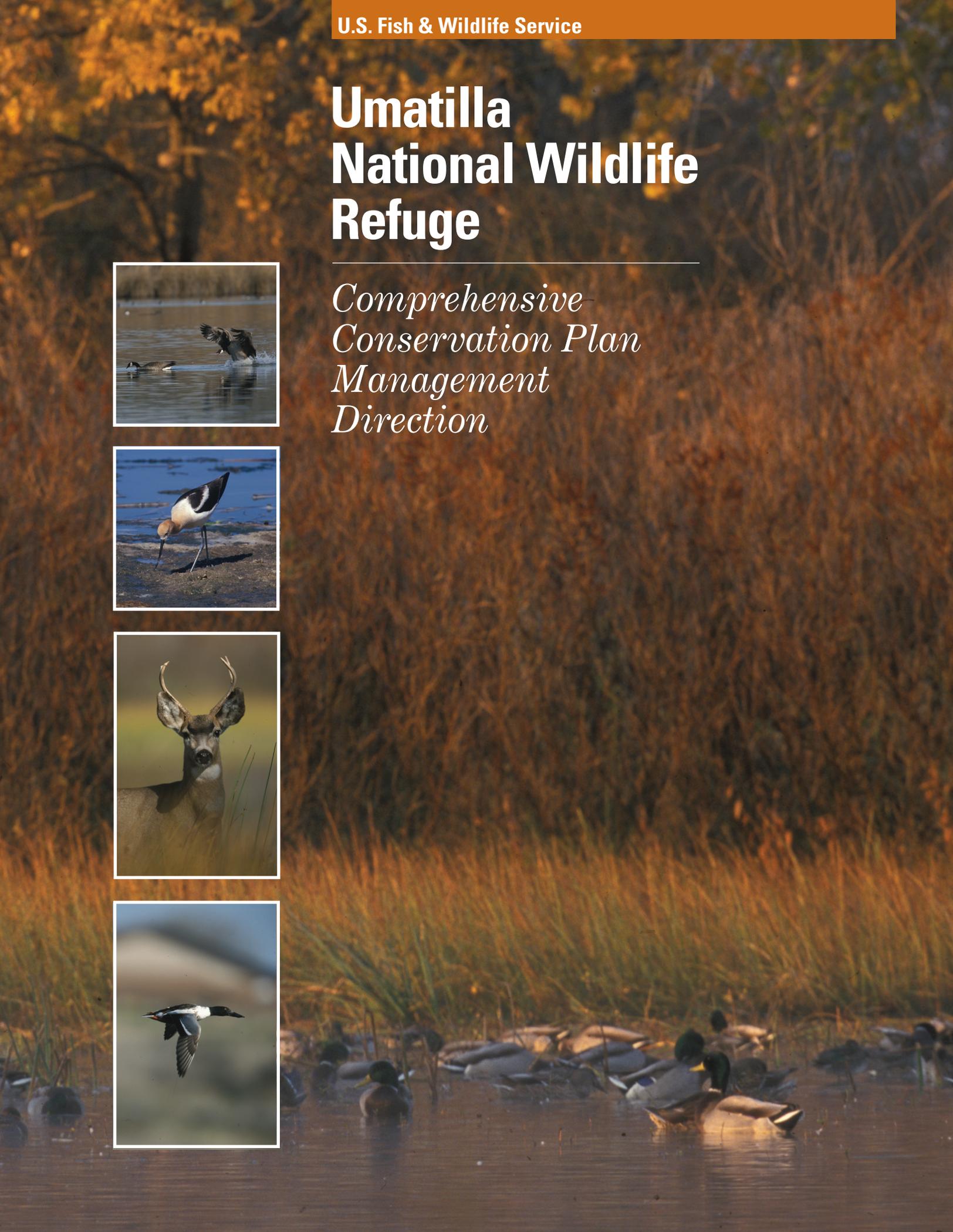


Umatilla National Wildlife Refuge



*Comprehensive
Conservation Plan
Management
Direction*



Vision for the Umatilla National Wildlife Refuge

Protected in a rare section of the Columbia River where islands and gentle mud and sand river shorelines can still be found, the Umatilla National Wildlife Refuge links a network of diverse habitats connecting the Oregon and Washington sides of the middle Columbia River. The Refuge's shrub-steppe, basalt cliff, riparian, river islands and aquatic habitats will be managed to fulfill the needs of native fish, wildlife, and plants. By actively restoring habitat, controlling exotic species, and enhancing existing habitats and resources, the Refuge will serve as an anchor for biodiversity and a model for habitat restoration and land management.

Just as the Columbia River is an important corridor for the transportation of people and goods, it is also an important natural corridor for migratory birds and fish, including endangered salmon and steelhead stocks. Food, rest and sanctuary will be provided for large concentrations of migratory and wintering waterfowl and shorebirds using the Refuges each year. Extensive corridors of riparian and floodplain habitat will be restored and enhanced for nesting and migrating neo-tropical songbirds. Management and enhancement of the Refuge's waters, shorelines, channels and bays will contribute to the needs and recovery of endangered salmon and steelhead passing through and rearing in Refuge waters. By reaching out to neighbors and building strategic partnerships, the Refuge will seek new and innovative ways to conserve and protect fish and wildlife resources along the entire stretch of river.

Wildlife abundance and well planned and high quality interpretive facilities will attract thousands of visitors to the Refuges. We will work with partners and volunteers to provide a wide range of high quality recreational and environmental education programs, build Refuge support, and attract visitors. Encouraging an understanding of and appreciation for the Refuge and the mid-Columbia River environment will be a focus of the Umatilla Refuge for generations to come.

Disclaimer

CCPs provide long term guidance for management decisions and set forth goals, objectives and strategies needed to accomplish refuge purposes and identify the Service's best estimate of future needs. These plans detail program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. The plans do not constitute a commitment for staffing increases, operational and maintenance increases or funding for future land acquisition.

Umatilla National Wildlife Refuge

Comprehensive Conservation Plan



Northern Pintail – Dave Menke/USFWS

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Great blue heron / USFWS

CHAPTER 1. Introduction



Three American Avocets Landing - © Tim Bush

1.1 Introduction

When first encountered by Lewis and Clark and early settlers in the Pacific Northwest, the Columbia River was enormous, wild, and seemingly uncontrollable. Yet for all its enormous flows, the river was nearly unusable in its native state as a source of irrigation water. Early settlers found that agriculture was nearly impossible in most of the hot, arid Columbia Plateau (Dietrich 1995).

A grassroots effort to provide water for struggling small farmers culminated in the construction of Grand Coulee Dam. When it was completed in 1941, it was—at that time—the largest concrete structure ever built anywhere in the world. Successful construction of it and the other initial Columbia River dams led to increased confidence and enhanced expectations for development of the water and hydroelectric resources in the basin. Within a few decades, more than 400 dams had been constructed, including 11 run-of-the-river dams on the mainstem, and hundreds of major and modest structures on tributaries. These dams tapped into a large portion—21 million kilowatts—of the Columbia's generating capacity. The Columbia River is now considered the most hydroelectrically developed river system in the world (Dietrich 1995).

Umatilla National Wildlife Refuge (Refuge) was established subsequent to the authorization of John Day Lock and Dam on the mainstem of the middle Columbia River, as part of the Federal Columbia River Power System. Umatilla Refuge is situated upstream of the John Day Lock and Dam, on waters of the impounded Columbia River known as Lake Umatilla, and on adjoining uplands about an hour's drive southwest of the Tri-Cities. Map 1, the Vicinity Map, shows the major features within the vicinity of the Refuge. Map 2 shows the Refuge's boundary and units.

Dam structures fundamentally alter riverine systems. Rivers are transformed by large dams from seasonally fluctuating, dynamic flows of water, into deep lakes, with slow-moving waters. In recognition of this, the U.S. Congress passed the Fish and Wildlife Coordination Act (16 U.S.C. §§ 661-667e, March 10, 1934, as amended 1946, 1958, 1978 and 1995), which requires consultation with the U.S. Fish and Wildlife Service (Service) and state fish and wildlife agencies for federally-licensed dams and diversions. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources." In addition, the Fish and Wildlife Coordination Act authorizes land to be made available to the Secretary of the Interior for wildlife protection purposes. Umatilla Refuge was established directly as a consequence of the Coordination Act requirements for dams, and as such is often spoken of as a "mitigation" refuge. However, there is no direct language in any establishing documents referencing mitigation.

1.2 Summary of Comprehensive Conservation Plan

This Comprehensive Conservation Plan (CCP) for Umatilla National Wildlife Refuge sets forth management guidance for the Refuge for the years 2007-2022, as required by the National Wildlife Refuge System Administration Act of 1966. This CCP is based on the McNary and Umatilla National Wildlife Refuges Comprehensive Conservation Plan and Environmental Assessment (US FWS 2007), hereon referred to as the CCP/EA or the final CCP/EA. The final

CCP/EA revises a Draft CCP/EA (US FWS 2006) that was made available to the public (approximately 700 persons and organizations), and members of partner agencies and other governments, including States and Tribes, in January 2007. The document was posted on the Refuge's website and local media were notified. Public open house meetings were held to allow members of the public to review the draft and talk with members of the staff and planning team about the preferred and other alternatives. Comments received were analyzed and are presented in Appendix L of the final CCP/EA, together with Service responses.

The McNary and Umatilla National Wildlife Refuges Comprehensive Conservation Plan and Environmental Assessment (US FWS 2007) was signed by the U.S. Fish and Wildlife Service's Pacific Region Regional Director in May 2007. The CCP will implement Alternative 2, which, as modified after public comment, was approved as the preferred alternative under a Finding of No Significant Impact (FONSI), also signed by the Regional Director in May 2007. The FONSI noted that this alternative best achieves the mission of the National Wildlife Refuge System and the purposes, vision, and goals for the Umatilla and McNary Refuges; best maintains and restores the ecological integrity of habitats and populations on the Refuges; addresses the important issues identified during the scoping process; addresses the legal mandates of the Service and the Refuges; is consistent with scientific principles of sound wildlife management and endangered species recovery; and facilitates priority public uses appropriate and compatible with the Refuges' purposes and the National Wildlife Refuge System's mission.

This CCP provides reasonable, scientifically grounded guidance for improving the Refuge's shrub-steppe, riparian, wetland, and cliff-talus habitats, for the long-term conservation of native plants and animals and migratory birds. The Refuge will emphasize control and reduction of weeds and improvement of riparian, shrub-steppe, island, and cliff habitats. It identifies appropriate actions for protecting and sustaining the cultural and biological features of the river islands, the Refuge's wintering waterfowl populations and habitats, migratory shorebird populations that use the Refuge, and threatened, endangered, or rare species. The CCP also provides guidance for maintaining or improving high quality wildlife-dependent public use programs (hunting, fishing, wildlife observation, photography, environmental education, and interpretation). Finally, the CCP provides guidance for non-wildlife dependent uses, including horseback riding, beach use, and boating; addresses strategies for illegal uses on Refuge lands, including off road use and trash dumping; and provides goals and strategies for better protecting cultural resources. Disturbance to island resources will be reduced through closure of all beach use on Refuge islands.

1.3 National Wildlife Refuge System Laws and Directives

The U.S. Fish and Wildlife Service, an agency within the Department of the Interior, is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The Service manages the 96-million acre National Wildlife Refuge System (System), which encompasses 548 national wildlife refuges, thousands of small wetlands and other special management areas. More than 36 million visitors annually fish, hunt, observe and photograph wildlife, or participate in environmental education and interpretive activities on national wildlife refuges.

Refuges are guided by various Federal laws and executive orders, Service policies, and international treaties. Fundamental are the mission and goals of the National Wildlife Refuge System (NWRS or Refuge System) and the designated purposes of a refuge as described in establishing legislation, executive orders, or other documents authorizing, establishing, or expanding a refuge. The hierarchical relationship of these documents in regards to refuge-specific planning and management are illustrated in Figure 1.

Key concepts and guidance of the Refuge System are derived from the National Wildlife Refuge System Administration Act of 1966 as amended (16 U.S.C. 668dd-668ee), the Refuge Recreation Act of 1962 (16 U.S.C. 460k-460k4) as amended, Title 50 of the Code of Federal Regulations, and the Fish and Wildlife Service Manual. The National Wildlife Refuge System Administration Act is implemented through regulations covering the Refuge System, published in Title 50, subchapter C of the Code of Federal Regulations. These regulations govern general administration of units of the Refuge System.

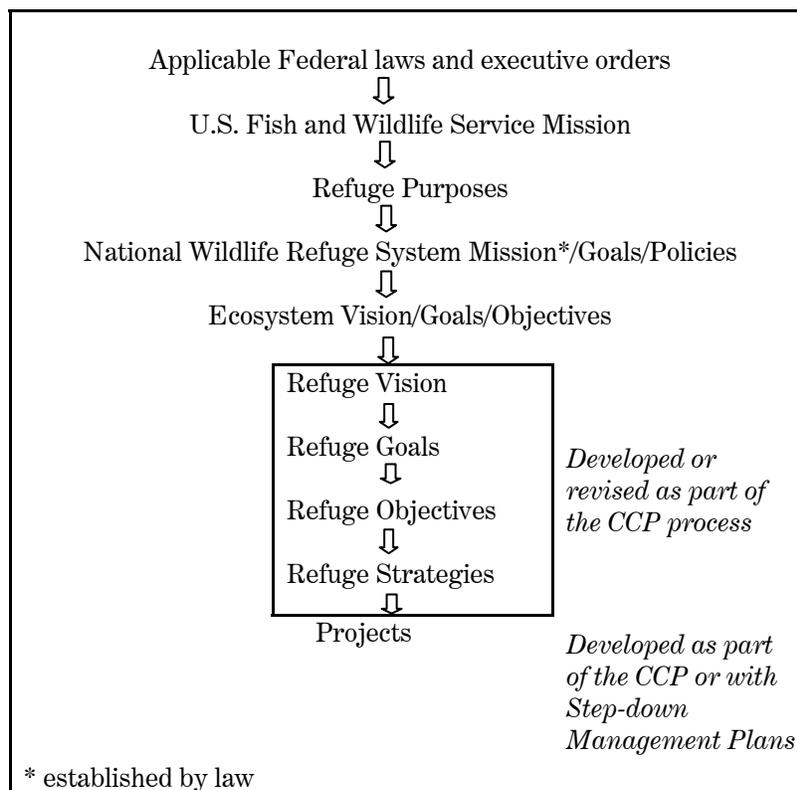
A. National Wildlife Refuge System Administration Act

Of all the laws governing activities on National Wildlife Refuges, the Refuge System Administration Act undoubtedly exerts the greatest influence. The National Wildlife Refuge System Improvement Act (Improvement Act) amended the Refuge System Administration Act in 1977 by including a unifying mission for all refuges to be managed as a system, identifying a new process for determining compatible uses on refuges, and requiring each refuge to be managed under a comprehensive conservation plan, developed in an open public process.

As amended, the Refuge Administration Act states that the Secretary shall provide for the conservation of fish, wildlife and plants, and their habitats within the Refuge System as well as ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained. House Report 105–106 accompanying the Improvement Act states “...the fundamental mission of our System is wildlife conservation: wildlife and wildlife conservation must come first.” Biological integrity, diversity, and environmental health are critical components of wildlife conservation. As explained in section 1.5B of the Biological Integrity, Diversity and Environmental Health Policy, “the highest measure of biological integrity, diversity, and environmental health is viewed as those intact and self-sustaining habitats and wildlife populations that existed during historic conditions.”

Under the Refuge Administration Act, each refuge must be managed to fulfill the Refuge System mission as well as the specific purposes for which it was established. The Act requires the Service to monitor the status and trends of fish, wildlife, and plants on each refuge.

Figure 1. Hierarchy of Guidance within the National Wildlife Refuge System



Additionally, the Act identifies six wildlife-dependent recreational uses (these are commonly referred to as the “Big Six”). These uses are hunting, fishing, wildlife observation and photography, environmental education and interpretation. Under the Act, the Service is to grant these six wildlife-dependent public uses special consideration in the planning for, management of, and establishment and expansion of units of the Refuge System. In addition, when determined compatible on a refuge-specific basis these six uses assume priority status over any other uses proposed or occurring on a refuge. The Service is to make extra efforts to facilitate priority wildlife-dependent public use opportunities.

“Big Six”
The six wildlife-dependent recreational uses identified under the Refuge System Improvement Act: hunting, fishing, wildlife observation and photography, environmental education and interpretation. These uses receive enhanced consideration over other uses .

When preparing a CCP, Refuge Managers must evaluate all general public, recreational, and economic uses (even those occurring to further refuge habitat management goals) proposed or occurring on a refuge for appropriateness and compatibility. No refuge use may be allowed or continued unless it is determined to be appropriate and compatible. Generally, an appropriate use is one that contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or

objectives described in a refuge management plan. A compatible use is a use that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge. The authority to make the determination is delegated to the Refuge Manager. Updated compatibility determinations for existing and proposed uses for Umatilla Refuge are in Appendix C of this CCP.

The Refuge Administration Act also requires that the CCP must be developed with the participation of the public. Issues and concerns articulated by the public play a role in guiding alternatives considered during the development of the CCP, and can play a role in selection of the preferred alternative.

B. Other Laws, Policies, and Orders

Many other laws govern the Service and management of Refuge System lands. A list and brief description of each can be found at <http://laws.fws.gov>. In addition, over the last few years, the Service has developed or revised numerous policies and Director's Orders to reflect the mandates and intent of the Improvement Act. Some of these key policies include the Biological Integrity, Diversity, and Environmental Health Policy (601 FW3); the Compatibility Policy; the Refuge Planning Policy; Mission, Goals, and Purposes (601 FW 1); Appropriate Refuge Uses (603 FW 1); Wildlife-Dependent Public Uses (605 FW 1); and the Director's Order for Coordination and Cooperative Work with State Fish and Wildlife Agency Representatives on Management of the National Wildlife Refuge System. These and other policies can be found at: <http://refuges.fws.gov/policymakers/nwrpolicies.html>. During CCP development, these broader laws and policies and Refuge System and ecosystem goals and visions must be considered.

C. U.S. Fish and Wildlife Service Mission

The mission of the Service is: “working with others, to conserve, protect and enhance fish and wildlife and their habitats for the continuing benefit of the American people.”

National natural resources entrusted to the Service for conservation and protection include migratory birds, endangered and threatened species, inter-jurisdictional fish, wetlands, and certain marine mammals. The Service also manages national fish hatcheries, enforces federal wildlife laws and international treaties on importing and exporting wildlife, assists with state fish and wildlife programs, and helps other countries develop wildlife conservation programs.

D. National Wildlife Refuge System Mission and Goals

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 of Americans.” (National Wildlife Refuge System Improvement Act of 1997)

The goals of the National Wildlife Refuge System, as articulated in the Mission Goals and Purposes Policy (601 FW1), are:

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.
- Develop and maintain a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- Conserve those ecosystems, plant communities, wetlands of national or international significance and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

E. Legal Significance of the Refuge Purpose

The purpose(s) for which a refuge was established or acquired is of key importance in refuge planning. Purposes must form the foundation for management decisions. The purposes of a refuge are specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding the refuge, refuge unit, or refuge subunit.

Unless the establishing law, order, or other document indicates otherwise, purposes dealing with the conservation, management, and restoration of fish, wildlife, and plants, and the habitats on which they depend take precedence over other purposes in the management and administration of any unit. Where a refuge has multiple purposes related to fish, wildlife, and plant conservation, the more specific purpose will take precedence in instances of conflict. When an additional unit is acquired under an authority different from the authority used to establish the original unit, the addition takes on the purpose(s) of the original unit, but the original unit does not take on the purpose(s) of the addition.

By law, refuges are to be managed to achieve their purposes. When a conflict exists between the Refuge System mission and the purpose of an individual refuge, the refuge purpose may supersede the Refuge System mission.

1.4 Establishment History and Purposes of Umatilla Refuge

The Umatilla National Wildlife Refuge was created under the authority of the Fish and Wildlife Coordination Act due to the construction of the John Day Dam on the Columbia River at River Mile 215. The Dam impounded waters along a 76-mile stretch of the mainstem Columbia River, with about 48,000 acres flooded (Rasmussen 1989). The General Plan, signed in 1968, designated

various lands and waters to be set aside for the “conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon” including most of the lands located in the present day boundaries of the Umatilla Refuge. Like McNary Refuge, the Umatilla Refuge is administered by the Service and much of the underlying land and water are under ownership of the Corps.

A. Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (Act) requires consultation with the Service and the States’ fish and wildlife agencies where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted . . . or otherwise controlled or modified" by any agency under a Federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources." In addition, the Act authorizes land to be made available to the Secretary of the Interior for wildlife protection purposes.

Section 664 of the Act specifies that areas made available for the purposes of wildlife conservation and development as outlined in sections 661 to 666c, must be administered by the Secretary directly or in accordance with cooperative agreements, and “in accordance with rules and regulations adopted by the Secretary for the conservation, maintenance and management of wildlife resources thereof, and habitat thereon, under plans” approved jointly by the Secretary and the head of the agency exercising primary administration of the areas. General plans may also include the transfer of project lands to a state for management. Lands having value to the National Migratory Bird Management Program may be made available without cost directly to the state agency having control over wildlife resources.

Wildlife and wildlife resources are defined under section 666 as “birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.” The Cooperative Agreement/General Plan associated with the Umatilla and McNary Refuges provides more detail about the Refuges resource values.

Initial Consultation: Consultation with the Secretary of the Interior as part of the process for water resources development for the John Day Lock and Dam Project was completed with a report by the Service titled A Detailed Report on Fish and Wildlife Resources Affected by the John Day Lock and Dam Project (US FWS 1961). Information in this report as well as correspondence between the Service and the Department of Army focused on Refuge creation for proposed management areas as compensation for waterfowl losses. Additional correspondence continued to focus on waterfowl resources for the proposed management area.

B. General Plan

A General Plan for the project (US DOA et al. 1968) was written in accordance with the Coordination Act. The General Plan states “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement

to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service for administration and management.”

C. Rivers and Harbors Act of 1965 (Public Law 89-298)

Public Law 89-298 authorized the Secretary of Army to acquire additional lands to be part of the management area “for waterfowl management.” These lands are referred to as ‘special law lands’ (Exhibit A described as Exhibit C in the Act) and are the original lands held in fee by the Service.

D. 1969 Cooperative Agreement

This agreement transferred administrative control of the nonfee lands to the Service for management “for the purpose of development, conservation, and management of wildlife resources thereon in accordance with said General Plan” (US DOA and US DOI, 1969b).

Specific language relative to wildlife management and public uses was included in the agreement. The language is open-ended enough to be interpreted as recommended, but not mandated, strategies to be pursued in perpetuity. The specifics follow.

- The Bureau...may enter into special use permits with local ranchers to graze and pasture land for the purpose of maintaining optimum food and habitat conditions for wildlife.
- The Bureau may also plant and harvest crops...to provide: (a) food for wildlife; and (b) necessary compensation to farmers under any sharecrop agreement...the lands will not be used by the Bureau for the production of crops or any purpose solely to produce revenue to defray costs of management of the wildlife area.
- Lands within the wildlife area which are not needed for the production of wildlife food and the maintenance of wildlife habitat...will be leased by the District Engineer.
- The Bureau shall administer and maintain the area included in this Agreement in accordance with its Master Plan for wildlife development...there shall be included within this plan those areas that are designated for public hunting; for wildlife sanctuaries, and for the production of food for wildlife or other purposes.

1995 Amendment to the 1969 Cooperative Agreement: The cooperative agreement was modified to provide the Service authority to manage portions of Blalock and Sand Dune Islands, which had formerly been under Corps management. The agreement stated that the cooperative agreement of 1969 "is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged." Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely "development, conservation, and management of wildlife resources" and "furthering the national migratory bird management program."

E. Additional Land Acquisitions

Additional land tracts were added to the Refuge as shown in Table 1-1.

Table 1-1. Umatilla Refuge Land Acquisitions Subsequent to Original Refuge Establishment.

Tract	Acres	Acquisition Authority	Purpose
10M	670	Fish and Wildlife Act of 1956	“development, management, advancement, conservation and protection of fish and wildlife resources”
1121, 1122	136.45	Migratory Bird Conservation Act	“for migratory bird Refuges, both for inviolate sanctuaries and for other management purposes”
2a	27.6	Fish and Wildlife Act of 1956 and Emergency Wetland Resources Act	See above. Also, authorizes the purchase of wetlands or interests in wetlands, which are not acquired under the authority of the Migratory Bird Conservation Act, consistent with the wetlands priority conservation plan using LWCF monies.
3015	27.1	Fish and Wildlife Act of 1956	See above

Map 2 shows the units of Umatilla Refuge. Acreages for each unit are shown in Table 1-2. The Columbia River Navigation Channel acres are shown for informational purposes only; the Refuge does not have any management authority over these waters and they are not considered further in the analysis.

Table 1-2. Umatilla Refuge Units

Unit Name	Management Authority	Unit Acres
Boardman	Partially fee title, coop. agreement	2,174.49
Columbia River (includes some islands)	Coop. agreement	5,954.09
McCormack (includes some islands)	Partially fee title; remainder coop. agreement	6,886.79
Paterson	Partially fee title, coop. agreement	4,665.27
Ridge	Coop. agreement	985.21
Whitcomb	Partially fee title, coop agreement	4,463.26
Total Acreage		25,129.11

*Acreages calculated from GIS analysis of the umt_bnd coverage.

1.5 Future Refuge Plans

The CCP will be revised every 15 years or earlier if monitoring and evaluation determine that changes are needed to achieve the Refuge purposes, vision, goals, or objectives. The CCP provides guidance in the form of goals, objectives, and strategies for Refuge programs but may lack some of the specifics needed for implementation. Step-down management plans will be developed, as needed, following completion of the CCP. Step-down plans require appropriate compliance with the National Environmental Policy Action of 1969 (NEPA). Several step-down plans (Habitat Management Plan, Public Use Management Plan, Inventory and Monitoring Plan, and Integrated Pest Management Plan) are appropriate to develop or update following CCP

completion. The step-down plans should be founded on the management goals, objectives and strategies outlined in the CCP. The Integrated Pest Management Plan should address coordination with all other Federal, state, tribal, and local agencies as well as neighboring private landowners in order to effectively combat the spread of invasive species.

1.6 Issues, Concerns, and Opportunities

A. Issues Addressed in the CCP

The following issues were addressed in the planning process.

Habitat and Species Management: What habitat conditions should be targeted and restored on the Refuge's shrub-steppe, riparian, wetland, and cliff/talus habitats, many of which are highly degraded by invasive plants and animals? How can the Refuge best prevent wildfires, particularly those that arise regularly from trains that cross many miles of each Refuge numerous times each day? What are the best methods for maintaining productivity and diversity in wetlands, when natural hydrologic fluctuations no longer exist? What other actions should the Refuge take to sustain and restore priority species and habitats over the next 15 years?

Waterfowl Management: Where shall specific waterfowl management tools and techniques be utilized at the Refuge, including provision of cropping areas and sanctuary areas? What role shall the Refuge play in providing wintering waterfowl habitat and hunting areas within the Mid-Columbia basin?

Shorebirds: How shall the Refuge best manage thriving long-billed curlew breeding and staging areas?

Salmonids and Other Declining Species: What actions should the Refuge undertake to protect and enhance habitat for the migratory and rearing needs of seven stocks of listed salmon and steelhead? Should backwater areas be restored? What actions can be taken to protect and restore habitat values for other declining species?

Islands: To what extent should islands located in the Columbia River be maintained free from human disturbance? Are diverse suites of waterbird colonies that currently nest on the islands significant sources of mortality to listed salmonids? If so, should populations or habitats be managed to prevent their increase?

Wildlife Dependent Uses: Which "Big Six" programs should be offered at the Refuge and what kinds of improvements to these programs can be provided to enhance public enjoyment and ensure a quality experiences for Refuge visitors?

Camping and other Non-wildlife Dependent Uses: Shall the Refuge continue to offer additional various non-wildlife dependent recreational opportunities, such as swimming and beach use, and horseback riding? What facilities and program support should be offered?

Cultural Resources: What steps should be taken to better protect and interpret cultural resources?

Effective Law Enforcement, Outreach, and Prevention of Illegal Uses: Between 2003 and 2006, the Refuge Complex that manages the Refuge lost 75% of its law enforcement capacity. How can the Refuge better prevent the use of Refuge lands for a variety of illegal uses, including dumping, ATVs, target shooting, and vandalism?

B. Issues outside the scope of the CCP

Columbia River Hydropower Operations: Operations of the Columbia River hydropower system are not within the scope of the CCP. Minor changes in pool level may be recommended under some alternatives for limited periods of time, but analysis or proposals dealing with major modifications of operations at John Day Dam are outside the scope of this CCP. Ongoing litigation over management of anadromous fish may result in major changes to hydropower operations. If this occurs, many of the CCP actions may require rework.

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CHAPTER 2. Management Direction



McCormack Slough - © Lyn Topinka

2.1 Considerations in Refuge Planning

In drafting the CCP, the Service reviewed and considered a variety of resource, social, economic, and organizational aspects important for managing the Refuge. These background conditions are described more fully in Chapters 3, 4, 5, and 6 of the final CCP/EA (US FWS 2007). As is appropriate for a national wildlife refuge, resources were fundamental considerations. House Report 105-106 accompanying the National Wildlife Refuge System Improvement Act of 1997 states "...the fundamental mission of our System is wildlife conservation: wildlife and wildlife conservation must come first."

The planning team reviewed scientific reports and studies to better understand ecosystem trends and the latest scientific recommendations for species and habitats.

The Service met with staff from local, State, and Federal agencies and elected officials to ascertain priorities and problems as perceived by others. Refuge staff met with Refuge users, nonprofit groups, and community organizations to ensure that their comments and ideas were considered during CCP development. Details of public involvement are located in Appendix A of the final CCP/EA (US FWS 2007). Appendix L of the final CCP/EA (US FWS 2007) contains the public comments received on the Draft CCP/EA and the Service's responses.

The planning team considered allowing hunting of wildlife species other than deer, waterfowl, migratory birds and upland game birds, such as cottontail rabbit, cougar, bobcat, coyote, fox, raccoon, turkey and crow, which is permitted by state law in other areas of Washington. These activities were not included in the CCP because of conflicts with year-round public safety, resource protection, inconsequential populations, and/or seasons outside of existing waterfowl seasons.

The planning team considered the appropriateness of providing opportunities for various nonwildlife dependent recreational activities suggested during scoping, including field dog trials, geocaching, hang gliding, paragliding, rock climbing, motorized and nonmotorized off-road use, waterskiing, camping, beach use, and personal watercraft. Based on policy guidance in the Service's Appropriate Refuge Uses Policy 603 FW 1 (2006), these uses were determined not appropriate, and are documented on FWS Form 3-2319 in Appendix K of the final CCP/EA (US FWS 2007).

2.2 General Guidelines

A summary table is presented on the following pages. It summarizes the key elements of the CCP. Detailed descriptions of the goals, objectives, and strategies follow the table. Map 3 displays the Habitat Management actions under the final CCP. Map 4 displays the Public Use facilities under the final CCP/EA, and Map 5 shows the overall hunting areas and sanctuary areas under the final CCP/EA.

In addition to the specific actions listed in the objectives and strategies, the CCP will be implemented under the following general guidelines.

Implementation Subject to Funding Availability:

Actions will be implemented over a period of 15 years as funding becomes available. Project priorities are in Appendix D of the final CCP/EA.

Actions will be implemented over a period of 15 years as funding becomes available.

Refuge Fire Management: Fire Management Plans, and accompanying NEPA documents and Endangered Species Act consultations, were finalized for the Refuge in 2001. Fire management actions will continue to be guided by the direction set forth in the plans.

Tribal Coordination: Regular communication with Native American Tribes who have an interest in the Refuge will continue. The Confederated Tribes of the Umatilla Indian Reservation (consisting of the Cayuse, Umatilla, and Walla Tribes) are the major local Tribes the Refuge will coordinate and consult with on a regular basis regarding issues of shared interest. However, other Tribes with special interests, especially relating to the traditionally shared resource corridors along the Columbia River and near the confluence of the Columbia and Snake Rivers, will also be included in consultations affecting those resources. These traditionally local Tribes include the Yakama, Nez Perce, Colville (Palouse), and the Wanapum. Currently, the Service seeks assistance from Tribes in both Native American Graves Protection and Repatriation Act (NAGPRA) and National Historic Preservation Act (NHPA) related issues.

State Coordination: Similarly, the Service will continue to maintain regular discussions with the Washington and Oregon Departments of Fish and Wildlife. Key topics for discussion will be the Columbia Basin Waterfowl Management Plan, colonial nesting birds, wildlife monitoring, big game management, hunting and fishing seasons and regulations, and endangered species management.

Volunteer Opportunities and Partnerships: Volunteer opportunities and partnerships will continue to be supported and are recognized as key components of the successful management of public lands and vital to implementation of Refuge programs, plans, and projects, especially in times of declining budgets.

Refuge Revenue Sharing Payment: Annual payments to counties under the Refuge Revenue Sharing Program will continue according to the established formula, subject to payments authorized by Congress. Payments made to local counties in 2005 are in Appendix D of the final CCP/EA.

Maintenance and Updating of Existing Facilities: Periodic maintenance and updating of Refuge buildings and facilities will be necessary. Periodic updating of facilities is necessary for safety and accessibility and to support staff and management needs and is incorporated in the Service Asset Management System.

Management of Minor Recreational Uses: Minor recreational activities are occasionally pursued on the Refuge. Such recreational activities not specifically addressed in this CCP may be allowed on Refuge lands if the Refuge Manager first finds they do not conflict with wildlife or habitat objectives.

Participation in Planning and Review of Regional Development Activities: The Service will actively participate in planning and studies for ongoing and future industrial and urban development, contamination, and other potential concerns that may adversely affect Refuge and wildlife resources and habitats. The Service will cultivate working relationships with pertinent county, State, and Federal agencies to stay abreast of current and potential developments; and will utilize outreach and education as needed to raise awareness of Refuge resources and dependence on the local environment.

Maintain Existing Waterfowl Sanctuary in Support of Mid-Columbia Basin Planning Efforts: Waterfowl sanctuary is an area that is closed to hunting and significant disturbance from other public uses to provide important resting and/or feeding areas for waterfowl during the hunting season. Security, indicated partly by the acres of sanctuary area provided during hunting season, was listed as a key ecological attribute supporting waterfowl. There is public support for maintaining “large concentrations” of waterfowl, as they have been important for hunting and viewing users. However, Refuge sanctuary must be considered within the wider scope of Pacific Flyway and/or Region-wide area closures and numbers of birds wintering in the Lower Columbia Basin. Defining the role and extent of such sanctuary areas is a major component of the Wintering Waterfowl Redistribution Plan for the Columbia Basin of Oregon and Washington (Lloyd 1983). It is presently being re-written and updated through a partnership that includes Washington and Oregon Departments of Fish and Wildlife (WDFW/ODFW), the Yakama Nation, the Corps, and the Service. Therefore, except for very minor changes at McCormack Unit proposed in this CCP, the McNary and Umatilla Refuges will continue to manage waterfowl sanctuary in accordance with open and closed areas called for in the 1983 Wintering Waterfowl Plan and existing Refuge closed/open zones, and will make adjustments as needed, in accordance with the revised Columbia Basin Waterfowl Management Plan being developed with the partnership agencies.

Vegetation Inventory and Condition Ranking: A vegetation inventory was begun during the summer of 2005. Map 6 displays the preliminary results from the vegetation inventory. Ground-truthing from randomly selected sites is still incomplete. When finished, it will be used to complete an inventory map to the alliance level (as defined by the National Vegetation Classification System) for all vegetation polygons. In addition, the data can be used to rank habitat conditions according to criteria outlined in the objectives. Further refinement of the condition classes may occur.

Section 106 Compliance: All ground-disturbing projects will undergo a review under Section 106 of the National Historic Preservation Act.

2.3 Goals, Objectives, and Strategies

Goals and objectives are the unifying elements of successful refuge management. They identify and focus management priorities, resolve issues, and link to refuge purposes, Service policy, and the Refuge System Mission.

A CCP describes management actions that help bring a refuge closer to its vision. A vision broadly reflects the refuge purposes, the Refuge System mission and goals, other statutory requirements, and larger-scale plans as appropriate. Goals then define general targets in support

of the vision, followed by objectives that direct effort into incremental and measurable steps toward achieving those goals. Strategies identify specific tools and actions to accomplish objectives (USDI 2002).

The goals, objectives and strategies that will guide the management of Umatilla Refuge over the next 15 years are described in detail below. The goal order does not imply any priority in this CCP. Priority actions are assigned in Appendix D of the final CCP/EA. Some objectives will help achieve multiple goals but are listed only once, for brevity's sake. Table 2-1 summarizes the main actions and outcomes under the CCP, by topic.

Table 2-1. Summary of CCP Actions

Key Themes/Issues	Summary of CCP Actions and Outcomes over Next 15 Years
<i>Waterfowl</i>	
Croplands:	
Total Acreage	1,500 acres
Share to Refuge	25%
Grain Availability over Season and During Emergency Weather Conditions	305 acres scheduled for staged mid-winter (post-hunting season) knockdown. Emergency knockdown under severe weather conditions.
Moist Soil Management:	
Total Acreage	163-178 acres
Floodup for Early Migrants	10-20 acres flooded by September 15 each year
<i>Shorebirds</i>	
Foraging Area:	
Mudflats on Columbia River	2 acre increase for migration.
Alternate Foraging Sites	Alternate sites at moist soil units.
Curlew Upland Habitats	Existing habitat maintained and suitable nesting and foraging habitat increased by 25% on inactive former croplands.
<i>Threatened, Endangered, and Sensitive Species</i>	
Salmon Rearing Habitats	Protect and where feasible enhance backwaters and side-channel habitats.
Inventory for Rare Species not Monitored by Other Agencies	Undertake inventory. Specific habitat or population management strategies determined in step down plan.
<i>Wetland and Deepwater Habitats</i>	
Shallow Marsh Management:	
Open Water Areas Created	24 acres/year
Emergent Invasives Cover	<20%
Elimination of Carp	Eliminated at least 1 wetland
<i>Riparian Habitats</i>	
Nesting Habitats Improved	31 acres/year
Cottonwood Developed	5 acres/year
<i>Islands and Cliffs</i>	
Waterbird Populations and Coordination	Habitat maintained to support island-nesting birds and colonies. Continued coordination with partners on research, monitoring and managing the Refuge's colonies of salmonid-smolt eating birds.
Reduce Disturbance to Island Wildlife to Protect Nesting and Breeding Areas	Existing island closures to be enforced. No beach use on Refuge islands.

Umatilla Refuge Comprehensive Conservation Plan

Protection of Rocky Habitats	No mining, collection or extractive activities permitted on any natural Refuge rocky features. Baseline inventory of plant and wildlife resources. Protection for raptor nesting sites and limit public uses to Big Six uses.
<i>Shrub-Steppe Habitats</i>	
Existing Habitats Improved	133 acres/year
Restoration of Roads, Mining Sites, and Inactive Croplands	up to 75 acres
Protection from Fire and Ground Disturbance	Active measures taken with partners, public, and contractors to reduce fire damage and soil disturbances.
<i>Wildlife Observation, Photography, Interpretation, and Trails</i>	
Umatilla Hwy 14 Interpretive Overlooks	Improved and expanded
Columbia River Heritage Trail	Add benches, blind, sun shades, and potential side trails to Heritage Trail; consider realignment. Add interpretive area at check station.
<i>Hunting</i>	
Waterfowl Hunt Types	Reservation fee hunting, posts/free roam, and youth hunts.
Waterfowl Hunt Areas	16,805 acres
Sanctuary Areas	Existing sanctuary areas except remove sanctuary at Columbia River shoreline at McCormack and add sanctuary at East McCormack Slough.
Upland Bird Hunt Schedule	Hunt start time standardized to noon
Upland Permits (McCormack)	Permits reduced to 15 on opening two weekends.
Deer Hunt (McCormack)	Deer hunting emphasis to reduce population and address vegetation impacts issue.
<i>Fishing</i>	
Diversity of Fishing Opportunities	Maintain diverse opportunities. Improve parking facilities and access.
Tournament Fishing	Work in partnership with States and others to develop standard tournament permit conditions. No tournament access within ½ mile of pelican nest colonies.
Fishing Outreach and Information	Develop fishing brochure or tear sheets. Install kiosks at one on-Refuge and one off-Refuge boat launches.
<i>Environmental Education</i>	
Number of Students Served	100-500
EE Facilities	Field study sites integrated into East McCormack Slough
<i>Non-Wildlife Dependent Uses</i>	
Horseback Riding	Improve signing, outreach, and interpretive materials. Riders allowed on public roads and horseback designated trails.
Swimming and Beach Use	Island beaches closed to all use.
<i>Cultural Resources</i>	
Monitoring and Protection	Increased with greater survey effort, enforcement, training, and consultation with Tribes.
Interpretation Programs	Develop interpretive materials in partnership with Tribes and historical societies.
Bank Stabilization	Seek funding to stabilize eroding banks to protect buried resources.



GOAL 1: Manage high quality food and sanctuary to support large concentrations of migratory waterfowl.

Waterfowl/USFWS

Objective 1a: Provide Crops for Waterfowl

Maintain 1,500 acres at Umatilla Refuge for the production of crops, with a minimum of 280 acres to a maximum of 410 acres to be grown as grain (corn preferred) and left standing to benefit trust species of waterfowl (mainly mallard, northern pintail, Canada geese, and greater white-fronted geese). As part of this acreage, provide a minimum of 700 acres (over both Refuges combined) in green feed for waterfowl use during winter.

Strategies Applied to Achieve Objective

- Conduct cooperative farming in accordance with guidelines, best practices and acreages outlined in the existing Umatilla Cropland Management Plan; and maintain Organic Farming Program on Whitcomb Island and McCormack Units of Umatilla Refuge.
- Consider force account farming to increase net food availability if and when appropriate. To do so, increase Refuge funding \$70,000 annually for force account equipment, supplies and staffing and submit funding requests (RONS) for \$210,000 to develop new irrigation circles.
- Develop partnership programs to provide incentives and funding to private landowners to provide standing corn and other grains off-Refuge.
- Follow all stipulations in the Farming Compatibility Determination for Umatilla Refuge.

Rationale: Upland food availability, including the amount of land in corn and available as green feed, was identified as a key ecological attribute for waterfowl by the CCP team. Approximately 1,500 acres of Refuge lands are currently farmed under cooperative agreement. Under the Cropland Management Plans for Umatilla Refuge (USDI, 1996; USDI, 1999), croplands are managed for the benefit of waterfowl, but many other species benefit (i.e. bald eagles which rely on Refuge waterfowl concentrations). Refuge crop shares are generally 25% of what is grown and are limited to 1) cereal grains, preferably corn, to meet the high energy demands of migrating and wintering waterfowl, and 2) green winter forage and cover crops which provide for Canada geese. In addition, harvested areas provide foods for waterfowl, including waste grains and green forage such as alfalfa and grasses. Opportunities to provide natural foods on the Refuge are limited, especially for the large concentrations of waterfowl (peaks of nearly 250,000 to 500,000 birds for both McNary and Umatilla Refuges combined). The 2003 Wildlife and Habitat Management Review of McNary and Umatilla Refuges recommended providing additional corn for wintering waterfowl. Increasing corn is limited by costs of installing irrigation systems, operation of the Organic Farming Program at Whitcomb Island, the need to rotate crops, and use of negotiated cooperative agreements with farming cooperators versus force account. Substantial increases in funding to both develop and maintain force account irrigation circles for corn would provide the best scenario for corn production. Partnerships and incentives to area farmers to grow grains is another possibility.

Objective 1b: Extend Time Period Grain is Made Available to Birds.

- Extend time period grain is made available to waterfowl and provide grains during emergency weather conditions. Provide for mid-season and late-season nutritional needs of migrating and wintering waterfowl, especially mallard, northern pintail and greater white-fronted geese, by scheduling both the cooperative farmer harvest and “knockdown” of 305 acres of refuge shares of agricultural grain crops.

Strategies Applied to Achieve Objective

- Expand knockdown of refuge crop shares; both earlier and later in the post-hunting season as follows:
- Post-hunting season (approximately January 18 – March 1): 305 acres total staged knockdown over this time period, if possible.
- Coordinate with cooperators and/or increase force account crop knockdowns to achieve the schedule listed above.
- Explore possibility of staging cooperator harvests to provide grains for waterfowl from September through December: work with farm cooperators to stage corn harvest dates throughout the fall/winter season
- Consider locating any new crop development in areas where grains could be made available throughout the fall/winter season
- Allow for emergency knockdown during the hunting season if severe weather causes a documented need. This action may require closure of hunting due to baiting regulations; therefore coordinate with law enforcement and the public. Severe weather is snow or ice covering of most local fields and or weather below 0 degrees F for an extended time leading to generally inaccessible food supply on surrounding farms and agricultural fields.
- Follow all stipulations in the Farming Compatibility Determination for Umatilla Refuge.

Rationale: Providing grain crops in a staged way throughout the fall/winter season will help provide for fall and spring migrants as well as the wintering population of ducks and geese. Farm cooperators have traditionally harvested their grain shares as they became available, versus staging the harvest to increase waste grain availability throughout the fall/winter season. Traditionally refuges reserved the majority (85%) of the refuge’s share of standing grains to be knocked down immediately after the close of hunting season in late January to mid February. Staff have noted that in years when the corn crop was “late” (February-March) to be knocked down, more white-fronted geese (early spring migrants) were attracted to McNary Refuge. White-fronted geese have increased significantly there in recent years, presumably in response to this late food availability. The Refuge has occasionally allowed the knockdown of refuge shares during the hunting season when severe weather has threatened waterfowl populations. Refuge managers have documented extreme winter weather events leading to area fields being covered with ice and snow; in such times Refuge corn fields have been mowed to supply the nutritional need for a large percentage of Columbia Basin wintering waterfowl and have likely prevented die-off events.

Objective 1c: Increase Size and Availability of Moist Soil Areas

Add 5-20 acres to the existing 158 acres of managed moist soil units for the Refuge, and increase efforts to provide high production of natural foods favored by mallards and northern pintails, such as smartweed (*Polygonum* spp.), wild millet (*Echinochloa* spp.) and swamp timothy

(*Crypsis schoenoides*). Provide early flood-up, by September 15, on 10-20 acres of existing moist soil units to support early migrants such as northern pintail.

Strategies Applied to Achieve Objective

- Flood units in fall and follow with a late spring drawdown, properly timed to maximize germination and growth of the desired species.
 - Utilize disking at Umatilla's McCormack Slough to set back taller persistent wetland vegetation, and to provide a seed bed for preferred moist soil annual vegetation.
 - Where water and precise water control is available, utilize summer irrigations to keep vegetation actively growing (timed to minimize standing water since mosquito larvae production period is 5-7 days).
 - Develop 5-20 acres of new moist soil units from the following potential areas: Boardman and Paterson units. Utilize irrigation water and manage piping/pumps as needed.
 - Coordinate irrigations and new moist soil development with local mosquito control districts (see West Nile Virus Contingency Plans for the Refuge).
 - Annually provide water for early flood up (by September 15) of 10-20 acres of moist soil from the following units: Kathy's Pond and any sites to be developed (see objective 4a).
 - Coordinate timing and treatment of early fall flood-ups with the local mosquito control districts to reduce risks of mosquito-borne diseases (see West Nile Virus Contingency Plan).
-

Rationale: Wetland food availability was identified as a key ecological attribute supporting waterfowl. Moist soil wetlands use annual water control regimes to promote production of annual plants preferred by waterfowl, such as wild millet, smartweeds, swamp timothy and goosefoot. Typically this includes a spring drawdown, one to two summer irrigations, and a fall/winter flood-up. These wetlands also provide a variety of water depths that support a wide variety of waterbird species including shorebirds and wading birds and serve as important feeding areas for young waterfowl broods.

Although not considered typical moist soil management units (due to a lack of direct water control), some Refuge areas are already being managed for moist soil plant production. These include shoreline areas at McCormack Unit. Expanses within McCormack Slough have been excavated to elevations that fall between the annual minimum and maximum water levels of the slough, as dictated by John Day Dam forebay operations. Under the influence of this operation, these sites are inundated with shallow water from November through June and are exposed as saturated or moist soils from July to October, thus performing as a seasonal wetland that is highly suitable for moist soil plant production. Disking has been used at these sites to eliminate development of tall persistent vegetation such as bulrush, and to promote establishment of annuals as soon as the flats become exposed early in July. Managed moist soil areas on the slough are used heavily by waterfowl, particularly northern pintail, green-winged teal, and mallards. There has also been much use by shorebirds and wading birds in the spring season. New moist soil areas that could be developed and/or managed for moist soil include: additional sites at McCormack Unit near Hunt Blinds 1, 2, 5, 28, 31, 32, 33, 36, and 37, and shorelines at hunt blinds 7 and 30.

The North American Waterfowl Management Plan (2004) lists the long-term trend for northern pintail populations as declining. The Refuge could distribute the benefits of moist soil management to a greater diversity of waterfowl, including northern pintail, by providing earlier fall flood-up of units. Pintail generally arrive earliest of the waterfowl, with peak concentrations sometimes occurring in September. The Refuge has limited ability to control the timing of flood-up at some of the moist soil units. In the past, mosquito breeding and the potential for mosquito-borne diseases (such as West Nile Virus) limited use of early flood ups. In close coordination and cooperation with the local mosquito control districts, early flood-up could occur.

Objective 1d: Relocate Sanctuary Area within McCormack Unit

Improve resting and feeding opportunities for migratory birds and wintering waterfowl and increase opportunities for wildlife observation on the eastern portion of McCormack Slough by closing the area to hunting, eliminating foot traffic and access to the wetlands, and restricting public use and access to the auto tour route and selected public viewing or overlook sites. Move current waterfowl and upland game bird hunting on the eastern portion of the Slough to a new area within the current sanctuary along the river shoreline on the north side of the unit.

Strategies Applied to Achieve Objective

- Close all public access to the east portion of McCormack Slough except at designated viewing and interpretive sites, and designated trails and roads (see Objective 9d and 9e).
- Sign perimeter of new sanctuary area to inform public of area closure and make changes to Refuge brochures and hunting tear sheets.
- Open new designated site along river shoreline for waterfowl and upland bird hunting and sign as needed (see Objective 10a)

Rationale: The East McCormack Slough is an ideal area for sanctuary and use by waterfowl away from the buffeting winds on the river. Its high quality wetlands and intensively managed foraging areas are used by large numbers of waterfowl and other wildlife. The area is also currently heavily used, both as a hunt area and also (and at the same time) by birdwatchers, photographers and general wildlife observation. Fewer disturbances on East McCormack Slough will improve the quality of Objectives 9b and 9c, and better separate hunting from the visiting public using the tour route and Heritage Trail. All three of these objectives, if implemented together, will complement and benefit one another. If any one of them were to be implemented alone, the area would be less valuable as a resource to the public. The loss of waterfowl and upland bird hunting on East McCormack Slough will be replaced with a new hunt area located along the river shoreline with nearly an equal amount of hunting opportunities and overall land area. Hunting quality at the new site will likely be the same or better than that provided in the east slough since an interior sanctuary wetland could be expected to increase overall bird distribution and hunting success (similar to McNary Refuge with Units 3 (sanctuary) and 2 (hunted). Intensively managed sites in the east slough will also provide opportunity to expand desired habitats for various species other than waterfowl, such as shorebirds, wading birds, and other water birds. Hikers, birders, and photographers will lose direct and close access to the wetlands; but the auto tour route and carefully placed designated observation sites and decks will still provide for quality wildlife observation visits.

GOAL 2: Provide secure and productive foraging and nesting habitats for a diversity of shorebirds.

Long-Billed Curlew - Gary Kramer/USFWS



Objective 2a: Provide Alternate Shorebird Foraging Areas

Annually provide 2 acres of alternative shorebird foraging areas within moist soil units at McCormack Unit during the peak of the migration period (August/September).

Strategies Applied to Achieve Objective

- Determine best time periods for providing alternative foraging sites based on the Corps' projected reservoir levels and peak migration periods. Annually select and prepare 2 acres of moist soil units needing treatment (i.e., disking and invasive plant removal) and flood/drawdown these units just prior to projected periods of high reservoir levels. Potential sites include McCormack Slough and Paterson Slough.
- After disking and where water control is available, flood to a maximum depth of one-to-three inches over the disked area for approximately one week; allowing water to drop naturally and provide habitat.

Rationale: Large numbers of migratory shorebirds often find themselves without adequate foraging habitat when the Corps suddenly increases and maintains reservoir levels for an extended period. Examples include boat race week and 2 to 4 day increases for special shipping/barging requests. Alternative foraging sites nearby could be valuable during such events and this objective will benefit up to 40 species of shorebirds documented to use the Delta, including species identified as “critically important” such as black-necked stilt, American avocet, long-billed dowitcher, and Wilson’s phalarope. The availability of alternate sites was identified in a literature review as a key consideration for managing shorebird populations effectively (Prindle 2004). Properly timed draw downs, disking treatments, and/or irrigations of existing moist soil units will help provide more habitats for shorebirds on the Refuge if the Delta becomes unavailable. Alternative mudflat shorebird foraging sites will have the side benefit of providing irrigation for the surrounding moist soil vegetation that remains untreated. Weedy areas and canary grass portions needing a treatment (disking) will be chosen, not good moist soil sections. Remaining moist soil plants will be allowed to continue to grow productively, and could produce larger seed heads irrigated. Many shorebird experts have recognized the importance of providing alternate sites, especially along river systems (EDAW 2004). The timing will have to be precise to provide habitat during the projected high water periods, requiring close Corps dam reservoir coordination. Irrigations will also have to be conducted with shallow water and short time periods to prevent mosquito breeding. Under current operations, the Delta should continue to expand in area, and if properly managed, may someday qualify as a Western Hemisphere Shorebird Reserve Network Regional Site (supporting greater than 20,000 shorebirds per year).

Objective 2b: Maintain or Increase Long-billed Curlew Habitat

Maintain long-billed curlew nesting and foraging habitat, and increase existing curlew nesting habitat by 25% on appropriate sites at Umatilla Refuge to benefit this species. Restored habitats should be characterized by shorter vegetation (<24 cm), preferably dominated by a mixture of downy brome and Sandberg's bluegrass, intermixed with bare ground and even forb height (Denchant et al. 2003; Pampush and Anthony 1993).

Strategies Applied to Achieve Objective

- Continue to identify and quantify existing curlew nesting and foraging areas to determine location and amount of habitat on the Refuge.
- After habitat has been identified and quantified; increase existing acreage at Umatilla Refuge by 25% by restoring inactive, formerly cultivated lands to curlew foraging and nesting habitat, specifically the edges of field circle 5 and the surrounding grassland.
- Focus management in curlew use areas toward maintaining and restoring native shortgrass habitats; use planting, burning, and mowing methods. In native shortgrass areas, management may include removal of encroaching shrubs or weeds not contributing to curlew preferred habitat features.
- Monitor populations and/or nest success using transects or other standardized techniques.
- When conducting restoration efforts under objectives 7a and 7c, avoid planting shrubs in curlew focal areas.
- Follow all stipulations in the Research Compatibility Determination for the Refuge.

Rationale: The U.S. Shorebird Conservation Plan's list of High Priority Shorebirds (USFWS 2004) lists the long-billed curlew as a "globally highly imperiled" species in need of protection measures. Long-billed curlews have been assigned the highest score (5 on a scale of 1-5) for conservation efforts under criteria established by the Intermountain West Regional Shorebird Plan (Oring et al. 2004). The Intermountain West Region is considered an area of critical importance (compared to other regions globally) for their conservation. The Umatilla Refuge and surrounding lands serve as a key breeding area for long-billed curlews. An accurate estimate of the curlew's current abundance on the Refuge is not available, but range-wide survey efforts completed in 2004 showed curlew numbers on Umatilla Refuge to be higher than all other sites surveyed that year. There is likely an opportunity to increase the number of breeding curlews. Areas that have been known to be used by curlews at Umatilla include: McCormack Slough, uplands south of McCormack Slough, Kathy's Pond, Whitcomb Islands, and agricultural field #5 near the auto tour route on McCormack Unit. Because curlews tend to avoid habitats with dense vegetation cover (both vertical height and horizontal density), the Refuge could manage for short vegetation during the curlew nesting season (mid-March to mid-May). Curlews favor areas with a mosaic of shortgrass and downy brome, typically within one mile of a water source (Pampush 1980; Pampush and Anthony 1993).



GOAL 3: Contribute to the recovery of endangered, threatened, and sensitive species by protecting, maintaining or increasing suitable habitats.

Salmon - © Washington Department of Fish and Wildlife

Objective 3a: Salmon Backwater Enhancements

Protect, and where feasible restore or enhance backwater sloughs, side channel connections, shallow water marshes, or embayments that support juvenile salmon to benefit federally listed species/stocks, including Snake River Chinook, sockeye, and steelhead; Mid-Columbia steelhead; and Upper Columbia Chinook and steelhead.

Strategies Applied to Achieve Objective

- Assess the biological benefits (both waterfowl and fisheries) of restoring side-channel fish habitats at Paterson Unit and coordinate with State/Federal/Tribal fishery biologists.
- If deemed likely to provide biological benefits to listed salmon, prepare technical feasibility report and funding requests for salmon backwater enhancement projects.
- Evaluate and develop strategies to maintain and/or enhance connectivity between Columbia River and backwater slough areas.
- Follow all stipulations in the Research Compatibility Determination for Umatilla Refuge.

Rationale: Seven federally-listed species/stocks of anadromous fish, including Snake River Chinook, sockeye, and steelhead; Mid Columbia steelhead; Bull trout; and Upper Columbia Chinook and steelhead spend portions of their life history either on, or adjacent to, Refuge waters and shorelines on the Snake, Columbia, and Walla Walla Rivers. The Hanford Reach contains the last major mainstem spawning habitat in the Columbia River System for fall Chinook salmon, and up to 80% of the total run of adult fall Chinook salmon returning to the Columbia River spawn in the Hanford Reach (Dauble and Watson 1990). The Casey Pond area at McNary Refuge, and other shorelines and embayments on the Refuge, serve as nurseries for young developing fall Chinook (John Easterbrooks 1999, pers. comm.). Conserving and restoring salmon and steelhead populations is an important regional goal, not least because of their cultural, historical, and ecological values. Salmon are an important food source for numerous other wildlife species. Sixty-seven wildlife species of the Pacific Northwest, including many known to inhabit the Refuge, have been shown to have a “strong” or “recurrent” relationship with salmon (Cedarholm et al. 2000). Protection and/or restoration of these shallow habitats may also benefit waterfowl as embayments and backwater areas are now less common than historically. Paterson Slough also constitutes one of the larger embayments on the Middle Columbia.

Objective 3b: Conduct Inventory and Establish Habitat/Population Management Strategies for Certain Rare Species

Identify potential habitat areas and conduct a targeted inventory (primarily focused on determining presence/absence and indication of breeding) for the following species or species groups. If species are present, document population information. After determining species status, determine which, if any, habitat or population management strategies should be undertaken for the benefit of rare species. This determination may be made in a step-down plan.

- Washington ground squirrel (OR–Endangered. WA–candidate. Federal–Candidate).
- Burrowing owl (WA–Candidate. Federal–Species of Concern).
- Peregrine falcon (Federal–Species of Concern).
- Golden eagle (WA–Candidate. Federal–No Status).
- Swainson’s hawk (OR–Sensitive. Federal–No Status)
- Ferruginous hawk (WA–Threatened. Federal–No Status).
- Native Amphibians and reptiles (Varied status).
- Bats (Varied status).

Strategies Applied to Achieve Objective

- Follow established and current protocols for surveys of rare species/species groups. When and where possible, participate in regional partnership efforts and conform to recommended timeframes.
- Alert Heritage programs and key State biologists of any new or expanded locations as well as the results of any negative searches.
- Follow all stipulations in the Research Compatibility Determination for the Refuge.

Rationale: Rare species were selected for inventory work primarily due to their sensitive status (threatened, endangered, etc) and because they may occur on either Refuge, thus possibly providing opportunities for habitat restoration or enhancement that could help to further their recovery. Specific information is summarized below.

- Washington ground squirrel. The Oregon portion of Umatilla Refuge lies within the historic range of the Washington ground squirrel. The species is likely extirpated from the Refuge and its historical occurrence is unknown, however, the Refuge could possibly provide habitat for any proposed future re-introductions.
- Burrowing owl. A dramatic loss of habitat has occurred in the area due to conversion to agriculture or urban development. Burrowing owls are known to nest on the Refuge, but data on colony locations is limited and data on population size is non-existent.
- Peregrine falcon. The Refuge provides foraging habitat.
- Golden eagle. Current status on the Refuge is unknown.
- Swainson’s hawk. This species nests in the local area, but current status on the Refuge is unknown.
- Ferruginous hawk. Nests locally, though status is unknown on the Refuge.
- Native amphibians and reptiles. Little information exists on the occurrence and abundance of native amphibians and reptiles both historically and/or following creation of the Refuge. Paralleling a global decline by at least a third of the world’s amphibians (Stuart et al. 2004), many of the Refuge’s native amphibian populations thought to be present at Refuge establishment appear to be dwindling or absent. The causes of declines at the Refuge (and elsewhere for other amphibians) are not fully known but

may be related to loss of habitat, changes in hydrology, habitat fragmentation, introduction of nonnative predatory fish and bullfrogs into historic habitats, drought, mortalities on roads, environmental contaminants, disease, and other factors (McAllister et al. 1999). The Refuge needs to improve its knowledge of potential and occupied habitats for native amphibians and may be able to play a role in reestablishment of declining populations.

- Bats. Virtually no information exists on bats occurring on either Refuge. Further information will help to understand Refuge species richness and diversity.

We did not include here other species such as the bald eagle, American white pelican, and salmonids, for the following reasons. The Refuge tallies bald eagles observed during aerial waterfowl surveys, and contributes data to the annual Oregon Winter Eagle Survey. American white pelican population numbers are “rough” but data is collected by researchers as part of their work on the piscivorous fish research. American white pelican counts are estimated by researchers from aquatic and aerial counts. Once additional information is available on each of these species or groups population status on the Refuge, the staff can better determine appropriate habitat or population management objectives and strategies. Such detail may best be developed in a step down Habitat Management Plan. Salmonids: Endangered salmon stocks and other Columbia River System salmon are regularly monitored and/or studied by the WADFW, Corps, Tribes, Service, and NOAA Fisheries. Data is available for Refuge use.

Objective 3c: Conduct Baseline Inventory for Small Mammals

Conduct a one-week long baseline inventory in approximately three shrub-steppe priority areas to collect initial data on the presence, abundance, and diversity of small mammals.

Strategies Applied to Achieve Objective

- Map Quincy and Warden soil types, and an overlay with areas of less-disturbed vegetation cover likely to be suitable for the Washington ground squirrel, to prioritize search areas for this species.
- Select other areas for survey based on State records and historic reports.
- Alert heritage programs and key State biologists of any new or expanded locations as well as the results of any negative searches.
- Follow all stipulations in the Research Compatibility Determination for the Refuge.

Rationale: Small mammals are very important as a food source to higher level predators, including several migratory birds of interest, such as the golden eagle and Swainson’s hawk. In addition, structures made by some burrowing small mammals are important for use as nest sites for the burrowing owl. There is a need for the Refuge to have a greater understanding of the diversity of small mammal species inhabiting Refuge habitats, their relative abundances, and locations of highest habitat value, as Refuge data is lacking in this area. An abundance rating for certain small mammals was provided in the McNary Habitat Management Assessment baseline inventory (WADFG 1980). Some of the data presented in that report originated in the Columbia River System inventory. The Washington ground squirrel, listed as endangered by the State of Oregon, is currently thought to be restricted to three populations in Oregon and Washington. Suitable soil types may exist on the Refuge. Restoration of shrub-steppe and grassland habitats as described in shrub-steppe objectives should also aid in supporting native small mammals.

GOAL 4: Provide a diversity of high-quality wetland habitats for the benefit of migratory birds and other wetland plants and animals.



Turtles on the Refuge – John Gahr/USFWS

Objective 4a: Increase Amount of High Quality Shallow Marsh

Conduct needed management on 350 acres at Umatilla Refuge, resulting in an increase in acreage of high quality shallow marsh available for use by waterfowl and other waterbirds. High quality marsh will consist of open shallow marsh habitat with less than a 50% cover of tall persistent emergent vegetation (bulrush, cattail) at full pool level, with persistent emergent vegetation patches smaller than 10 acres, and no unbroken shoreline patches longer than 300 yards. In addition, in managed areas, no more than 20% plant cover in the wetland emergent plant zone shall be comprised of the following non-native invasive wetland plants: purple loosestrife, phragmites, cocklebur, and false indigo. Conduct needed management at the rate of about 24 acres per year over the life of the CCP.

Strategies Applied to Achieve Objective

- Mechanically re-open areas that have become vegetated with persistent emergent vegetation in order to set back succession and maintain open, shallow water areas. Mechanically remove longer term mineral and organic deposits that lead to filling and wetland loss.
- Utilize mowing, disking and burning for elimination of vegetation mats and organic material.
- Utilize surface excavation and shoreline recontouring where appropriate to open marshes.
- Develop and implement an IPM plan (use mechanical, cultural, biological, hydro management and chemical methods) to aggressively reduce the presence of the five nonnative plants in the wetland emergent plant zone.
- Inventory plant communities and annually monitor effectiveness of treatments. Control any reinvasion by nonnatives; and plant native emergents as needed.
- Partner with counties for education/weed control along Refuge borders and reduce sources.
- Increase annual funding by \$40,000 to address costs of monitoring, biological controls, equipment and chemicals used under an Integrated Pest Management Plan.

Rationale: The Refuge was established to mitigate losses of habitat, including wetlands, caused by dam building in the Columbia River. Providing a diversity of wetlands is vital to the purposes of the Refuge. Yet because of the numerous dams along the length of the Columbia River, and the specific dam and lock operations encompassing river sections within the Refuge, the natural fluvial processes of a free-flowing riverine system have been eliminated. Refuge waters, which are now human-managed and relatively constant-elevation reservoirs, alternately support lacustrine and palustrine systems, but lack necessary disturbance mechanisms to provide and

maintain the cyclical aging and renewal processes of wetlands over time. Non-persistent wetlands and mudflats, for example, are vital to a variety of migratory birds and other wetland animals. Both habitat types are mostly non-existent on the Refuge because of the absence of natural disturbance mechanisms. By increasing the number of acres of open shallow marsh through artificial means such as mechanical operations or prescribed fire, the Refuge will mimic natural processes and provide a diversity of successional stages that increase overall biodiversity and prevent wetland loss over time. Species benefiting by such actions could include shorebirds, wading birds, rails, waterfowl and muskrats.

Invasive plants (primarily purple loosestrife, phragmites, cocklebur, and false indigo) are widespread in the emergent plant zone of most wetlands on the Refuge and may currently be as high as 30-50% of plant cover in certain areas. Altered plant and animal community composition was identified by the CCP team as a very high stress to wetland systems. Invasive plants limit native plant production and cause impacts to food, nesting, and cover for wildlife. Invasives in wetlands reduce waterfowl food availability during the migration and wintering periods. Limiting invasive species will help the Refuge to comply with county and state ordinances, as well as improve habitat values. However, the task is immense, thus a threshold value for invasives was established as a reasonable objective over the next fifteen years as opposed to a zero-tolerance level.

Objective 4b: Maintain and Improve Aquatic Bed Habitats.

Manage wetlands to increase submerged aquatic vegetation cover by eliminating rough fish (carp and bullhead). By the end of 15 years maintain carp-free conditions in at least 1 of these wetlands - McCormack Slough, Sasquatch, or Figure Eight - and determine the most effective control methods to reduce carp numbers from present levels in areas open to the Columbia River (Paterson). Objective will benefit migratory waterfowl (mallard, pintail, lesser scaup, tundra swan) as well as waterbirds (pied-bill grebe) and other native aquatic species.

Strategies Applied to Achieve Objective

- Conduct initial inventory for submerged plants within two years after CCP is finalized; and monitor every five years after that.
- Obtain bathymetric data for Paterson and Whitcomb Sloughs.
- Eradicate carp and bullhead at one or more of the following wetland locations: McCormack Slough, Sasquatch or Figure Eight Ponds) by the end of 15 years. Draw down these wetland areas and if needed utilize rotenone to kill carp and bullhead populations. For effective use of rotenone, and facilitation of equipment needs, burn residual vegetation when appropriate. Coordinate with WDFW and ODFW on rotenone projects, funding initiatives, and partnerships.
- Experiment with water draw downs in advance (work with the Corps on schedule) to determine how low water can get, and make any needed changes in water control structures to facilitate carp removal and growth of submergent vegetation used by waterfowl.
- Consider permitting commercial carp and bullhead fishing in areas open to the Columbia River (Paterson).
- Follow all stipulations in the Research Compatibility Determination for the Refuge.

Rationale: Umatilla Refuge has significant wetland resources that provide habitat for wildlife. However, outside of their extensive use by waterfowl and other migratory birds, little is known about submerged vegetation and other aquatic species inhabiting Refuge wetlands. Carp, which are widespread in permanently flooded wetland habitats on the Refuge, are thought to represent a high threat to the functioning of the wetland system, due to their impacts on submergent vegetation and water quality. Carp uproot and eliminate submerged vegetation, increase turbidity (see stress source analysis), and decrease the overall abundance and diversity of the invertebrate community (Miller 2006). Treatments using the natural plant chemical rotenone are expensive, but can be more effective if the amount of water to be treated is minimal and carp and bullhead are concentrated in a small area. Past rotenone treatments have generally been effective, but reintroduction and infestation have occurred at varying rates. This may have occurred because adequate water draw downs did not occur, and/or, all connected pools/sloughs were not treated at the same time. Partnering with experienced State fishery program managers should increase success rates.



GOAL 5: Provide high quality riparian habitats for the benefit of nesting and migrating birds, fish, riparian plants, and other riparian wildlife.

Banding a Yellow-breasted Chat– Howard Browers/USFWS

Objective 5a: Improve Condition of Riparian Habitat for Nesting and Migrating Native Passerines

Conduct needed management on approximately 30% (463 acres) of the total 1,556 acres of priority riparian habitat over the next fifteen years to improve nesting success for native riparian passerines such as the Lazuli bunting, yellow warbler, and yellow breasted chat, and other riparian species identified as Partners In Flight focal species. Needed management is defined as that combination of treatments and re-treatments which successfully improve the overall condition rating, resulting in a rise into the next highest condition class (poor, fair, good). Conduct needed management at the rate of about 31 new acres per year over the life of the CCP. See condition definition ratings below.

Riparian Tree-Dominated Habitats: Condition Class Categories

Condition Class	Overstory Canopy Cover*	Overstory Trees Age Classes	Percent of Native Forb and Grass Cover Comprised of Natives	Native Understory Shrub Cover
Poor	<5%	1	<25%	<10%
Fair	5-20%	1-2	25-50%	11-20%
Good	21-30%	Several	51-75%	21-50%
Excellent	31-60%	Several	>75%	51-80%
Recommended Conditions for Various Target Species				
Bullock’s Oriole (Altman and Holmes 2000)	30-60%	Protect large gallery cottonwoods		

*native and nonnative cottonwood, peachleaf willow, pacific willow, white alder, etc.

Riparian Shrub-Dominated Habitats: Condition Class Categories

Condition Class	Percent of Native Forb and Grass Cover	Native Shrub Cover	Shrub Height	Other species-specific parameters
Poor	<25%	<10%		
Fair	25-50%	11-20%		
Good	51-75%	21-50%		
Excellent	>75%	51-80		
Recommended Conditions for Various Target Species				Other species-specific parameters
Lazuli Bunting (Altman and Holmes 2000)	>25% and <70%	>25% and <70%		Interspersion of shrub patches and herbaceous openings

Willow Flycatcher (Altman and Holmes 2000)	interspersed	40-80% (patches 10 square meters in size)	>3 feet high	Patches exceeding 5 acres, preferably 20 acres or more. Tree cover <30%.
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Strategies Applied to Achieve Objective

- Each year, improve native plant cover and distribution within one or more of the five priority areas. While implementing strategies to move blocks into the next higher condition rating, consider specific habitat requirements of both tree-dominated and shrub-dominated species. The five blocks follow:

Area	Acres	Condition	Area Description
Paterson Unit	585	Good	Large cottonwoods and good willow cover. Wildfire damaged about 100 acres in 2002.
Whitcomb Unit	251	Fair	
McCormack Unit	553	Poor	Many large cottonwoods dying or dead with little to no regeneration around McCormack Unit due to past wildfire and lowering of John Day pool. Willows overbrowsed by deer. Areas along river in better shape but invaded by false indigo.
Longwalk Islands	146	Fair	Large cottonwoods and good willow cover.
Boardman Unit	21	Fair	Some large cottonwoods, but also large areas of Russian olive.
Total Acres	1,556		

- Develop Integrated Pest Management Plan within 1 year of CCP completion and address control of invasives in riparian understory (reed canarygrass, poison hemlock, false indigo, and Russian olive seedlings) and overstory (Russian olive). Existing stands of large Russian olive trees will not be targeted unless other multi-layered woody stands exist in close proximity.
- Enhance nesting opportunities within riparian areas by decreasing invasives using weed control techniques (chemical, mechanical, biocontrols) on 5-62 acres of riparian habitat per year.
- Enhance shrub and tree layers within existing blocks of habitat by selective planting of native shrubs and cuttings on 5-62 acres per year.
- Reduce browse damage to trees and shrubs by using fencing, the hunt program, and tree guards.
- Construct one exclosure in each key riparian area to assess effects of herbivory in the stand.
- Follow all stipulations in the Research Compatibility Determination for the Refuge.

Rationale: Refuge riparian habitats are threatened and/or degraded by the presence and dominance of invasive weeds; lack of native shrub components, herbivory by large deer herds, and altered hydrology. Restoration and enhancement efforts are needed to improve overall habitat conditions for migratory birds. Photographs dating from the early 1900s suggest that cottonwood dominated riparian was not common, and willow dominated riparian shrub communities were present along narrow corridors of the river. Ninety-seven native bird species are highly associated with riparian habitat (Altman and Holmes 2000) and six of these are “focal species.” Small riparian acreages in the arid west provide food and shelter and thus are critical

for thousands of birds needing to refuel during migration. Migration monitoring could be implemented to document this benefit to migrants passing through Umatilla Refuge.

The team chose to use a 4-tier condition class category system to facilitate the Service’s ability to enumerate acres of habitat that might be in less than stellar condition. While achieving good or excellent habitat conditions as described by various species experts remains an important goal, realistically the Refuges will more likely be able to gradually improve habitats to move them closer to the type of condition favored by the target species. In addition, using management condition categories to track habitats over time will enable more fine-tuned monitoring of Refuge habitats and will facilitate reporting of acres in Refuges Annual Performance Plan (RAPP).

The condition classes described above were defined by the team after examining the habitat requirements of several selected species closely tied to shrub-steppe and riparian habitat types in this area. (Each table includes the selected species habitat requirements below the condition class categories). Because scientific reports often show slight differences in the habitat requirements of different species, the team chose to integrate the main structural habitat requirements of these selected species. Finer details, such as proximity to water or patch size, may be described in the specific habitat requirement for a selected species, but was not necessarily carried through to the broader condition class descriptions, because these often differ species by species.

Objective 5b: Enhanced Cottonwood Recruitment:

Promote enhanced recruitment (at least 300 stems per acre) and development of cottonwood stands on 5 acres per year at Umatilla Refuge.

Strategies Applied to Achieve Objective

- Select sites and use managed pool and wetland water levels in concert with soil disturbance (disking) to promote more favorable conditions to induce germination of available cottonwood seed source on exposed soils.
- Request that dam operations make short duration increases in pool levels during the summer to irrigate and enhance young cottonwood survival and recruitment at sites.
- Provide weed control in newly developing cottonwood riparian sites using techniques/treatments identified in the IPM Plan.
- Undertake supplemental plantings of cottonwoods in riparian areas to increase tree diversity and density.

Rationale: As the dominant native overstory tree species of mainstem and low elevation tributary riparian zones, cottonwood is recognized as a “keystone” species in riparian areas. These stands provide important nesting and migrating habitat for migratory birds. Reliable cottonwood recruitment is necessary for the perpetuation of cottonwood dominated riparian stands. The altered water regime of the Columbia River was identified by the CCP team as a high source of stress, leading to low or altered recruitment of native plants and an altered plant community composition in most Refuge riparian zones. Major losses to riparian vegetation and ecological function have occurred in response to regulated flows in river systems (Jamieson and Braatne 2001). Cottonwood recruitment may be improved, however, by using managed

pool/wetland levels which mimic natural timing of cottonwood seed dispersal and germination (Jamieson and Braatne 2001). Managers have noted extensive cottonwood regeneration after soil disturbance within reservoir dominated embayments at Paterson and McCormack. Recruitment density of about 300 stems per acre would achieve approximately 12' by 12' spacing at the mature stage, assuming no mortality. The cottonwood species that is currently regenerating most naturally in the system is the plains cottonwood (*Populus deltoides*). However, when constructing restoration and planting using cuttings/rootstock, the Refuge will try to use the native black cottonwood (*Populus balsamifera* spp. *tricarpa*).

GOAL 6: Protect the integrity of the biological resources of the river islands.

American pelicans –
Art Shine/USFWS



Objective 6a: Maintain Waterbird Populations

Manage river island habitats at Umatilla Refuge to benefit a diversity of nesting birds (ducks, geese, songbirds and shorebirds) and waterbird colonies (gulls, terns, herons, and cormorants) at their current population levels.

Strategies Applied to Achieve Objective

- Increase law enforcement patrols, news releases, and signage to protect island nesting birds from disturbance.
- Manage island substrate and vegetation to ensure that a diversity of nesting habitats for colonial waterbirds is available.
- Monitor size of nesting and waterbird colonies, including Canada geese, mallard, Forster’s tern, Caspian tern, and great blue herons; and identify potential threats to production.
- Increase coordination with various agencies, scientists, and others studying island resources, and assist their efforts by seeking funding, issuing special use permits, helping design study protocols, and monitoring research progress.
- In response to Endangered Species Act requirements for federally listed salmon stocks, consider a range of options to limit piscivorous waterbird depredation, if scientifically sound data demonstrate a critical need to limit depredation due to significant impacts on salmon survival. If controls are deemed appropriate, a written step-down plan and the National Environmental Policy Act documentation shall be developed with evaluation of the effects to fish and waterbird populations. Actions shall be planned and implemented using a multi-agency approach and multiple funding sources.
- Continue to monitor, measure, and document rates of erosion of all islands.
- Follow all stipulations in the Research Compatibility Determination for Umatilla Refuge.

Rationale: Canada geese nest on all Refuge islands, as do lesser numbers of mallards and other migratory birds. Piscivorous colonial nesting birds, especially Caspian terns, have been identified as having negative effects on salmon smolt survival (US FWS 2005). Double-crested cormorants can consume relatively large numbers of salmonids at certain times of the year. Nesting gull colonies, mainly ring-billed and California gulls have increased significantly in the last 20 years. Forster’s terns have declined as a nesting species, while great egrets have recently expanded into the area. As conditions continue to change in the larger Basin-wide area due to prey species, human recreation/disturbance, management of water/hydropower, and animal and human

population changes, waterbird populations will continue to change and provide a good barometer of island integrity. Erosion of Refuge islands has been documented in the past; however, more recent changes in reservoir elevations and pool operations have likely reduced the rate. Any erosion that does occur means remaining island acreage becomes more important to wildlife. It is important to monitor measure and document changes in island erosion rates.

Objective 6b: Limit Island Disturbance

Limit disturbance to island habitats, wildlife, and other island resources by enforcing existing and new island closures as follows:

- Umatilla Islands: Total closure of all Umatilla Islands to all public use, including closing the islands to existing seasonal beach use.

Strategies Applied to Achieve Objective

- Increase public education and outreach to notify and inform public about the sensitivity of biological resources on the islands and the need for closures to protect birds.
- Improve and increase island signs as needed.
- Increase law enforcement patrols, enforce beach closures, and deter use in unauthorized areas.
- Follow all stipulations in the Boating and Fishing Compatibility Determinations for Umatilla Refuge, as well as the Waterfowl Hunting Compatibility Determination for Umatilla Refuge.

Rationale: The river islands on Umatilla Refuge support breeding habitat for several groups of species, including colonial waterbirds, shorebirds, geese, ducks, swallows and deer. Wildlife seek out the islands for breeding habitat because of the islands’ relative isolation, security, and general lack of mammalian predators. Security was identified as a key ecological attribute supporting the islands’ wildlife communities. The islands also have important cultural resources. Because of these unique traits, recreational disturbance and recreation-induced habitat modification such as accidental fire, has long been a concern. Human use causes direct impact on the beaches themselves, including direct displacement of geese, shorebirds, and bank nesting swallows from potential foraging and nesting habitat. Garbage and human waste present ongoing problems. Island closures are necessary to protect biological and cultural resources from adverse modification. Umatilla islands previously open to seasonal beach use will be closed to protect archeological resources and habitat and wildlife resources. Of particular concern is the potential of human-induced fire on the islands, which would threaten the heron rookeries on Big Sand Dune Island, and important sagebrush habitat used by nesting geese on Blalock Island.

GOAL 7: Conserve and restore the plants, animals and shrub-steppe community representative of historic Columbia Basin habitats.



Sand dock – Howard Browers/USFWS

Objective 7a: Improve Shrub-Steppe Condition

Conduct needed management on approximately 2,000 acres (or 30% of the 6,809 acres) encompassed by eight priority shrub-steppe areas. Needed management is defined as that combination of treatments and re-treatments which successfully improve the overall condition rating resulting in a rise into the next highest condition class (poor, fair, and good) as outlined below. Conduct needed management at the rate of about 133 new acres per year over the life of the CCP. See the definitions and habitat condition class ratings below.

Shrub-Steppe Habitats: Condition Class Categories

Condition Class	Native Shrub Cover *	Understory vegetation cover percent native species	Open Ground Cover	
Poor	< 5 %	<25% native species cover	0 or >75%	
Fair	5-10%	25-50 % native species cover	51-75%	
Good	11-20%	51-75% native species cover	21-50%	
Excellent	21-30%	>75% native species cover	10-20%	
Recommended Conditions for Various Target Species				Other species-specific parameters
Sage sparrow (Vander Haegen 2004)	10-25%	>10% native (exotic annual grasses <10%)	≥10 %	Shrub height generally >20 inches
Sage thrasher (Altman and Holmes 2000; Vander Haegen 2004a)	5-20% big sagebrush, clumped	5-20% (<10% cover exotic annual grasses)	≥10%	Sagebrush height >31 inches; <10% cover other shrubs; patches of 40 acres or greater

*Target composition for native shrub cover is sagebrush and/or bitterbrush predominant

Grassland Habitats: Condition Class Categories

Condition Class	Grass Cover	Percentage native species for all herbaceous plants (grasses and forbs)	Open Ground Cover
Poor	1-10%	<25% native species	0 or >80%
Fair	11-20%	25-50% native species	61-80%
Good	21-30%	51-75% native species	50-60%
Excellent	31-60%	>75% native species	10-40%

Based on the Following Recommended Conditions for Various Target Species **Other species-specific parameters**

Burrowing owl (Altman and Holmes 2000)	Native grass cover <40% and <16 inches tall		>40%, including bare and/or cryptogram mic crust	Burrow providers, 660 ft. buffer zone around nest burrows with no pesticide applications or disturbances allowed.
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Grasshopper sparrow (Altman and Holmes 2000)	>15% (bunch-grasses)	Species composition >60% of grasses present are native bunchgrasses		Bunchgrass height >10"; native shrubs <10%; patches >100 acres or multiple patches >20 acres
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Long-billed curlew (Denchant et al. 2003)				Shrubs or areas of cheatgrass intermixed with patches of Sandberg's bluegrass (<i>Poa sandbergii</i>)
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See also Colorado PIF and Monatana Bird Conservation Plan

Shorter vegetation (<24 cm), nest density was positively correlated with percent cover of bare ground and with the evenness of forb height.

Limit grasshopper or insecticide use

Strategies Applied to Achieve Objective

- Each year, improve native plant cover and distribution within one or more of the eight priority areas by active planting or seeding appropriate native species. Consider specific habitat requirements of both shrub-associated and grass-associated species. Eight blocks are as follows:

Eight priority areas for treatment

Area	Acres	Condition	Area Description
Paterson Unit	2,584	Fair	Largest block of shrub-steppe habitat on Complex. Wildfire damaged about 500 acres of shrub-steppe in 2002 taking out sagebrush and bitterbrush. Area seeded with native grasses and sagebrush seedlings planted in fall 2002. Large areas still dominated by invasives. Excellent bunchgrass cover on a portion of unit north of RR tracks.
Ridge Unit	208	Poor	Narrow block on north side of Columbia River. Wildfire damage

Umatilla Refuge Comprehensive Conservation Plan

Whitcomb Unit	340	Poor	Area damaged by wildlife in 2000.
Crow Butte Unit	692	Fair	Damaged by wildfire. Most sagebrush burned off.
Blalock Islands	102	Good	Good sagebrush cover and native understory.
McCormack Unit - Kathy's Pond	624	Fair	East of Paterson Ferry Road. Shrub cover, mostly rabbitbrush with some sagebrush and bitterbrush. Understory dominated by non-natives.
McCormack Unit South	1,667	Fair	About 1000 acres burned in wildfire in 2000. Much sagebrush and bitterbrush consumed. High curlew use for nesting in portions of area. Some burrowing owl use as well. Maintain as grassland in these areas.
McCormack Unit Desert Area	592	Fair	Good shrub cover but mostly rabbitbrush. Patchy native bunchgrass cover.
Total Acres	6,809		

- Conduct follow up treatments for weeds and/or additional plantings on each managed block as needed.
- Conduct chemical weed control to reduce cheatgrass and other targeted weeds annually.
- Initiate integrated pest management by writing an IPM step-down plan by 2008.

Rationale: An estimated 10.4 million acres of shrub-steppe habitat occurred in the state of Washington at the time of European settlement (Dobler et al. 1996). By the late 1980s only about 40% remained. Locally, Benton County had 48% of the original shrub-steppe habitat remaining (Dobler et al. 1996). Most shrub-steppe areas on the Refuge are threatened and/or remain in a degraded condition due to invasive plants, wildfire, and poor native plant recruitment/ recovery.

Eight of the larger blocks of shrub-steppe habitat totaling 6,809 acres were selected for the focus of shrub-steppe restoration and enhancement activities based on their size and connectivity on-and-off the Refuge. These areas were selected partly due to size and current condition, i.e. they were already in some form of shrub-steppe rather than agriculture or some other heavily degraded areas such as roads or gravel pits.

Because “shrub-steppe” encompasses a wide variety of different plant communities and structural conditions, and management to promote conditions for some of the inhabitants may conflict with management to promote conditions for other inhabitants, the shrub-steppe target has here been subdivided into two sub-types: shrub-steppe and grasslands. Shrub-steppe is typified by a higher level of native shrub cover—areas chosen to be managed for this subtype should be able to achieve >10% mature sagebrush or bitterbrush component by the end of fifteen years. Grasslands are typified by few or no sagebrush or bitterbrush shrubs.

Approximately half of the priority shrub-steppe areas should be managed to improve conditions for shrub-steppe habitats. The other half should be managed to improve conditions for grassland habitats. Though these acreages are relatively small, restoration efforts may provide valuable habitat for some shrub-steppe dependent species.

The team chose to use a 4-tier condition class category system to facilitate the Service’s ability to enumerate acres of habitat that might be in less than stellar condition. While achieving good or excellent habitat conditions as described by various species experts remains an important goal, realistically the Refuges will more likely be able to gradually improve habitats to move them

closer to the type of condition favored by the target species. In addition, using management condition categories to track habitats over time will enable more fine-tuned monitoring of Refuge habitats and will facilitate reporting of acres in Refuges Annual Performance Plan (RAPP).

The condition classes described were defined by the team after examining the habitat requirements of several selected species closely tied to shrub-steppe and riparian habitat types in this area. (Each table includes the selected species habitat requirements below the condition class categories). Because scientific reports often show slight differences in the habitat requirements of different species, the team chose to integrate the main structural habitat requirements of these selected species. Finer details, such as proximity to water or patch size, may be described in the specific habitat requirement for a selected species, but was not necessarily carried through to the broader condition class descriptions, because these often differ species by species.

Objective 7b: Protect and Restore Burrowing Owls

Pending the results of inventories listed above in 3b, protect and restore suitable habitats for the benefit of burrowing owls. At a minimum, we will maintain one viable colony at the McCormack Unit of Umatilla Refuge.

Strategies Applied to Achieve Objective

- Investigate the possibility of transplanting ground squirrels in appropriate areas on the Refuge
- Experiment with the creation of artificial burrows adjacent to existing nesting areas
- Identify historic sites that may have been occupied by colonies on the Refuge.
- Restrict public access to known and historic breeding sites.
- Prepare materials and messages for public outreach and education efforts to raise awareness of burrowing owls and the threats posed by urban development, including shooting/poisoning/control of burrowing mammals.
- Follow all stipulations in the Research Compatibility Determination for Umatilla Refuge.

Rationale: Burrowing owls are declining within the states of Oregon and Washington and may be at risk on the Refuge. Small numbers have historically nested on the Refuge, but there has not been an extensive inventory.

Objective 7c: Protect Shrub-Steppe Habitats

Over the life of the CCP, protect and/or maintain the 6,809 acres encompassed by the eight priority shrub-steppe interest areas (see objective 7a), by minimizing ground disturbance, reducing fire starts, and implementing emergency stabilization and rehabilitation of wildfire impacts.

Strategies Applied to Achieve Objective

- Incorporate standards and procedures for maintenance and management activities to minimize activities that disturb soil surfaces.
- Increase fire crew availability and readiness for initial attack by maintaining a fire engine crew at Umatilla Refuge.
- Reduce likelihood of fire ignitions from recreational activities in priority shrub-steppe areas through education, interpretation, and careful planning of recreational facilities.
- Increase coordination and cooperation with rural fire districts and expand mutual aide agreements. Provide education and assistance to rural fire district staffs.
- Coordinate with railroad companies to alter train operations, if possible, to reduce fire ignitions. Investigate and document fire starts and seek compensation from railroads for restoration needs where ignitions can be tied to train operations.
- Implement emergency stabilization and rehabilitation actions following wildfires; including soil stabilization, cultural resource protection, nonnative invasive species control, native grass/shrub seeding and planting, and effectiveness monitoring
- Continue to inventory and control nonnative invasive plant species (cheatgrass, starthistle, knapweed) based on IPM plans and procedures.

Rationale: Remaining shrub-steppe habitats are threatened and/or remain in a degraded condition due to an extensive history of wildfires, poor native plant recruitment/recovery following fires, and ground disturbance activities (roads, trails, heavy equipment). Limiting/eliminating ground disturbing activities and reducing fire starts and/or decreasing fire sizes by through fire suppression and aggressive initial attacks, will benefit habitats. Fire regime is one of the key ecological attributes affecting the viability of the shrub-steppe system. A less intense and less frequent fire regime was present historically. The current more intense and frequent fires create a cycle of habitat modification and degradation that needs to be reversed and better post-fire rehabilitation and stabilization project planning and on-the-ground success instituted.

Objective 7d. Bitterbrush Management

Over the life of the CCP, maintain existing stands of shrub-steppe habitat containing bitterbrush as a key shrub component on the Umatilla Refuge; and increase acreage by planting bitterbrush in 50 acres of shrub-steppe to achieve at least a 30% bitterbrush component.

Strategies Applied to Achieve Objective

- Review, consult with experts, and if necessary, initiate research studies to explore local causes of bitterbrush decadence and death at Umatilla Refuge.
- Increase the rate of reduction of the deer herd at Umatilla Refuge, McCormack Unit (see Objective 10d).
- Over the life the CCP, plant 50-100 acres of bitterbrush in appropriate areas of shrub-steppe to obtain a minimum 30% bitterbrush shrub component at Umatilla; avoiding areas known or potentially inhabited by Long-billed curlew.

Rationale: Shrub-steppe habitats on Umatilla Refuge historically contained areas of high density bitterbrush. Bitterbrush has been declining at an alarming rate in recent years; possibly from fires, altered hydrology, herbivory by deer, and/or all three. Herbivory was identified as a

moderate stress on shrub-steppe habitats as a whole, but it disproportionately affects bitterbrush. Reductions in fire ignitions and fire damage can benefit bitterbrush and are covered in Objective 7c. At this time, the Refuge does not have a strategy for addressing altered hydrology. Restoring bitterbrush to these areas will increase the overall plant diversity and integrity that is characteristic of good quality Lower Columbia Basin shrub-steppe. Restoring bitterbrush as a natural component of the historical assemblage of plants present on the Refuge's shrub-steppe habitat will also be consistent with the Service's 2001 policy on Biological Integrity, Diversity, and Environmental Health (601 FW 3). However, the Refuge will avoid concentrating bitterbrush plantings in curlew focal areas because curlews tend to avoid dense shrubs. Pampush (1981) found that nest density was negatively correlated with vegetation height and vertical density, and areas with bitterbrush and dense forbs were avoided by curlews.

Objective 7e. Restore Shrub-Steppe Habitats by Decreasing Roads and Development

Restore native shrub-steppe habitats on suitable lands such as those occupied by unnecessary roads, waste sites, gravel pits and cropland no longer suitable or needed for crop production for waterfowl. Restore up to 75 acres during the life of the CCP.

Strategies Applied to Achieve Objective

- Close all remaining unnecessary and unauthorized roads or trails in the Paterson units at Umatilla, as well as other Refuge sites as needed. Restore up to 25 acres of shrub-steppe on these areas.
- Restore native shrub-steppe plant communities on 50 acres of fallow croplands which are not needed or are unsuitable for crop production as identified on the vegetation map.
- Use chemical weed control treatments and fall native grass seed drilling when possible.
- Use site monitoring, multiyear follow-up treatments, and selective planting of shrubs and forbs in all restoration treatments.
- Consider needs of high priority wildlife species including: burrowing owl, long-billed curlew, and ground squirrels in site plans.

Rationale: Shrub-steppe habitats can be restored on many areas, including areas those occupied by unnecessary and unauthorized roads. The existing spider-like web of trails is the result of illegal and/or unfettered public access over many years of management with little enforcement presence. Public use of these illegal roads and trails increases the potential for wildfire, garbage dumping, and further fragmentation of shrub-steppe habitat. Once access is restricted to designated roads, all unnecessary roads can be restored to shrub-steppe habitat. In addition, there are approximately 50 acres of abandoned former agricultural lands in a weedy condition are absent of native grasses or shrubs. These lands can also be restored using chemical weed control, fall native grass drilling, and selective plantings of shrubs and forbs. Because much of the restoration will occur on smaller habitat fragments, it is important to carefully consider the needs of high priority wildlife species including: burrowing owl, long-billed curlew, and ground squirrels in all site plans prior to initiating restoration projects.

GOAL 8: Protect and maintain the ecological integrity of talus, outcropping, and cliff habitats for natural levels of species diversity.

Objective 8a: Maintain Intact Rock Structures

Protect and maintain all cliffs, talus slopes, and outcroppings in intact structural condition to benefit cliff nesting birds (peregrine falcon, prairie falcon, and white-throated swift) and other unique species (common night snake, and rattlesnake hibernacula).

Strategies Applied to Achieve Objective

- Prevent illegal mining or extractive activities on the Refuge's natural rocky features and basalt columns, including collection for home landscaping, through proper signing and education. Photograph/document significant areas most threatened by illegal activities.
- Provide adequate sanctuary for raptor nesting sites, and limit public uses to the Big Six uses only, in areas without significant nesting bird populations.

Rationale: Maintaining the size and composition of rocky habitats was identified as a key ecological attribute of the cliff/rimrock/talus and outcroppings target as indicated by cliff dominance (high cliffs), the variety of rock features and the amount of talus with larger rocks and deeper masses. The Refuge has received requests for rip-rap and basalt columns, used in home landscaping, and at least one incidence of theft/vandalism occurred at a neighboring Refuge. Signing, law enforcement and education may help prevent illegal activities and theft. The rock outcroppings represent a small portion of Refuge lands, but they provide habitat for cliff nesting birds (peregrine and prairie falcons, white-throated swift, and golden eagle) and other unique species (common night snake, rattlesnake hibernacula, big-horned sheep, and mule deer).

Objective 8b: Conduct Baseline Inventory of Rocky Habitats

Conduct baseline inventory of plant and wildlife resources inhabiting rocky habitats, with particular emphasis on Crow Butte and Ridge Units at Umatilla Refuge. Inventories should focus on determining the presence and abundance of birds, bats, reptiles, amphibians, rare plants, and any key functional areas such as nest sites or hibernacula.

Strategies Applied to Achieve Objective

- Pursue cooperative funding and partner contributions for the inventory.

Rationale: The wildlife and plant resources utilizing the Refuge's rocky habitats have not been systematically inventoried. There is a known rattlesnake hibernaculum at Paterson Unit). There is the potential for several species of bats and various reptile, and amphibian species to be present as well. An inventory is needed.

GOAL 9: Visitors and local residents enjoy, value, learn about, and support the Refuge.



Refuge Birders - © Brenda Shine

Objective 9a: Expand Interpretive Overlooks along Highway 14

Develop (expand upon) interpretive overlooks along Highway 14 overlooking the Columbia River Islands on Umatilla Refuge.

Strategies Applied to Achieve Objective

- Identify sites and develop interpretive themes with assistance from the Service’s Branch of Visitor Services and Communications.
- Improve Refuge boundary signage where it parallels or is adjacent to State Highway 14.
- Work with the State of Washington and the railroads to plan and fund safe pull-offs with identification signs along State Highway 14.
- Expand, improve, and pave parking lots at overlooks as necessary using Refuge Roads funding.
- Follow all stipulations in the Wildlife Observation and Photography Compatibility Determination and Environmental Education and Interpretation Compatibility Determination for Umatilla Refuge.

Rationale: The drive along State Highway 14 on the Washington side of Umatilla Refuge affords the best overlook of Umatilla Refuge and one of the few broad vistas of shorelines and islands along the Mid-Columbia River. Much of the Refuge boundary along Highway 14 is an ideal location for emphasizing interpretation. Interpretive panels are currently installed at one overlook site but there are opportunities to designate additional sites, especially overlooking the picturesque Blalock Islands. Parking, highway turnoffs, and signing all need improvement.

Objective 9b: Enhance Viewing Opportunities at the McCormack Unit

Enhance and expand wildlife viewing, interpretation, and trail opportunities on the McCormack Unit of Umatilla Refuge.

Strategies Applied to Achieve Objective

- Add improvements such as benches and sun shades along the Morrow County Columbia River Heritage Trail.
- Establish a photography/wildlife viewing blind along the Heritage Trail at a site adjacent to the East McCormack Slough in consultation with professional wildlife photographers.
- Realign last ¼ mile of auto tour route and restore and open up adjacent wetland unit to provide more open water and close up views of wetland and wildlife.
- Improve Heritage Trail alignment and trailhead locations to minimize trail user conflicts

between hunting and auto tour routes; and provide better access to trails from a centralized parking area. Trailhead parking will be located at current hunter check station parking lot with three possible realignments of the trail. Update Refuge brochure after any realignment. Shift Morrow County Columbia River Heritage Trail south along the south ridge road and connect the trail to current hunter check parking area; eliminate crossing the wetlands. In addition, construct a .2 mile loop trail on the north side of East McCormack Slough connecting the current hunter check-in parking area with the existing auto tour route.

- Explore potential for adding side trails off Heritage Trail; however not in the proposed closed area of east McCormack Slough.
- Follow all stipulations in the Wildlife Observation and Photography Compatibility Determination and Environmental Education and Interpretation Compatibility Determination for Umatilla Refuge.

Rationale: The McCormack Unit is the focal point for Umatilla Refuge wildlife viewing activities. To reduce waterfowl hunter/wildlife observer/auto tour route user conflicts, the Heritage Trail should be realigned to be adjacent to Ridge Road above the slough. The realignment will enhance the visitor viewing experience, increase visitor access to interpretive and informational material, and provide better opportunities for wildlife photography and other nonconsumptive uses from designated sites. These activities will complement Objectives 9e (nearby facility consolidation and improvement) and Objective 1d (designation as sanctuary on the East McCormack Slough). The realignment will also provide a 0.2 mile side loop-trail that will improve opportunities for trail uses within wetland areas for viewing of wetlands and wildlife at close proximity. The realignment provides for removal of the current crossing site in the slough in order to improve wetland hydrology and to further reduce conflict with hunting activities. Finally, the realignment eliminates conflicts between pedestrian and vehicle use outside of the hunting season. During hunting season these conflicts will be much reduced as well.

Objective 9c: Consolidate McCormack Unit Visitor Facilities

Develop a consolidated visitor contact site that includes the hunter check station; trailhead facilities; visitor orientation; information interpretive panels; and a new Refuge manager's office at Umatilla Refuge's McCormack Unit.

Strategies Applied to Achieve Objective

- Replace and move a new Refuge manager's office to the McCormack Slough check station site.
- Create small interpretive area at contact station at or near the new manager's office.
- Create outdoor visitor orientation/interpretive panels and/or kiosk; and have parking area serve as trailhead for Heritage Trail.
- Follow all stipulations in the Wildlife Observation and Photography Compatibility Determination and Environmental Education and Interpretation Compatibility Determination for Umatilla Refuge.

Rationale: The Refuge manager's office is currently located on the Columbia River shoreline on the McCormack Unit. The area is closed to public access and well away from McCormack Slough where most Refuge visitors spend time. Moving the manager's office to the hunter

check station location will provide the public with greater opportunities to ask questions of the manager, will provide the manager a better understanding of visitors and their use needs and patterns, will provide greater program visibility, and will promote visitor compliance with Refuge regulations.

Objective 9d: Maintain Certain Areas available to Horseback Riding and Improve Horseback Riders' Awareness of Refuge Riding Areas and Policies

Maintain the Columbia River Heritage Trail as designated for horseback riding and allow horseback riding on open Refuge roads. Prohibit cross-country riding. Ensure that horseback riders are provided with information to know and understand the reasoning behind horseback riding rules at the Refuge.

Strategies Applied to Achieve Objective

- Assess usage of trail by horseback riders.
- Develop new signs and/or improve existing signs, brochures, or kiosks to inform users that horseback riding on the Refuge is limited to public roads and horseback riding trails and to explain the reasons for restricting riding to these areas (non-Big Six use, nonnative seeds are spread by hoof and through manure).
- Work with local horseback riding clubs to improve relationships, develop partnerships, and promote the "Adopt a Trail" program.
- Increase patrols and continue using law enforcement to educate and/or cite offenders.
- Use Friends Newsletters to get the message out to the riding public (Friends Group members have a large positive impact in spreading the Refuge message).
- Follow all stipulations in the Horseback Riding Compatibility Determination for the Refuge.

Rationale: Horseback riding is popular with local and surrounding riding clubs and horse owners. Currently, horseback riding is allowed on existing roads and one designated trail at Umatilla Refuge. Use is seasonal, mostly during the fall and spring. This contingency has historically been very supportive of the Refuge and has advocated an "Adopt a Trail" program.

Objective 9e: Increase law enforcement patrols.

Increase the amount of law enforcement patrols to provide increased resource protection and public safety.

Strategies Applied to Achieve Objective

- Add 2 new law enforcement officers to provide expanded law enforcement patrols throughout the year on the Refuge.
- Use increased patrols, brochures, leaflets, signing, and news releases to educate refuge users and deter illegal public uses.
- Increase patrols during the hunt season to increase hunter compliance with resource and special refuge regulations.

Rationale: Limited law enforcement capacity during the hunt season was identified by the public as a concern. The loss of collateral duty officers in recent years has significantly reduced field patrols and officer presence on the Refuge. Hiring two new officers and increasing efforts to notify the public of resource and special refuge regulations will help increase resource protection and public safety.



Hunter - © Bill Cleghorn

GOAL 10: Hunters appreciate and experience a variety of quality hunting opportunities.

Objective 10a: Provide a Variety of Waterfowl Hunting Opportunities

Provide a wide variety of waterfowl hunting opportunities at Umatilla Refuge. (Also see Objective 1d).

Strategies Applied to Achieve Objective

- Maintain current fee reservation hunting at the McCormack Hunt Unit and evaluate the need for additional areas.
- Close current waterfowl hunt area on east McCormack Slough (207 acres) as described in Objective 1d.
- Open a new designated hunt site (48 acres) along river shoreline with a similar number of hunting posts/sites (opportunity) as east McCormack Slough Unit.
- Coordinate with law enforcement and the public through news releases and signing if an emergency knockdown of cornfields (see objective 1b) is needed during the hunting season due to severe weather. Knockdown may require closure of hunting due to baiting regulations. Severe weather is snow or ice covering most local fields, and/or weather below zero degrees F for an extended time, leading to an inaccessible food supply on surrounding farms and agricultural fields. See Objective 1b.
- Follow all stipulations in the Waterfowl Hunting, Upland Gamebird Hunting, and Other Migratory Bird Hunting Compatibility Determination for the Refuge.

Rationale: The variety of waterfowl hunting opportunities offered at the Refuge is quite popular, and allows people of all abilities to enjoy hunting that suits their needs. Fee hunting is very popular (the Refuge has more hunters using fee units than any of the other units); however, many hunters prefer less regulated opportunities. Fee hunts allow hunters to be guaranteed a spot in advance which provides hunters traveling from a long distance some security. Fee hunting can also reduce law enforcement needs. However, the administrative costs of fee hunts are relatively high, and despite the fee, fee hunts generally don't pay for themselves. There's also a certain loss of freedom for the user—there is a higher likelihood of encountering regulation, law enforcement etc. At some point in the future, if competition for hunting increases, other areas may need to be managed as fee hunt units. However, fee hunting is neither necessary nor desirable for all units, currently, or in the future. Free roam hunts are popular and will be maintained at the Crow Butte, Ridge, Paterson, and Boardman Units. Lost waterfowl hunting sites in the East McCormack Slough will be replaced with one new hunt area located along the river shoreline with nearly an equal amount of hunting opportunity. Hunting quality at the new site will likely be better than that provided in the east slough because a sanctuary wetland could be expected to increase overall bird distribution and hunting success, similar to McNary Refuge with Headquarters Units 3 (sanctuary) and Headquarters Unit 2 (hunted).

Objective 10b: Improve Access for Disabled Hunters

At the Umatilla fee hunt areas, improve existing access programs for disabled waterfowl hunters at designated blinds.

Strategies Applied to Achieve Objective

- Bring access and blind site #35 at the McCormack Unit up to current ADAAG standards.
- Add 1 additional ADAAG compliant blind site at Paterson, Ridge or Whitcomb.
- Follow all stipulations in the Waterfowl Hunting, Upland Gamebird Hunting, and Other Migratory Bird Hunting Compatibility Determination for Umatilla Refuge.

Rationale: Currently, the number of blinds designated for disabled hunters is reasonable and meets the current needs. At least one more accessible site may be needed at each unit over the next 15 years to meet the needs of a growing and aging population. However, the current designated blinds and access routes are not up to ADAAG standards. Implementing this objective will further bring the Refuge’s compliance with ADA and will provide better opportunities for hunters with disabilities.

Objective 10c: Enhance Upland Game Bird Hunt

Enhance the quality of upland game bird hunts for the Refuge; promote consistency in hunting regulations among all Refuge units and increase hunt opportunities.

Strategies Applied to Achieve Objective

- Decrease permits for the fee based lottery system from 25 to 15 and extend the permit requirement over the first two weekends of the upland game bird season at Umatilla’s McCormack Unit.
- Standardize hunt times and hunt days; enforce noon start times on all units.
- Close current upland hunt area around east McCormack Unit as described in Objective 1d. Open new designated site with an approximately equal amount of hunting opportunity along river shoreline (see 1d).
- Follow all stipulations in the Waterfowl Hunting, Upland Gamebird Hunting, and Other Migratory Bird Hunting Compatibility Determination for Umatilla Refuge.

Rationale: Fees and permits are primarily used as a tool to limit space competition between hunters and to improve the quality of hunts. At this time, the only location where permits are thought to be necessary for upland bird hunting is at the McCormack Unit on Umatilla Refuge. Hunters are required to reserve opening weekend in advance through a fee based application process. The current limit of 25 permits per day results in a poor quality hunt because many hunters are constantly cutting each other off in competition for the best hunting spots. Although the number of hunters decreases as the season wears on, implementation of a lottery system and lowering the number of permits for both opening weekends will increase the safety and improve the quality of the hunts.

In addition, upland bird hunts can conflict with waterfowl hunts partly through space issues (hunters competing for similar areas to shoot) and partly through creating disturbance for each other. Changing the start time to noon on all units (after most of the best waterfowl hunting is usually over) will help hunters understand and remember the regulations and will also reduce bird disturbance and conflicts between the different hunting programs.

Objective 10d: Provide Quality Deer Hunting Opportunities

Provide quality deer hunting opportunities at Umatilla Refuge and increase opportunities and permits at the McCormack Unit.

Strategies Applied to Achieve Objective

- Increase the total number of hunting permits at Umatilla’s McCormack Unit to provide more hunting opportunities while reducing the deer population to a target population of 80-100 animals within 5 years.
- To safely accommodate increased hunting permits at Umatilla, extend the length of the season and the days hunted, but continue to limit access to no more than 15 hunters per day on the Refuge.
- Annually monitor deer population dynamics and their impacts to vegetation; conduct a post-hunting season November survey; adjust the number of hunt permits for upcoming seasons, considering vegetation conditions and other relevant factors.
- Follow all stipulations in the Deer Hunting Compatibility Determination for Umatilla Refuge.

Rationale: Despite five years of deer hunting, little visible improvement has occurred in upland shrub condition on the McCormack Unit. Wildland fires and the management of the John Day pool have contributed to the problem, but staff observations at exclosures show that browsing continues to seriously limit shrub and tree growth in riparian and upland areas. The recent decline in the number of deer permits granted is likely to worsen the problem. Better estimates of deer populations are needed, as are more regular assessments of vegetation recovery. In the meantime, with the current population at 200-300 deer, it is necessary to increase the hunt take, especially of does, to reach the target population of 80-100 deer. Controlled special permit hunts are an effective and inexpensive method of reducing herd size.

GOAL 11: Anglers experience abundant opportunities to catch fish while appreciating the Refuge.

Objective 11a: Provide for Diverse Fishing Opportunities

Maintain diverse fishing opportunities on the Refuge and improve fishing facilities and access.

Strategies Applied to Achieve Objective

- Improve parking facilities and access to river shoreline fishing sites: upgrade fishing access at the McCormack and Paterson Units.
- Follow all stipulations in the Fishing Compatibility Determination for Umatilla Refuge.

Rationale: The Refuge has lengthy shorelines, abundant reservoir space, and diverse river, slough, and wetland habitats which provide opportunities for anglers to fish for everything from large Chinook salmon to small perch and trout. Warmwater fish are abundant and anglers can take home smallmouth bass, walleye, and other fish. Warmwater fishing is the most popular kind of fishing and has garnered regional and national acclaim. Fishing for sturgeon is also popular, as is fishing for salmon, steelhead, shad and catfish. Similarly, there are abundant bank fishing opportunities as well as river fishing from boats. This diversity of fishing opportunities is a plus for the Refuge. The Refuge can provide a satisfying recreational experience to many people each year from a great diversity of backgrounds. There is an opportunity to upgrade fishing facilities.

Objective 11b: Promote Fishing Awareness

Improve public knowledge and awareness of quality fishing locations on the Refuge and disseminate public knowledge about the Refuge System at fishing and boating areas.

Strategies Applied to Achieve Objective

- Continue to define and map fishing locations. Develop a fishing brochure or set of tear sheets for the public, including information such as parking, roads, boat launches, and accessibility for people with disabilities. Seek partnerships with State and private groups for funding and publication.
- Improve Refuge fishing and related information by installing kiosks at Paterson Unit and McCormack Slough/Oregon fish hatchery boat launches. Include information about the Refuge, good fishing practices, fish identification and other interpretive information. Seek partnerships with State and private groups for funding and construction projects.
- Conduct surveys to determine needs of the fishing public; and provide a Spanish language informational brochure.
- Follow all stipulations in the Fishing Compatibility Determination for Umatilla Refuge.

Rationale: Fishing on the Refuge is dispersed, and managing fishing has been more low-key than other Refuge recreational programs. Yet more visits are made to the Refuge for fishing than for any other use. The Refuge’s fishing public is more culturally diverse than other Refuge user groups and includes recent immigrants from a variety of countries and tourists from other parts of the State. Yet many are probably unaware that they are on a Refuge. There is an opportunity to enhance communications with the fishing population, to provide greater information about the Refuge and Refuge System, and to create greater awareness of good fishing practices. Survey results will help the Refuge deliver the Service’s message. Since many people who fish on the Refuge are recent immigrants, it is desirable to provide some brochures and information panels in Spanish and other languages as appropriate.



GOAL 12: Students and teachers understand and value the Refuge System, and the ecology and management of Umatilla National Wildlife Refuge.

Class Learning about Fire Management –
Art Shine/USFWS

Objective 12a: Provide Environmental Education for Students

Provide environmental education (EE) for 100-500 students at Umatilla Refuge annually. Ensure that the program helps fulfill state curriculum requirements.

Strategies Applied to Achieve Objective

- Initiate contacts with the community, schools, and volunteers, to find interested teachers and volunteers interested in starting an EE program at Umatilla Refuge.
- Develop “teach the teacher” programs and Refuge specific instructor training
- Make use of existing high quality programs, such as the Shorebirds Sister Schools Program, that have been developed and tested throughout the northwest.
- Follow all stipulations in the Environmental Education and Interpretation Compatibility Determination for Umatilla Refuge.

Rationale: The Refuge provides little EE; what is provided is irregular. With the development of environmental education sites in the field (see Objective 12b) and by using high quality and time tested programs, such as the Shorebird Sister Schools Program, the Refuge can deliver high quality “teach the teacher” programs with a minimum commitment of resources.

Objective 12b: Maintain and Improve Environmental Education Facilities

Construct needed environmental education field sites at Umatilla Refuge, leveraging volunteer and community interest and support.

Strategies Applied to Achieve Objective

- Utilize alternative funds to construct EE sites at Umatilla, associated with the auto tour route. Explore opportunities to apply for wildlife-dependent use grants through the Fish and Wildlife Foundation and Heritage Trail funds.
- Tie Umatilla EE facilities (existing and new) into the proposed earthen trail or boardwalk accessing the east McCormack wetland and a .2-mile loop (objective 9b); and integrate features with the Morrow County Columbia River Heritage Trail.
- Follow all stipulations in the Environmental Education and Interpretation Compatibility Determination for Umatilla Refuge.

Rationale: The Refuge has no program for EE, but receives requests from teachers. Staff, volunteers, and materials could be allocated to Umatilla to build an EE program similar to McNary’s, based on volunteer and community involvement. The existing auto tour route and Morrow County Columbia River Heritage Trail offer excellent areas for EE and field activities.



GOAL 13. Manage cultural resources for their educational, scientific, and cultural values for the benefit of present and future generations of Refuge users and communities.

Making Tule Mats – © Jim Mock

Objective 13a: Protect Cultural Resources

Increase monitoring and protection of all cultural resources and historical sites on the Refuge while increasing public and staff support and appreciation.

Strategies Applied to Achieve Objective

- Using guidance and assistance from the Regional Cultural Resources Team and Tribal programs assemble Regional/National/Tribal databases, reports, and site information to provide Refuge managers with specific access-protected data, site information and guidance.
- Comply with Section 106 of the National Historic Preservation Act (NHPA) when conducting ground disturbing activities or modifying historic structures.
- Complete a comprehensive cultural survey of the Refuge as called for in Section 110 of the NHPA, and pull together all previous site surveys, work requests and reports for easy access by managers
- Develop a Refuge GIS layer for cultural resource sites and resources that contains barriers to protect sensitive information.
- All Refuge law enforcement officers will receive training in the Archaeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), and other State and Federal cultural resource regulations no later than March 2008.
- Develop law enforcement monitoring protocols and schedules for patrolling cultural sites as part of a Law Enforcement Management Plan, to be completed no later than 2008. Hire one additional Law Enforcement Officer.
- Identify and protect archaeological and cultural resources associated with rocky features; coordinate with the Umatilla Tribe’s Cultural Resources Program to identify significant sites; and plan for the protection at rocky sites, especially on the Stateline, Juniper Canyon, and Columbia River Island areas.
- Follow all stipulations in the Research Compatibility Determination for the Refuge.

Rationale: The key to protecting cultural resources is promoting knowledge of and appreciation for the resources. Currently, information on known cultural sites is fragmented and not easily accessible to the Refuge managers responsible for management and operations. Umatilla had a comprehensive survey of resources completed by Willamette Associates (1986) and there are several other major surveys and project-specific survey work and reports that include portions of the Refuge; however, a comprehensive access-protected GIS-based database is needed. Law

enforcement officers have received training in cultural resource law, but continuing education and coordination with Tribal and State officers, is needed. Rocky sites are specified because Refuge managers do not know enough about the cultural resources of these sites.

Objective 13b: Increase Awareness and Appreciation for Cultural Resources

Increase awareness of and appreciation for historic, archaeological, and cultural resources among Refuge staff and the public.

Strategies Applied to Achieve Objective

- Bi-annually, provide all Refuge staff with 2-4 hours of training on managing historic, archaeological, and cultural resources.
- Consult with Tribes, historical societies, and other preservation partners to identify types of cultural resource information appropriate for public interpretation.
- Partner with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and other interested groups to tell the history of the Stateline-Wallula area, and prepare media (pamphlets, signs, exhibits) that portray the American Indians' and early settlers' cultural resources and history, on the Refuge, with emphasis the on fish and wildlife resources and their uses during these periods.
- Partner with Tribes, historical societies, interested groups, and government agencies, to develop an overlook site at Wallula to interpret the rich history and importance of the area to Tribes and early Washington settlement.
- Partner with the CTUIR, the Oregon Heritage Trail committee, and other interested groups, to tell the history and interpret the cultural resources of the Umatilla Refuge, and prepare media (pamphlets, signs, and exhibits) describing the history of American Indians and early settlers in this area.

Rationale: Little interpretation of cultural resources has occurred to date on the Refuge. The rich history and cultural sites within the Refuge needs to be told. The Refuge, however, needs assistance and could achieve a higher level of interpretation by partnering with tribes and groups interested in history.

Objective 13c: Coordination on Cultural Resources

Increase coordination and consultation with Tribes.

Strategies Applied to Achieve Objective

- In partnership with Tribes and the Regional Cultural Resources Team, establish "protocol for consultation" to help managers meet NHPA and ARPA requirements including consultation, identification, inventory and evaluation of projects and sites.
- Establish NAGPRA protocol and procedures for handling inadvertent discoveries of human remains, burial objects, sacred objects, and objects of cultural patrimony.
- Meet at least semiannually to discuss programs and projects with staffs of each of the following: Tribal Cultural Resources Programs; Confederated Tribes and Bands of the Yakama Indian Nation; the Nez Perce Tribe; the Confederated Tribes of the Umatilla Indian Reservation; the Confederated Tribes of the Colville Indian Reservation; and the Wanapum Band of Indians.

Rationale: Research conducted for this CCP has confirmed the historical presence of the following tribes within the lands encompassed by the Refuge boundary: Palouse, Cayuse, Yakama, Walla Walla, Umatilla, Nez Perce and Wanapum Tribes and affiliated bands. Although the Refuge has had consultations and meetings in the past, it is important that communication and consultation become more regular and systematic. Since the 2004 ruling by the 9th Circuit Court of Appeals on the Kennewick Man case, it has become incumbent on agencies to ensure that special and significant genetic or cultural relationship to a presently existing indigenous Tribe has been demonstrated, before any objects and remains can be repatriated. How the Refuge can accomplish this, in order to comply with NAGPRA, needs to be addressed.

Objective 13d: Shoreline Bank Stabilization

Explore the potential for shoreline bank stabilization, and bio-engineering, at eroding areas on the Umatilla shoreline to protect cultural resources listed on and eligible to the National Register of Historic Places (NRHP).

Strategies Applied to Achieve Objective

- Apply for Corps and BPA funding for protection of shorelines threatened with erosion as a result of dam/reservoir operations.

Rationale: Erosion from operation of the reservoirs may threaten cultural resources at the Umatilla Refuge’s islands in the Columbia River, and should be considered effects under the Corps/BPA Systems Operation program.

Objective 13e: Increase Management Efforts for Archaeological Features at Two Sites on the National Register of Historic Places

Identify and protect archaeological and cultural resources associated with Telegraph Island, listed on the National Register of Historic Places.

Strategies Applied to Achieve Objective

- Increase law enforcement efforts to protect cultural resources at these sites.
- Conduct annual site visits and maintain written records and photo documentation.

Rationale: Law enforcement and regular monitoring are both needed for adequate protection of cultural resources at Telegraph Island.

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APPENDIX C.

Compatibility Determinations



Wintering Waterfowl at Umatilla Refuge – Molly Linville//USFWS

Please note:

Appendix C is reprinted in this CCP without change from the final CCP/EA signed in May 2007. All appendices, A through N, are available in the final CCP/EIS.

APPENDIX C. COMPATIBILITY DETERMINATIONS – UMATILLA NATIONAL WILDLIFE REFUGE

Introduction

The compatibility determinations (CDs) developed during the CCP planning process evaluate uses as projected to occur under Alternative 2, the Preferred Alternative in the final EA for the McNary and Umatilla Refuges CCP (CCP/EA). The evaluation of funds needed for management and implementation of each use also assumes implementation as described under Alternative 2. Chapter 7 of the CCP/EA also contains analysis of the impacts of public uses to wildlife and habitats. That portion of the document is intended to be incorporated through reference into this set of CDs.

A. Uses evaluated at this time

The following section includes full CDs for all Refuge uses that are required to be evaluated at this time. According to Service policy, compatibility determinations will be completed for all uses proposed under a CCP. Existing wildlife-dependent recreational uses must also be reevaluated and new CDs prepared during development of a CCP. According to the Service’s compatibility policy, uses other than wildlife-dependent recreational uses are not explicitly required to be reevaluated in concert with preparation of a CCP, unless conditions of the use have changed or unless significant new information relative to the use and its effects have become available or the existing CDs are more than 10 years old. However, the Service planning policy recommends preparing CDs for all individual uses, specific use programs, or groups of related uses associated with the proposed action. Accordingly, the following CDs are included in this document for public review.

Refuge Use	Page	Compatible	Year Due for Re-evaluation
Wildlife Observation and Photography	C-4	yes	2022
Waterfowl Hunting; Upland game bird hunting; other migratory bird hunting (Umatilla)	C-12	yes	2022
Deer Hunting (Umatilla)	C-19	yes	2022
Fishing	C-25	yes	2022
Environmental Education and Interpretation	C-32	yes	2022
Boating	C-38	yes	2017
Horseback Riding	C-47	yes	2017
Swimming and Beach Use	C-54	no	n/a
Farming	C-62	yes	2017
Research	C-68	yes	2017

B. Compatibility - Legal and Historical Context

Compatibility is a tool Refuge managers use to ensure that recreational and other uses do not interfere with wildlife conservation, the primary focus of Refuges. Compatibility is not new to the Refuge System and dates back to 1918, as a concept. As policy, it has been used since 1962. The

Refuge Recreation Act of 1962 directed the Secretary of the Interior to allow only those public uses of Refuge lands that were “compatible with the primary purposes for which the area was established.”

Legally, Refuges are closed to all public uses until officially opened through a compatibility determination. Regulations require that adequate funds be available for administration and protection of Refuges before opening them to any public uses. However, wildlife-dependent recreational uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation) are to receive enhanced consideration and cannot be rejected simply for lack of funding resources unless the Refuge has made a concerted effort to seek out funds from all potential partners. Once found compatible, wildlife-dependent recreational uses are deemed the priority public uses at the Refuge. If a proposed use is found not compatible, the Refuge manager is legally precluded from approving it. Economic uses that are conducted by or authorized by the Refuge also require compatibility determinations.

Under compatibility policy, uses are defined as recreational, economic/commercial, or management use of a refuge by the public or a non-Refuge System entity. Uses generally providing an economic return (even if conducted for the purposes of habitat management) are also subject to compatibility determinations. The Service does not prepare compatibility determinations for uses when the Service does not have jurisdiction. For example, the Service may have limited jurisdiction over refuge areas where property rights are vested by others; where legally binding agreements exist; or where there are treaty rights held by tribes. In addition, aircraft overflights, emergency actions, some activities on navigable waters, and activities by other Federal agencies on “overlay Refuges” are exempt from the compatibility review process.

New compatibility regulations, required by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), were adopted by the Service in October, 2000 (<http://Refuges.fws.gov/policymakers/nwrpolicies.html>). The regulations require that a use must be compatible with both the mission of the System and the purposes of the individual Refuge. This standard helps to ensure consistency in application across the Refuge System. The Act also requires that compatibility determinations be in writing and that the public have an opportunity to comment on most use evaluations.

The Refuge System mission emphasizes that the needs of fish, wildlife, and plants must be of primary consideration. The Improvement Act defined a compatible use as one 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.” Sound professional judgment is defined under the Improvement Act as “. . . a finding, determination, or decision, that is consistent with principles of sound fish and wildlife management and administration, available science and resources . . .” Compatibility for priority wildlife-dependent uses may depend on the level or extent of a use.

Court interpretations of the compatibility standard have found that compatibility is a biological standard and cannot be used to balance or weigh economic, political, or recreational interests against the primary purpose of the Refuge (*Defenders of Wildlife v. Andrus* [Ruby Lake Refuge]).

The Service recognizes that compatibility determinations are complex. For this reason, refuge managers are required to consider “principles of sound fish and wildlife management” and “best

available science” in making these determinations (House of Representatives Report 105-106). Evaluations of the existing uses on McNary and Umatilla Refuges are based on the professional judgment of Refuge and planning personnel including observations of Refuge uses and reviews of appropriate scientific literature.

In July 2006, the Service published its Appropriate Refuge Uses Policy (603 FW1). Under this policy, most proposed uses must also undergo a review prior to compatibility. This review is appended at the end of this appendix. Uses excepted from the policy include Big Six uses and uses under reserved rights – see policy for more detail. Appropriate uses reviews are included here for boating, camping, horseback riding, swimming and beach use, farming, research, and dog training. A compatibility determination is included for swimming/beach use explaining why these uses should no longer be allowed.

References

Defenders of Wildlife v. Andrus (Ruby Lake Refuge I). 11 Env'tl. Rptr. Case 2098 (D.D.C. 1978), p. 873.

House of Representatives Report 105-106 (on NWRSIA) -
<http://refuges.fws.gov/policyMakers/mandates/HR1420/part1.html>

Compatibility regulations, adopted by the Service in October, 2000:
<http://refuges.fws.gov/policymakers/nwrpolicies.html>

Wildlife Observation and Photography Compatibility Determination

RMIS Database Uses: Wildlife Observation; Photography (wildlife)

Refuge Name: Umatilla National Wildlife Refuge

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 and the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within the said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System 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 within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd et seq.).

Description of Use: Wildlife observation and photography are allowed in the open areas of Umatilla Refuge. Designated areas are closed permanently or seasonally to public access and are appropriately signed. See Section 5.2 of the CCP/EA for more information on closed areas. The majority of wildlife observation and photography takes place informally. On Umatilla Refuge the McCormack Unit automobile tour route was designed specially to assist visitors see and photograph wildlife. Roadway pull-outs along state highway 14 offer visitors views of the Refuge, and overlooks on the McCormack Unit assist visitors in seeing wildlife.

Prime areas for wildlife observation include the following:

Umatilla Refuge - McCormack Unit

- Automobile tour route with wildlife viewing and interpretive pull-outs
- Callow’s Overlook
- Kathy’s Pond kiosk (burned spring 2007, post release of the Draft CCP/EA)
- Ridge Unit
- Highway 14 Pull-out/Columbia River Islands Overlook
- Paterson Unit
- Main Roadway

When determined compatible, wildlife observation and photography are priority public uses on Refuge System lands as identified in the Refuge Improvement Act of 1997. Entry on all or portions of individual areas may be temporarily suspended by posting, upon occasions of unusual or critical conditions affecting land, water, vegetation, wildlife populations, or public safety. See Section 5.7 of the CCP/EA for more information on the existing wildlife viewing and photography programs. See Chapter 2, Goal 9, for more details on the programs under the Preferred Alternative 2.

Availability of Resources: Wildlife observation and photography require minimal resources. Maintenance for existing facilities runs \$2,500 annually excluding road maintenance costs. Estimated costs for operating the wildlife viewing and photography program as envisioned under Preferred Alternative 2 are displayed in the following tables.

Umatilla Refuge: Wildlife observation and photography costs under Alternative 2.

Proposed Activity or Project	One Time Expense (\$)	Recurring Expenses (\$/year)
New Trail Development/maintenance	35,000	2,000
Photography Blind Construction/maintenance	10,000	750
Totals	45,000	2,750

Anticipated Impacts of the Use:

Disturbance from People: Numerous studies have confirmed that people on foot can cause a variety of disturbance reactions in wildlife, including flushing or displacement (Erwin 1989; Fraser et al 1985; Freddy 1986), heart rate increases (MacArthur et al 1982), altered foraging patterns (Burger and Gochfeld, 1991), and even, in some cases, diminished reproductive success (Boyle and Samson 1985). These studies and others have shown that the severity of the effects depends upon the distance to the disturbance and its duration, frequency, predictability, and visibility to wildlife (Knight and Cole 1991). Wildlife photographers tend to have larger disturbance impacts than those viewing wildlife since they tend to approach animals more closely (Klein 1993, Morton 1995, Dobb 1998).

Effect of disturbance intensity: Some researchers have attempted to correlate disturbance events in wildlife to the intensity, proximity, or loudness of human disturbance. While studying shorebirds on an eastern coastal Refuge, Burger (1986) found that the level of disturbance in the shorebirds increased (fewer remained, more flew) as the total number of disturbances and the number of children, joggers, people walking, dogs, aircraft, and boats increased, and the duration of the disturbance and distance from the disturbance decreased.

Effect of human proximity: Other researchers have looked at the question of proximity. At what distance do humans on foot elicit a disturbance response? From an examination of the available studies, it appears that the distance varies dramatically from species to species. Burger and Gochfeld (1991) found that sanderlings foraged less during the day and more during the night as the number of people within 100m increased. Elk in Yellowstone National Park were disturbed when people were at average distances of 573m (Cassirer 1990). These elk temporarily left the drainage and their home range core areas and moved to higher elevations, steeper slopes, and closer to forested areas. Average return time to the drainage was two days. Erwin (1989) studied colonial wading and seabirds in Virginia and North Carolina. Mixed colonies of common terns-black skimmers responded at the greatest distances, with respective means of 142m and 130m; mixed wading bird species were more reluctant to flush (30-50m average). There were few statistically significant relationships between flushing distance and colony size. Similarly, there were few differences between responses during incubation compared to post-hatching periods.

An analysis of over 4,000 human activity events near bald eagle nests in Central Arizona (Grubb and King 1991) found distance to disturbance to be the most important classifier of bald eagle response, followed in decreasing order of discriminatory value by duration of disturbance, visibility, number of units per event, position relative to affected eagle, and sound.

Breeding bald eagles in north-central Minnesota (Fraser et al. 1985) flushed at an average distance of 476m at the approach of a pedestrian. A multiple regression model including number of previous disturbances, date, and time of day, explained 82% of the variability in flush distance and predicted a maximum flush distance at the first disturbance of 503m (SE=131). Skagen (1980), also studying bald eagles in northwest Washington, found a statistically significant decrease in the proportion of eagles feeding when human activity was present within 200m of the feeding area in the previous 30 minutes. A statistically significant between-season variation occurred in the use of feeding areas relative to human presence, which correlated with food availability. Eagles appeared more tolerant of human activity in the season of low food availability.

In a review of several studies of the reaction of waterfowl and other wetland birds to people on foot, distances greater than 100m in general did not result in a behavioral response (DeLong 2002).

Effects on migrant birds versus resident birds: Klein (1989) studied the effect of visitation on migrant and resident waterbirds at Ding Darling National Wildlife Refuge, finding that resident birds were less sensitive to human disturbance than migrants. Migrant ducks were particularly sensitive when they first arrived on site in the fall. They usually remained more than 80m from [a visitor footpath on a dike], even at very low visitor-levels. Herons, egrets, brown pelicans, and anhingas were most likely to habituate to humans, thus exposing them to direct disturbance as they fed on or near the dike. Shorebirds showed intermediate sensitivity. Strauss (1990) observed piping plover chicks spent less time feeding (50% versus 91%) and spent more time running (33% versus 2%), fighting with other chicks (4% versus 0.1%), and standing alert (9% versus 0.1%) when pedestrians or moving vehicles were closer than 100m than when they were undisturbed. In addition, plover chicks spent less time out on the feeding flats (8% versus 97%) and more time up in the grass (66% versus 0.1%) during periods of human disturbance.

Disturbance from Dogs: Dogs also elicit a greater response from wildlife than pedestrians alone (MacArthur et al. 1982; Hoopes 1993). In the case of birds, the presence of dogs may flush incubating birds from nests (Yalden and Yalden 1990), disrupt breeding displays (Baydack 1986), disrupt foraging activity in shorebirds (Hoopes 1993), and disturb roosting activity in ducks (Keller 1991). Many of these authors indicated that dogs with people, dogs on-leash, or loose dogs provoked the most pronounced disturbance reactions from their study animals. Despite thousands of years of domestication, dogs still maintain instincts to hunt and chase. Given the appropriate stimulus, those instincts can be triggered. Dogs that are unleashed or not under the control of their owners may disturb or potentially threaten the lives of some wildlife. In effect, off-leash, dogs increase the radius of human recreational influence or disturbance beyond what it would be in the absence of a dog. Dog-walkers will be required to maintain control of their animal while on the Refuge, thereby reducing the potential and severity of these impacts to wildlife.

The role of dogs in wildlife diseases is poorly understood. However, dogs host endo- and ectoparasites and can contract diseases from, or transmit diseases to, wild animals. In addition, dog waste is known to transmit diseases that may threaten the health of some wildlife and other domesticated animals. Domestic dogs can potentially introduce various diseases and transport parasites into wildlife habitats (Sime 1999). The Refuges can limit dog disturbance by enforcing current Refuge regulation (50CFR 26.21(b) "...no unconfined domestic animals, including but not limited to dogs...shall be permitted to roam at large....."

Wildlife photography: Wildlife photography is likely more disturbing, per instance, than wildlife observation. Klein (1993) observed at Ding Darling that of all the nonconsumptive uses, photographers were the most likely to attempt close contact with birds. He also concluded that even slow approach by photographers was disruptive to waterbirds.

Predictability of Disturbance (Habituation): Dwyer and Tanner (1992) noted that wildlife habituate best to disturbance that is somewhat predictable or "background." Investigating 111 nests of sandhill cranes in Florida, Dwyer and Tanner found that nesting cranes seemed to habituate to certain forms

of human disturbance and nested within 400m of highways, railroads, and mines; cranes also were tolerant of helicopter flyovers. Visits to nests and development-induced alterations of surface water drainage were implicated in 24% of the nest failures.

Refuge Specific Impacts: Access by motorized vehicles and bicycles is limited to established trails, public roads, and parking lots. Parking lots and access trails have minimal impacts because they are relatively small in size and also allow for the safe use of these public lands.

At Umatilla Refuge most wildlife observation occurs from within vehicles on the popular McCormack automobile tour route and from vehicle pull-outs. Except for Heritage Trail, there are no maintained footpaths on the Refuge outside the waterfowl hunting season. Because there are no maintained footpaths, most wildlife observation activity and associated disturbance is confined to the tour route and there is minimal wildlife disturbance because wildlife is frequently more sensitive to disturbance from people on foot than in vehicles (Skagen 1980; Grubb and King 1991; MacArthur et al. 1982).

Wildlife observation and photography may impact threatened and endangered species, including the bald eagle. Disturbance impacts to the bald eagle would be expected to increase, but could be reduced to a certain extent through the design of public use facilities.

Both Refuge visitation and the number of facilities devoted to wildlife observation and photography are projected to increase under the Preferred Alternative 2. Given this, future disturbance effects are likely to be somewhat higher than present. Most studies cited above have demonstrated immediate, rather than long term responses to disturbance. Long term responses are inherently more difficult and expensive to determine. Given that wildlife observation is not typically a loud or intense kind of activity, the area of habitat within a known distance of human activity centers (public use area, trails, EE sites, overlooks) is considered a reasonable indicator to evaluate the disturbance effects of public uses on Refuge wildlife.

Impacts from wildlife observation/photography, and the modes of transport used by visitors engaged in these activities, can be contained most effectively, mitigating the overall effect on Refuge wildlife by encouraging visitors to remain on trails, automobile tour routes, and within the areas designated for public use.

Public education that informs photographers of ethical and least intrusive methods could reduce some impacts. Several new wildlife observation/photography areas are proposed under Preferred Alternative 2. The purpose of these areas is to provide a site where photographers can get close-up photographs without disturbing wildlife. Placement of these additional areas would likely reduce disturbance from wildlife photographers, because photographers would gain access to high quality photo shooting sites without disturbing new areas.

Although disturbance to wildlife from these activities will be higher than at present, the overall effect to Refuge wildlife will still be minimal.

Public Review and Comment: Open houses were held and written comments were solicited from the public during the writing of the McNary and Umatilla Refuges CCP/EA. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP/EA.

Determination (check one below)

Use is Not Compatible

Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

- Certain modes of access, such as motorized vehicle, horses and bicycles, will be limited to designated trails, public roads, and parking lots.
- Harassment of wildlife or excessive damage to vegetation is prohibited.
- Pets must be kept under control (leashed) at all times.
- Native trees and shrubs will be planted where feasible to create screening along trails and at observation points to reduce disturbance.
- Elevated overlooks, trails, and boardwalks will be designed to help reduce negative visitor impacts to soils, vegetation, and hydrology.
- Regulations will be available to the public through a Refuge brochure.
- Directional, informational, and interpretive signs will be posted and maintained to educate the public on minimizing wildlife and habitat disturbance.
- Human activity will be monitored and impacts evaluated on the increased human uses of the Refuge.

Justification:

This use has been determined compatible because wildlife viewing and photography will not materially interfere with or detract from the purposes for which the Refuges were established. The associated disturbance to wildlife is limited and minor. Wildlife observation and photography are priority public uses and provide visitors with the joys of abundant wildlife and wild lands. These uses also help fulfill the mission of the National Wildlife Refuge System.

Mandatory 10- or 15-year Re-evaluation Date: (provide month and year for “allowed uses)

12/2022 Mandatory 15-year re-evaluation date (for wildlife-dependent public uses)

Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

- Categorical Exclusion without Environmental Action Statement
 Categorical Exclusion and Environmental Action Statement
 Environmental Assessment and Finding of No Significant Impact
 Environmental Impact Statement and Record of Decision

References:

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Signatures:

Prepared by: David Linehan 4/22/07
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: [Signature] 4/25/07
(Signature) (Date)

Concurrence:
Refuge Supervisor: [Signature] 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): [Signature] 5/7/07
(Signature) (Date)

Waterfowl Hunting, Upland Game Bird Hunting; Other Migratory Bird Hunting Compatibility Determination

RMIS Database Uses: Hunting (waterfowl); Hunting (upland game); Hunting (other migratory birds)

Refuge Name: Umatilla Refuge

County and State: Benton County, Washington; Morrow County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968, and the Service entered into a Cooperative Agreement with the Corps on July 3, 1969, in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act as amended (48 Stat. 401, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within the said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between the Corp and Service
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres, and a tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6-acre tract was also acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System Mission:

“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 of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use(s):

Sport hunting for waterfowl (ducks, geese), upland game birds, and other migratory birds is currently allowed on a limited basis on all units except the Columbia River Islands Unit which is closed to hunting. Refuge hunt regulations are published annually by state in the Code of Federal Regulations at 50 CFR Ch. 1. For both Oregon and Washington, the CFR lists goose, duck, coot, and common snipe are identified as the migratory game birds allowable to hunt; the Washington CFR additionally allows dove hunting on the Washington refuge units. For both states, The CFRs allow “upland game birds” without further specification as to species. (50 CFR 32.56 and 32.67, Oct 1, 2006). Of the five units open to hunting, three (McCormack, Whitcomb, and Paterson) are open three days a week and two (Boardman and Ridge) are open daily during the respective States’ waterfowl season. All units are managed as open hunts, with no restrictions on number of hunters, except at the McCormack Unit, where there is a highly regulated specialized hunt. Waterfowl hunters on the McCormack Unit must use selected blinds/sites and pay a fee for use of the blinds, facilities, and reservation system. Upland hunters on all units may only hunt on waterfowl hunt days and not before noon.

Under Preferred Alternative 2, the hunts would continue as described above, with modifications as included in Chapter 2 of the CCP/EA (see Goal 10). Specifically,

- The McCormack Unit hunt area and sanctuary boundaries would be modified slightly. The current waterfowl and upland game hunt area on east McCormack Slough would be closed. A new designated hunt site (with the same number of hunting posts formerly available at East McCormack Slough) would be opened along the river shoreline, an area that is currently sanctuary.
- Some disabled hunt blinds would be improved. One additional disabled blind would be added.
- Available permits issued for the fee-based pheasant hunt at McCormack would decrease from 25 to 15 permits over the first two hunt weekends.
- The Service would continue to work in partnership with the States, Tribes and Corps to rewrite the Columbia Basin Waterfowl Management Plan (in process), which deals with wintering waterfowl habitats and sanctuary areas in the middle Columbia Basin. Any additional modifications to Refuge hunting programs would be consistent with this plan.

Of the 25,128 acres that comprise Umatilla (GIS estimate), 56% is open to waterfowl, migratory bird, or upland game hunting. However, as much as 7,000 acres consists of upland shrub habitat that would provide little or very marginal waterfowl hunting opportunities. Available upland game habitat

amounts to 11,663 acres, or 43% of total Refuge lands. Total Refuge sanctuary (lands completely closed to hunting) amounts to 44% of Refuge lands. Most of this sanctuary consists of open water, Columbia River, and Refuge islands.

Availability of Resources:

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and management:	\$0	\$68,000
Maintenance:	\$0	\$4,000
Monitoring:	\$0	\$0
Special equipment, facilities, or improvements:	\$0	\$7,000
Total	\$0	\$79,000
Offsetting revenues:	\$0	\$16,500

The Refuge employs a seasonal biotechnical position to run the Refuge check station from October through January. This position is required to collect fees, assign blinds, post information, and run daily operations for the reservation hunt program on the McCormack hunt unit. Additional costs include the annual printing of Refuge information and the replacement and installation of signs. Staff time is required from the manager, the Complex outdoor recreation planner, a full time Law Enforcement officer, and maintenance crew. The costs are reflected in the table above. Revenue collected from hunter application and daily hunt fees is used to offset the costs of providing this use.

Anticipated Impacts of the Uses:

Some effects are discussed in more detail in Chapter 7 of the CCP/EA.

Direct Effects to Hunted Wildlife: Sport hunting involves the direct take of Refuge wildlife designated as huntable game species by Refuge regulation. In addition to loss of individual target species, hunting causes disturbances to feeding and resting nontarget species because of the noise (shotgun), movement, and general disturbance necessary for this activity. In addition, nontarget species are killed by hunters by accident or intent, and waterfowl are often crippled or killed and not retrieved. Waterfowl are wary, seeking Refuge from all forms of disturbance, particularly those associated with loud noise and rapid movement (Korschgen and Dahlgren 1992). Studies indicate that hunting does cause disturbance to hunted species as well as to nonhunted species. These disturbances are manifested by alertness, fright (obvious or unapparent), flight, swimming, disablement, or death (Korschgen and Dahlgren 1992). Numerous studies have shown that hunting disturbance causes increased flight time in waterfowl species. Use of specific areas and daily flight activity by brants (*Branta bernicla*) were influenced by tidal level, food availability, time of day, and particularly by disturbance from hunters (Henry 1980). Flight requires considerably more energy than any other activity except egg laying. Human disturbance compels waterfowl to change food habits, feed only at night, lose weight, or desert feeding areas (Korschgen and Dahlgren, 1992).

Though, as mentioned above, there are obvious impacts on waterfowl populations related to hunting (most notably disturbance and direct take), the proportion of waterfowl populations subject to hunting on Refuges is very low. Thus, hunting on refuges as a whole, or on Umatilla Refuge specifically, is not

likely to have an adverse impact on the status of any recognized waterfowl population in North America. Several points support this contention: 1) the proportion of the national waterfowl harvest that occurs on refuges is small; 2) there are no waterfowl populations that exist wholly and exclusively on national wildlife refuges; 3) annual hunting regulations within the United States are established at levels consistent with the current population status; 4) Refuges cannot permit more liberal seasons than provided for in Federal frameworks; and 5) Refuges purchased with funds derived from the Federal Duck Stamp must limit hunting to 40% of the available area.

Impacts to Non-hunted Wildlife: (See also Chapter 7, section 7.2) Non-hunted wildlife would include non-hunted migratory birds such as songbirds, wading birds, raptors, and woodpeckers; small mammals such as voles, moles, mice, shrews, and bats; medium sized mammals such as skunks and coyotes; reptiles and amphibians such as snakes, skinks, turtles, lizards, salamanders, frogs and toads; and invertebrates such as butterflies, moths, other insects and spiders.

Except for a competitive effect, which is estimated to be small, the potential effect to non-hunted wildlife is largely in the realm of disturbance. The cumulative effects of disturbance to non-hunted migratory birds under the proposed action are expected to be negligible for the following reasons. Hunting seasons do not coincide with the nesting season, thus reproduction will not be reduced by hunting. Disturbance to the daily wintering activities, such as feeding and resting, of wintering non-hunted birds might occur. Because both Refuges maintain sanctuary areas where no hunting is permitted, this effect is likely a minor negative effect.

However, disturbance would be unlikely for the following reasons. Small mammals, including bats, are inactive during winter when hunting season occurs, and are also nocturnal. Both qualities make hunter interactions with small mammals very rare. Hibernation or torpor by cold-blooded reptiles and amphibians also limits their activity during the hunting season when temperatures are low. Hunters rarely encounter reptiles and amphibians during most of the hunting season. Encounters with reptiles and amphibians in the early fall are few and should not have cumulative negative effects on reptile and amphibian populations. Invertebrates are also not active during cold weather and would have few interactions with hunters during the hunting season. Refuge regulations further mitigate possible disturbance by hunters to non-hunted wildlife. Vehicles are restricted to roads and the harassment or taking of any wildlife other than the game species legal for the season is not permitted.

Although ingestion of lead-shot by non-hunted wildlife could be a cumulative impact, it is not relevant to McNary and Umatilla Refuges because the use of lead shot would not be permitted on the refuge for any type of hunting.

Some species of bats, butterflies and moths are migratory. Cumulative effects to these species at the "flyway" level should be negligible. These species are in torpor or have completely passed through the area by peak hunting season in Nov-Jan. Some hunting occurs during September and October when these species are migrating; however, hunter interaction would be commensurate with that of non-consumptive users.

Other Effects: There are also some indirect beneficial impacts of Refuge hunting. Refuge hunting can contribute to the well being of wildlife by providing financial, educational, and sociological benefits. The hunting community in general remains the largest support base for funding wildlife management

programs. Refuges provide an opportunity for a high quality waterfowl hunting experience to all citizens regardless of economic standing. Many individual Refuges have developed extensive public information and education programs bringing hunters into contact with Refuge activities and facilitating awareness of wildlife issues beyond hunting.

Under the changes recommended to the hunt program for the CCP, impacts of waterfowl hunting to other priority public uses would be small. Most wintertime nonhunting users of the Refuge are on the Auto Tour Route and/or the Heritage Trail. Changes proposed under the CCP will reduce conflicts between trail users and hunters as follows. A new route alignment using the ridge road will be implemented to replace the current trail section that bisects the mid slough (old highway roadbed and earthen-fill). The new trail realignment will eliminate the need for a seasonal trail closure that has been in place to reduce user conflict during the waterfowl hunting season. An additional new section of trail will be developed within wetland habitats that will be closed to hunting at the eastern end of the slough, near public use facilities (parking and rest rooms) directly adjacent to Paterson Ferry Road (county road). This site will also serve as the official trailhead on the Refuge.

No significant effects to roads, trails, or other infrastructure from the hunting program are foreseen. Normal road, trail, and facility upkeep and maintenance will continue to be necessary. Additional facility construction or upgrade, if needed, is addressed in the Availability of Resources section.

Public Review and Comment:

Open houses were held and written comments were solicited from the public during the drafting of the Comprehensive Conservation Plan and Environmental Assessment for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination: (check one below)

Use is Not Compatible

Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

- Program will be conducted as outlined in Chapter 2 of the CCP/EA. The Refuge hunting plan, hunt leaflets, and section 32 of 50 CFR will be updated as necessary.
- Hunting is allowed only on public access areas of the Refuge.
- Hunting will be subject to Refuge specific hunt regulations in affect establishing set days, areas, times, points of entry, and permit requirements for hunting.
- McCormack fee area will be opened to hunting Wednesdays, Saturdays, and Sundays only, during the State waterfowl season.
- Adequate sanctuary will be established, monitored, and evaluated.
- Adequate wintering waterfowl food supplies will be provided in closed areas of the Refuge.
- Law enforcement patrols will be conducted on a regular basis to assure compliance with State, Federal, and Refuge regulations.

- Over the 15-year life of the CCP, future increases in fees may be necessary to sustain this program.
- The Refuge will ensure safety and minimize conflict with other priority uses by providing information about hunting boundaries and seasons to the general public and those utilizing other Refuge programs. Information will be provided at interpretive kiosks, on the Refuge website, and in Refuge offices.
- Camping, overnight use, and fires will be prohibited.

Justification:

Waterfowl, upland game, and other migratory bird hunting is a traditional wildlife-oriented recreation and is listed as a priority public use under the National Wildlife Refuge Improvement Act as amended, 1997. Despite the direct and indirect impacts associated with sport hunting waterfowl, upland game, and other migratory birds, flyway populations are not likely to be affected significantly by the hunting program on the Refuge. Waterfowl population objectives and allowable harvest is determined on a flyway basis. Changes in regional land uses (i.e., agriculture/crops) are more likely to influence population trends than localized hunting programs. The Refuge has no control over changes in land use practices. Limited hunt days (three days/week), no hunt zones, and established sanctuary in Refuge wetlands and fields, ensure that wintering and migrating waterfowl, upland game birds, and other migratory birds, as well as non-target species, can find food and rest areas on the Refuges even in the midst of the hunting season. Hunt regulations and sanctuary should be continually monitored and evaluated to ascertain their value in balancing the disturbance caused by allowing hunting on the Refuge. Under the stipulations outlined above, this activity does not materially detract from meeting Refuge purposes or the Refuge System mission. Refuge specific regulations are designed to minimize impacts, and will be evaluated for their effectiveness annually.

Mandatory 10- or 15-Year Reevaluation Date: (provide month and year for “allowed” uses only)

- Mandatory 15-year reevaluation date (for wildlife-dependent public uses)
 Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

- Categorical Exclusion without Environmental Action Statement
 Categorical Exclusion and Environmental Action Statement
 Environmental Assessment and Finding of No Significant Impact
 Environmental Impact Statement and Record of Decision

References:

- Henry, W.G. 1980. Populations and behavior of black brant at Humboldt Bay, California. M.S. thesis, Humboldt State University, Arcata, CA. 111 pp.
Korschgen, C.E. and Dahlgren, R.B. 1992. Human disturbances of waterfowl: Causes, effects, and management. Fish and Wildlife Leaflet 13.2.15. 8 pp.

Signatures:

Prepared by: David Lumbra 4/22/07
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: Suzanne M. Kelly 4/25/07
(Signature) (Date)

Concurrence:
Refuge Supervisor: Robert W. Cameron 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): David L. Boha 5/7/07
(Signature) (Date)

Big Game Hunting Compatibility Determination

RMIS Database Use: Hunting (big game)

Refuge Name: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; Morrow County, Oregon.

Establishing and Acquisition Authorities: Umatilla Refuge was established in 1968, and the Service entered into a Cooperative Agreement with the Corps on July 3, 1969, in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act as amended (48 Stat. 401, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within the said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. § 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between the Corp and Service)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres, and a tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6-acre tract was also acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System Mission:

“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 of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use:

In 1996, changes to Umatilla Refuge’s big game hunting program were implemented after release of an Environmental Assessment of Public Use on Umatilla National Wildlife Refuge (DOI, 1996). Washington units were closed to general hunting seasons for big game, and special permit deer hunts were subsequently instituted in both Oregon and Washington for the McCormack, Paterson, and Whitcomb Units to control deer population. This compatibility determination would allow for the continuation of these hunts as described under Preferred Alternative 2 of the CCP/EA. A description of the current program is in section 5.5 of the CCP/EA; proposed changes under the preferred alternative are under Goal 10, objective 10d.

McCormack Unit—The McCormack Unit permit deer hunt is conducted per State Oregon Department of Fish and Wildlife (ODFW) hunting regulations as a “Controlled Hunt” which is a season where the number or distribution of hunters is limited through a public drawing. Through prior coordination with Refuge personnel, ODFW sets dates of open season, type of weapon(s) allowed, bag limits, and number of tags issued. Harvest regulations are intended to meet population management objectives identified by the Refuge. Additional Refuge-specific land use regulations apply. This has included required hunt program orientation, required harvest success reporting, specific area closures for safety and other needs, limitations on guests allowed for permittees, and other general regulations such as allowed daily entry times onto the Refuge and no overnight camping or camp fires.

Paterson and Whitcomb Units—The Paterson and Whitcomb Units permit deer hunts differ from above; being located in Washington, hunts are set by the Washington Department of Fish and Wildlife (WDFW). Regulations and procedures of the hunts are generally identical to those conducted in Oregon on the McCormack Unit.

Availability of Resources:

The following funding/annual costs would be required to administer and manage big game hunting within the Refuge, as described above.

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and management:	\$0	\$1,000
Maintenance:	\$0	\$ 500
Monitoring:	\$0	\$ 500
Special equipment, facilities, or improvements:	\$0	\$ 0
Law Enforcement		\$2,000
Total		\$4,000

Anticipated Impacts of the Use:

Impacts to Wildlife and Habitats: Direct mortality to deer associated with the hunt would of course occur. Some wounding would occur as well. In all cases, the Refuge would seek to minimize needless deer mortality while providing a quality hunt experience and obtaining habitat objectives. Foot travel associated with deer hunting could potentially result in vegetation trampling and disruption of soil crusts. Since deer hunting would involve small numbers of hunters, this activity would likely have a small impact.

Impacts to Non-hunted Wildlife: (See also Chapter 7, section 7.2) Deer hunting removes a small amount of prey from the prey base for predators. Due to the low number of deer harvested on the Refuge and the low population of predators, this effect is estimated to be minor.

The other potential effect to non-hunted wildlife is largely in the realm of disturbance. The activity of hunters pursuing deer on the Refuge could disturb some wildlife species. Hunters walking in close proximity to wetlands and gunfire from hunting can result in behavioral responses by waterfowl and other wetland birds. Portions of the Refuge open to deer hunting would include wetlands. Most waterfowl use, however, occurs earlier in the year for breeding and nesting activities, or later in the year during fall and winter migrations. Thus, minimal impacts to waterfowl would be expected. Disturbance to the daily wintering activities, such as feeding and resting, of wintering non-hunted birds might occur. Because both Refuges maintain sanctuary areas where no hunting is permitted, this effect is likely a minor negative effect.

Non-hunted wildlife would include non-hunted migratory birds such as songbirds, wading birds, raptors, and woodpeckers; small mammals such as voles, moles, mice, shrews, and bats; medium sized mammals such as skunks and coyotes; reptiles and amphibians such as snakes, skinks, turtles, lizards, salamanders, frogs and toads; and invertebrates such as butterflies, moths, other insects and spiders.

However, disturbance would be unlikely for the following reasons. Small mammals, including bats, are inactive during winter when hunting season occurs. These species are also nocturnal. Both of these qualities make hunter interactions with small mammals very rare. Hibernation or torpor by cold-blood reptiles and amphibians also limits their activity during the hunting season when temperatures are low. Hunters would rarely encounter reptiles and amphibians during most of the hunting season. Encounters with reptiles and amphibians in the early fall are few and should not have cumulative negative effects on reptile and amphibian populations. Invertebrates are also not active during cold weather and would have few interactions with hunters during the hunting season. Refuge regulations further mitigate possible disturbance by hunters to non-hunted wildlife. Vehicles are restricted to roads and the harassment or taking of any wildlife other than the game species legal for the season is not permitted.

Although ingestion of lead-shot by non-hunted wildlife could be a cumulative impact, it is not relevant to Umatilla Refuge because the use of lead shot would not be permitted on the Refuge for any type of hunting.

Some species of bats, butterflies and moths are migratory. Cumulative effects to these species at the “flyway” level should be negligible. These species are in torpor or have completely passed through the area by peak hunting season in Nov-Jan. Some hunting occurs during September and October when these species are migrating; however, hunter interaction would be commensurate with that of non-consumptive users.

This use is unlikely to impact threatened and endangered species. Bald eagles use the Refuge, but this use generally coincides with large wintering populations of waterfowl, which occurs well after the hunt.

Impacts to other priority public uses: Hunting (especially gunshot noise) has the potential to disturb Refuge visitors engaged in other priority public uses. To minimize this potential conflict, the Refuge has designated defined hunting areas that provide for a safety buffer area for the auto tour route. In addition, the Columbia River Heritage Trail will be realigned to the Ridge Road in place of crossing the slough. A new trailhead and 0.2 mile loop trail section will also be developed on the far eastern end of the slough where deer hunting is not allowed. The trail realignment and other new developments will substantially decrease user conflict with hunting from the current status. The current closure of the trail during the hunting season will no longer be needed.

Big game hunting could have an effect on wildlife observation and photography quality. Although uncertain, it seems likely that wildlife observation/photography opportunities could be increased as animals move away from the hunted zones toward no hunting zones. The ultimate outcome for the visitor is that higher numbers of animals may be visible, but the aesthetic value of the experience may be diminished somewhat by the occasional sound of shots.

No significant effects to roads, trails, or other infrastructure from the hunting program are foreseen. Normal road, trail, and facility upkeep and maintenance will continue to be necessary. Additional facility construction or upgrade, if needed, is addressed in the Availability of Resources section.

Public Review and Comment:

Open houses were held and written comments were solicited from the public during the drafting of the Comprehensive Conservation Plan and Environmental Assessment for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination (check one below):

Use is Not Compatible

Use is Compatible with the following stipulations

Stipulations Necessary to Ensure Compatibility:

- Modern firearms will not be allowed.
- Weapons used for hunting will be restricted to muzzle loading black powder rifles, and/or

- shotguns, per state regulations and per specific Refuge regulations.
- Specific area closures will be implemented to improve safety along the auto tour route. This closure will include all lands east of a north-south line that extends through the unit and passes through parking lots C, D, and F.
 - Specific area closure will be implemented to protect Refuge buildings and personnel. This will include all areas north of the north tree line.
 - Public use trails will be closed during permit deer hunts on the McCormack Unit.
 - Camping, overnight use, and fires will be prohibited.

Justification:

The hunt is being conducted as a management tool to help meet population goals for deer as identified in the CCP, Objective 10d.

Hunting at Umatilla Refuge as described in this CD contributes to the mission of the Refuge System by conserving native shrub-steppe and riparian habitats through deer management. Deer browsing of bitterbrush is a known concern on the Refuge. Deer hunting will reduce deer densities which can decrease browsing intensity on bitterbrush, and riparian tree and shrub sprouts, enough to allow escapement and height growth putting them beyond the reach of deer. Deer hunting also contributes to the mission by providing a wildlife-oriented recreational benefit to Americans. By limiting the numbers of hunters and days of hunting as well as always providing sanctuary from human disturbance in other areas of the Refuge, a deer hunting program will not interfere with the Refuge achieving its purposes. Hunting is also one of the six priority public uses of the Refuge System as stated in the National Wildlife Refuge System Improvement Act of 1997. Therefore, the hunt supports Refuge purposes, goals and objectives of the Refuge, and the NWRS mission.

Mandatory 10- or 15-Year Reevaluation Date: (provide month and year for “allowed” uses only)

- Mandatory 15-year reevaluation date (for wildlife-dependent public uses)
 Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

- Categorical Exclusion without Environmental Action Statement
 Categorical Exclusion and Environmental Action Statement
 Environmental Assessment and Finding of No Significant Impact
 Environmental Impact Statement and Record of Decision

References

- U.S. Department of the Interior. 1996. Environmental Assessment of Public Use on Umatilla National Wildlife Refuge, Morrow County, Oregon, Benton County, Washington.
U.S. Fish and Wildlife Service. 2006. Draft Comprehensive Conservation Plan for the Turnbull National Wildlife Refuge, WA, Portland, OR. Appendix E Compatibility Determinations.

Signatures:

Prepared by: David Lenehan 4/22/07
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: [Signature] 4/25/07
(Signature) (Date)

Concurrence:
Refuge Supervisor: [Signature] 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): [Signature] 5/7/07
(Signature) (Date)

Fishing Compatibility Determination

RMIS Database Use: Fishing (general); Fishing (tournament); Fishing (special events)

Refuge Names: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; Morrow County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 when the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System 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 within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd et seq.].)

Description of Use:

Recreational fishing is the most popular “Big Six” recreation on Umatilla Refuge. The Refuge receives over 20,000 fishing visits annually (RMIS FY2004). The vast majority of fishing occurs from March 1 through the end of October. Early season fishing focuses on walleye fishing and occurs primarily in the Columbia River along the McCormack, Boardman, Ridge, Paterson, and Whitcomb Island Units. Late spring and summer fishing is focused on fishing for bass around the same units and in the ponds on the Paterson Units. There is also some fishing for catfish along the banks of the units. Late summer and fall fishing is primarily for salmon and steelhead in the Columbia River along the Refuge units. The gravel ponds of McCormack Unit receive some fishing (two to ten people per week during the warmer weather months) and the ponds in the Paterson Unit are fished for bass, mostly by local residents of the area and the Tri-Cities.

Fishing occurs on the Refuge in the following locations, on the Oregon side of the Columbia River:

- On the McCormack Unit, fishing occurs at the gravel ponds. Fishing is from the banks and boats are not allowed. The McCormack Slough is not open to fishing.
- On the McCormack Unit and the Boardman Unit fishing occurs in the Columbia River. Because the areas adjacent to the river on the McCormack Unit are closed to the public, except to permit hunting, bank fishing is not allowed. Bank fishing is allowed on the Boardman Unit.
- Refuge islands (Long Walk Island, Sand Dune Islands, Straight Six Island, Blalock Islands, and Telegraph Island) are closed to all public use including bank fishing.
- On the McCormack Unit, Kathy’s Pond is seasonally dry and does not contain fish.

The ODFW notifies the Refuge of fishing tournaments on the John Day Pool. The Refuge then issues special use permits for fishing tournaments that may enter Refuge waters. In 2005, 16 special use permits were issued for fishing tournaments with tournaments occurring from February through October. Tournaments ranged in size from small club tournaments of 5 to 10 boats, to unlimited boat tournaments (generally 30 to 60 boats).

Washington side of the Columbia River:

- On the Paterson, Ridge, and Whitcomb Island (Whitcomb Island and Crow Butte) Units, fishing occurs in the Columbia River and from the banks of units. Fishing also occurs in several ponds on each unit. Only nonmotorized boats are allowed in the ponds, but boats are rarely if ever used.
- At Umatilla Refuge, the Columbia River is primarily fished for salmon, steelhead, and walleye.

Refuge ponds and backwaters are primarily fished for bass. A few anglers fish for shad and carp. A monetary reward offered seasonally by the States of Oregon and Washington, for catching northern pike minnows, has made catching the small fish popular.

Under Preferred Alternative 2 of the CCP/EA, the fishing program will continue as described above with the following changes:

1. Partner with ODFW to install a fishing/Refuge/safety information kiosk at the boat launch adjacent to the McCormack Unit.
2. Partner with WDFW to improve the boat launch and parking area at/adjacent to the Patterson Unit. Project should include the installation of a fishing/Refuge/safety information kiosk.
3. Improve parking facilities and access to river shoreline fishing sites (McCormack and Paterson units).
4. Hire seasonal park rangers to keep information up-to-date in kiosks and provide improved law enforcement coverage.

Availability of Resources:

Umatilla Refuge is open for hunting, environmental education, interpretation, wildlife photography, and wildlife observation as well as fishing. Access trails, parking lots, signage and other facilities are often used for multiple purposes. Even though fishing is the most popular visitor activity on Umatilla Refuge, only a very limited number of facilities have been developed specifically for fishing. With increased funding, improvements could be made to the programs. Limited funding and staff resources negatively effects maintenance and law enforcement of current facilities. Most of the costs associated with carrying out the improvements described in Preferred Alternative 2 are one-time expenses. The Service will explore all available options to obtain funding to implement these projects, including partnership efforts.

Costs to Administer and Manage Fishing Programs at Umatilla Refuge under Preferred Alternative 2.

Activity or Project	One Time Expense (\$)	Recurring Expense (\$/year)
Placement and Maintenance of Kiosks and Signs	92,000	3,000
Boat launch development	180,000	5,000
Law Enforcement	20,000	10,000
Monitoring (primarily of bird colonies)		10,000
Totals	\$292,000	\$28,000

Anticipated Impacts of the Use:

Fishing, when practiced as a solitary and stationary activity, tends to be less disturbing to wildlife than hunting or motorized boating (Tuite et al. 1983). Direct habitat impacts include a certain amount of litter and general garbage left at fishing sites. Motorized boats create noise and potentially leave oil and gas residue. Installation and use of parking areas and access trails will decrease impacts to vegetation and soil adjacent to fishing areas, by concentrating visitors on hardened surfaces.

Fishing would cause disturbance to birds and other wildlife using open waters and backwaters of the Refuges. Fishing activities may influence the composition of bird communities, as well as distribution, abundance and productivity of waterbirds (Tydeman 1977; Bouffard 1982; Bell and Austin 1985; Bordignon 1985; Edwards and Bell 1985; and Cooke 1987). Anglers often fish in shallow, sheltered bays and creeks that birds prefer, negatively impacting distribution and abundance of waterfowl, grebes, and coots (Cooke 1987). Increases in anglers and associated shoreline activity discouraged waterfowl from using otherwise suitable habitat (Jahn and Hunt 1964). In Britain, anglers displaced waterfowl from their preferred feeding and roosting areas and caused widgeon, green-winged teal, pochard, and mallard to depart from a reservoir prematurely (Jahn and Hunt 1964). Anglers influenced the numbers, behavior, and diurnal distribution of avian scavengers present at sites in Washington, when compared to nonfishing days (Knight et al. 1991). Shoreline activities, such as human noise, would cause some birds to flush and go elsewhere. In addition, vegetation trampling, and deposition of sewage or other chemicals are expected to commonly occur (Liddle and Scorgie 1980). Disturbance and destruction of riparian vegetation, and impacts to bank stability and water quality, may result from high levels of bank fishing activities.

Boating associated with fishing can alter bird distribution, reduce use of particular habitats or entire areas by waterfowl and other waterbirds, alter feeding behavior and nutritional status, and cause premature departure from areas (Knight and Cole 1995). Impacts of motorized boating can occur even at low densities, given their noise, speed, and ability to cover extensive areas in a short amount of time.

Colonial nesting birds on river islands may be among the most sensitive of the wildlife species subjected to potential disturbance from fishing and fishing-associated boating. Washington State provided management recommendations for State priority habitats and species (WDFW 2001). In this document, WDFW provided management recommendations for limiting disturbance to American white pelican (state listed as endangered) and great blue heron. These are summarized below.

Management Recommendations from WDFW Priority Habitats and Species

Species	Management Recommendation
American white pelican	<ul style="list-style-type: none"> Establish a buffer zone of 400-800m (0.25-0.5 miles) and up to 1,600m (1.0 miles) from the nesting island which is closed to human activity such as boating (especially power boating), fishing, water skiing, discharge of fire arms, wildlife observation, etc. (Doran et al. 2004) Close nest islands to trespass during the breeding season from 15 March through 31 August
Great blue heron	<ul style="list-style-type: none"> Establish a protective buffer limiting human activity 820-985 feet from the outer edge of active colonies between February 15–July 31.

The number of fishing tournament applications for Umatilla waters has increased in recent years. Refuge staff will have to develop test sites to monitor the effects of the increase in angler to wildlife and in particular nesting birds.

Public Review and Comment:

Open houses were held and written comments were solicited from the public during development of the CCP/EA for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement during development of the CCP.

Determination (check one below):

- Use is Not Compatible
 Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

- Camping, overnight use, and fires are prohibited.
- Littering is prohibited.
- The Service shall maintain portable toilet facilities at Service boat launches and heavily used fishing areas to minimize human waste problems on shorelines and island trespass.
- All persons fishing shall be required to have a valid State license and follow applicable State regulations.
- Special use permits (SUPs) for fishing tournaments shall include no-access buffers within Refuge waters one-half a mile from Refuge islands known to be supporting nesting colonies of American white pelicans between March 15 and August 31. In addition, a no-access buffer of 900 feet within Refuge waters from all other Refuge islands from February 15-July 31, shall be included in tournament SUPs to prevent disturbance to nesting colonial birds.
- The Refuge Complex shall work in partnership with the States, recreational fishing organizations, and other conservation partners to develop permit conditions to include as “boilerplate” for tournament SUPs. Consideration shall be given to addressing issues of zoning, numbers of participants in any one tournament, and speed limits.
- The fishing program will be conducted as outlined in Chapter 2 of the CCP/EA. The Refuge fishing plan, leaflets, and section 32 of 50 CFR will be updated as necessary.
- Fishing will be subject to Refuge specific fishing regulations in effect establishing set days, areas, times, points of entry, and permit requirements under which to fish.
- Law enforcement patrols will be conducted on a regular basis to assure compliance with State and Refuge regulations.

Justification:

Fishing is a “Big 6” wildlife dependent recreational activity. It brings visitors to the Refuge and often enhances the visitors’ appreciation of natural resources. Parts of Umatilla Refuge are closed to all public use and these areas provide important undisturbed habitat for fish and wildlife. In other areas only nonmotorized boats are allowed; this lessens the disturbances to colonial water birds and other wildlife. Other areas require long walks by anglers and thus receive minimal angler use and minimal disturbance to wildlife. Some areas receive high use and in these areas the wildlife is disturbed or displaced during high visitor usage. The combination of closed areas, seasonal use areas, minimally used areas, and seasonal high use areas, allows recreational fishing and high quality fish and wildlife

habitat to co-exist on the Refuge. Fishing at anticipated levels will not materially interfere with the purposes of the Refuge. Stipulations will help reduce or eliminate any unwanted impacts of the use. State regulations ensure that harvesting of fish does not harm long-term populations.

Mandatory 10- or 15-year Reevaluation Date: (provide month and year for “allowed uses)

12/2022 Mandatory 15-year re-evaluation date (for wildlife-dependent public uses)

_____ Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

___ Categorical Exclusion without Environmental Action Statement

___ Categorical Exclusion and Environmental Action Statement

X Environmental Assessment and Finding of No Significant Impact

___ Environmental Impact Statement and Record of Decision

References:

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Signatures:

Prepared by: David Lenehan 4/22/07
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Concurrence:
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Regional Chief,
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PI, and WA): [Signature] 5/7/07
(Signature) (Date)

Environmental Education and Interpretation Compatibility Determination

RMIS Database Use: Environmental education (teaching teachers or group leaders); Environmental education (teaching students); and Interpretation

Refuge Name: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; Morrow County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 when the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System 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 within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd et seq.)).

Description of Use: Environmental education (EE) and interpretation are both defined as wildlife-dependent recreational uses under the Improvement Act. Environmental Education consists of educational activities conducted by Refuge staff, volunteers, partners, and teachers. The EE themes pertain to the Refuge, the National Wildlife Refuge System, wildlife and their habitats and the human environment. The goal of the EE program is to have students and teachers understand and value the Refuge System and the ecology and management of the Refuge.

Under the Preferred Alternative 2 of the Comprehensive Conservation Plan, 100-500 students will be served annually through the Umatilla EE program. Currently there is no formal EE program at Umatilla Refuge although classes do occasionally visit the Refuge as part of their science field trips. When a Park Ranger position existed at the Refuge Complex, several formal EE presentations were given annually at Umatilla Refuge.

Interpretation occurs in less formal activities (i.e. infrequently scheduled tours or casual talks) conducted by Refuge staff or volunteers. Interpretive materials are also available to visitors through interpretive panels, and brochures.

At Umatilla Refuge, an automobile tour route winds through the McCormack Unit. Several interpretive panels are installed at various pull-outs. There is an interpretive site (Callow’s Overlook) along the automobile tour route and an interpretive kiosk at Kathy’s Pond off Paterson Ferry Road (this was burned by an arsonist subsequent to publication of the Draft CCP/EA). On Highway 14 in Washington, there are interpretive panels overlooking the Ridge Unit.

Refuge general brochures and hunting information sheets are available at the entrances to most Refuge units at both Refuges.

Additional information on current EE and interpretive programs and facilities can be found in sections 5.8 and 5.9 of the CCP/EA. Proposed program and facility changes or improvements can be found in Chapter 2 of the CCP/EA, Goal 12.

Under Preferred Alternative 2 of the CCP/EA, the environmental education and interpretive programs will continue as described above with the following improvements:

- Develop more “teach-the-teacher” programs and Refuge specific instructor training.
- Meet annually with Educational Services District 123 to ensure that Refuge programs are helping the school districts meet their state educational requirements.
- Use high quality established programs, such as the Shorebirds Sister Schools program and develop education “module” boxes to assist new volunteers and teachers.

- Explore opportunities to gain additional teacher volunteers through the Washington State University teachers program.
- Hire a volunteer coordinator and or park ranger to manage and train volunteers and support the EE program.
- Utilize the Refuge Roads or other project funds to construct EE and interpretive sites (shade structures, orientation and interpretive panels, visitor contact area by the Refuge Manager’s new office, and harden surface areas at interpretive overlooks along Highway 14) at Umatilla Refuge. Some of these facilities could be constructed in conjunction with a parking area and trail head for the Refuge section of the Heritage Trail.

Availability of Resources: The following is the estimated construction costs and annual costs for new EE and interpretive programs developed under Preferred Alternative 2:

Costs to administer and manage environmental education programs for Umatilla Refuge under Preferred Alternative 2 of the CCP/EA.

Activity or Project	One Time Expense (\$)	Recurring Expense (\$/year)
Develop teacher and volunteer programs	2,000	700
Educational Materials	3,000	1,000
Volunteer Specialist or Park Ranger (position shared with McNary)	40,000	25,000
Construct shade structure	35,000	1,500
Develop, produce, and install interpretive panels	55,000	0
Construct McCormack visitor contact area	51,000	0
Maintain McCormack visitor contact area, Highway 14 pull-outs and interpretive panels	0	18,500
Totals	\$ 186,000	\$ 46,700

Anticipated Impacts of the Uses: Impacts that could occur from EE or interpretive programs include: vegetation trampling, disturbance to nesting birds, and disturbance to feeding or resting birds or other wildlife in the proximate vicinity. The EE program developed under Preferred Alternative 2 at Umatilla Refuge would produce impacts around the Refuge Manager’s new office and visitor contact area. This area is already a disturbed site because it has been used as the waterfowl hunter check station for over 20 years and has a year-round parking lot and restroom facility. The nearby lawn area has been used in the past as a staging area for Refuge events. Additional stress to the site would be added during nonhunting months for education programs at the visitor contact area and along a few parts of the nearby Heritage Trail.

An unpublished study (Jose, 1997) examined the effect of EE site activities at Blackhorse Lake on the Turnbull Refuge. The study was designed to compare waterfowl presence and behavior patterns between the times when EE activities were occurring and when EE classes were not on-site. The study results indicated that fewer waterfowl were present in the study area when EE classes were on site as compared to the control times. The study also found more short flights undertaken by birds when EE classes were on site. Redheads displayed the highest number of flight responses, followed by mallards. Ruddy ducks almost never flew but had the highest increase in directional swimming away

from the EE classes. The study author recommended that sites heavily used by smaller bodied birds, such as ruddy ducks, buffleheads, and teals, not be used as environmental education sites.

Participation in environmental education programs is growing throughout Oregon and Washington. With the growth of participation in EE programs and the emphasis of these programs by the Service, future effects can be expected to be higher than present. The EE program can have a certain detrimental impact on Refuge habitats and wildlife but most EE activities will be contained within a relatively small public use area. The Refuge is 23,555 acres. The EE program activities would be concentrated in an area of approximately two acres, and would primarily occur during nonhunting months. During these months, over 50 % of the McCormack Unit (where EE would occur) is closed to the public, and therefore, supplies additional wildlife sanctuary.

Public Review and Comment:

Open houses were held and written comments were solicited from the public during development of the CCP/EA for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination:

Use is Not Compatible

Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

User Stipulations:

- Require advance reservations for larger groups (over 20) participating in environmental education activities.
- Instruct all groups in trail etiquette and ways to reduce wildlife and habitat disturbance during a “welcome” session.
- Encourage students and teachers to participate in stewardship activities including habitat restoration or monitoring.
- Encourage groups at Umatilla Refuge to bring their own water and carry out their own trash.

Administrative stipulations:

- During “teach the teachers” workshops, instructors will review trail etiquette and how to minimize wildlife disturbances.
- An effort will be made to limit group size to no more than 60 participants per day, reducing disturbance to wildlife and overcrowding of Refuge facilities during times of peak demand.
- Signs, pamphlets, and verbal instructions from Refuge staff and volunteers will promote appropriate use of trails, boardwalks, and platforms to minimize wildlife and habitat disturbance.
- Periodic monitoring and evaluation of sites and programs will be conducted to assess if objectives are being met and the resource is not being unacceptably degraded.
- Where feasible, native trees and shrubs will be planted to create screening along trails and at

observation points to reduce disturbance.

- If funding permits, EE sites will be hardened and piers constructed to facilitate aquatic studies and to help reduce negative visitor impacts to soils, vegetation and hydrology.
- Regulations will be available to the public through a Refuge brochure.
- Directional, informational, and interpretive signs will be posted and maintained to help keep visitors on trails and help educate the public on minimizing wildlife and habitat disturbance.

Justification: Environmental education and interpretation contribute to the mission of the National Wildlife Refuge System by providing wildlife-oriented educational and recreational benefits to Americans. Environmental Education and Interpretation are two of the six wildlife-dependent recreational uses of the National Wildlife Refuge System as stated in the National Wildlife Refuge System Improvement Act of 1997. By limiting the size of groups and providing closed areas for sanctuary from human disturbance in other areas of the Refuge, these programs will limit disturbances to wildlife. Environmental Education and interpretation are important parts of McNary and Umatilla Refuges' vision and goals.

Mandatory 10- or 15-year Reevaluation Date: (provide month and year for "allowed uses)

12/2022 Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

_____ Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

___ Categorical Exclusion without Environmental Action Statement

___ Categorical Exclusion and Environmental Action Statement

X Environmental Assessment and Finding of No Significant Impact

___ Environmental Impact Statement and Record of Decision

References:

Jose, J. 1997. Evaluation of the Effect of Environmental Education Classes on Waterfowl Behavior. Unpublished report. Biology 454 class, Eastern Washington University, Cheney, Washington.

Signatures:

Prepared by: David Luneman 4/22/07
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Refuge Manager/
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Concurrence:
Refuge Supervisor: [Signature] 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): [Signature] 5/7/07
(Signature) (Date)

Boating Compatibility Determination

RMIS Database Use: Boating

Refuge Names: Umatilla National Wildlife Refuge

County and State: Benton Counties, Washington; Umatilla County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 and the Service entered into a Cooperative Agreement with the Corps on July 3, 1969, in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within the said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between the Corps and Service).
- Additional Land Acquisitions includes a land tract of 670 acres, a tract of 27.1 acres, and a tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6-acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System 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 within the United States for the benefit of present and future generations of Americans.” (National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd et seq.).

Description of Use:

This CD covers “recreational” boating use on the Refuges, that is, boating that is not directly supporting hunting, fishing, wildlife observation, photography, interpretation, or environmental education. The types of recreational boating addressed in this compatibility determination includes: motorboats and nonmotorized boats, including kayaks and canoes, in all Refuge waters.

Boating occurs throughout the year, but the primary recreational boating months are June through September.

Umatilla Refuge receives an estimated 18,500 recreational boating visits annually with the vast majority (18,000) if these by motorboats. Boating takes place primarily in the Columbia River on the McCormack, Boardman, Paterson, Ridge, and Whitcomb Island Units. Recreational boating is split fairly evenly amongst these units. Personal watercrafts are seen occasionally in Refuge waters.

Preferred Alternative 2 of the Comprehensive Conservation Plan (CCP/EA) would continue to provide recreational boating opportunities with an emphasis on use supporting priority public uses, including wildlife observation/photography, interpretation, environmental education, waterfowl hunting, and fishing.

Currently, boating occurs in the following areas:

On the McCormack Slough Unit, recreational boats are not allowed on the slough and are not used in the Gravel Ponds because the ponds are too small.

The Columbia River portions of the McCormack and Boardman Units are open to recreational boating.

On the Paterson Unit, water depth and accessibility makes boating impractical in the unit’s ponds. Some of the unit’s sloughs are open to the Columbia River and recreational boating takes place in the Columbia River and in some sloughs when high water conditions exist.

On the Ridge Unit, the ponds are small and often shallow. Vehicle access is limited and boating is not practical.

On the Whitcomb Unit, the sloughs are open to the Columbia River and both the river and sloughs are open to boating.

Availability of Resources: Refuge funds are not spent directly on recreational boating but recreational

boating benefits indirectly from investments made in facilities (boat launches, parking areas, access roads) that support Big Six activities such as fishing, hunting, wildlife observation and photography, where boats are used.

See fishing compatibility determination about facility improvements that would benefit both recreational boaters and anglers that use boats to pursue fish.

The main expenditures of Refuge funds to support this use will be in law enforcement (to ensure boaters are complying with area closures and any applicable speed limits or other restrictions) and in monitoring of wildlife populations.

Costs to administer and manage boating programs for Umatilla Refuge under Preferred Alternative 2 of the CCP/EA.

Activity or Project	One Time Expense (\$)	Recurring Expense (\$/year)
Law Enforcement	\$0	10,000
Monitoring	\$0	10,000
Totals	\$0	\$20,000

Anticipated Impacts of Use:

Umatilla Refuge provides crucial foraging and resting habitat for wintering and migratory birds, including waterfowl, shorebirds, and other waterbirds. Recreational boating can affect their use in Refuge waters. Boating is not allowed in all Refuge waters; Umatilla Refuge has areas that will remain closed to all public use and these areas provide important undisturbed habitat for fish and wildlife. In other areas of the Refuges only nonmotorized boats are allowed. Some smaller water bodies within the Refuges are unsuitable and not practicable for boating. Some areas receive high use; therefore, the wildlife is disturbed or displaced during high visitor usage.

Boating activity, both motorized and nonmotorized, can alter distribution, reduce use of particular habitats or entire areas by waterfowl and other birds, alter feeding behavior and nutritional status, and cause premature departure from areas (Knight and Cole 1995). More sensitive species may find it difficult to secure adequate food or loafing sites as their preferred habitat becomes fragmented and recreation-related disturbances increase (Skagen et al. 1991; Pfister et al. 1992). Motorized boats generally have more impact on wildlife than nonmotorized boats because motorboats produce a combination of movement and noise (Tuite et al. 1983, Knight and Cole 1995). Motorized boats can also cover a larger area in a relatively short time, in comparison to nonmotorized boats.

Canoes and kayaks can cause significant disturbance effects based on their ability to penetrate into shallower marsh areas (Speight 1973, Knight and Cole 1995). In the Ozark National Scenic Riverway, green-backed heron activity declined on survey routes when canoes and boat use increased on the main river channel (Kaiser and Fritzell 1984). Canoes or slow moving boats have also been observed to disturb nesting great blue herons (Vos et al. 1985). Huffman (1999) found that non-motorized boats within 30 meters of the shoreline in south San Diego Bay caused all wintering waterfowl to flush between the craft and shore. However, compared to motorboats, canoes and kayaks appear to have less disturbance effects on most wildlife species (Jahn and Hunt 1964;

Huffman 1999; DeLong 2002).

In Denmark, fast-moving boats were observed to have the greatest impact on red-breasted merganser broods (Kahlert 1994). The presence of fast-moving boats also caused the most significant modifications to the amount of time animals spent feeding and resting. In England, an increased rate of disturbance from boats partly caused a decline in roosting numbers of shorebird species (Burton et al. 1996). In addition, boaters have been observed to cause massive flights of diving ducks on the Mississippi River (Thornburg 1973). Motorized boats within 100 meters of shore caused all wintering waterfowl and shorebirds to flush between the craft and shore in south San Diego Bay, regardless of speed (Huffman 1999). However, disturbance to birds in general was reduced when boats traveled at or below the five mph speed limit. Impacts of boating can occur even at low densities, given their noise, speed, and ability to cover extensive areas in a short amount of time. The total number of boats and people can be an inappropriate measure of recreational intensity because the presence of a single boat might be just as disturbing as that of many (Tuite et al. 1983, Knight and Knight 1984). Even a low level of boating activity affects the duration and pattern of use by wildlife (Bratton 1990).

Motorized boats introduce noise and pollution, in the form of gas and oil in water, and particulates in the air, in estuarine and riverine habitats at the Refuge. An EPA report indicates that two-stroke engines, found on many motorized boats, discharge as much as 25% of unspent oil and gas directly into the water. Increased speeds of two-stroke engines can result in greater discharge of unspent oil and gas. Hydrocarbons in gas and oil released from two-stroke engines float on the surface and settle within shallow estuarine habitats. Hydrocarbon pollution has been found to bioaccumulate within the complex food web, posing a serious threat to the marine environment (Tjarnlund et al. 1993). Hydrocarbons can also be transferred to eggs from the plumage of incubating birds. Extremely small amounts of petroleum hydrocarbons can be toxic to eggs and birds that may ingest these contaminants (Hoffman 1989).

Of the wildlife likely most vulnerable to disturbance from boating, this CD focuses on three groups: wintering or nesting waterfowl, nesting colonial waterbirds, and roosting bald eagles.

A variety of species of nesting colonial birds are found on the Umatilla Islands. On Umatilla Refuge, great blue heron and black night crowned heron colonies are known to occur on Big Sand Dune Island. Some limited nesting activity by Forster's tern and Caspian tern have also been documented, but no true colonies are known. Bald eagles are a common to uncommon winter visitor.

Great blue herons were one of the most sensitive of 23 waterbird species, when measuring flush distances from motorized watercraft (Rodgers and Schwikert 2002).

According to the WDFW priority species recommendations for bald eagle (Watson and Rodrick 2004), boating can negatively affect bald eagle behavior. Foraging eagles on the Columbia River estuary maintained an average distance of 400m (1,300 ft) from stationary boats, and they responded to boat presence by reducing feeding time and the number of foraging attempts (McGarigal et al. 1991). Stalmaster and Newman (1979) found that 50% of wintering eagles in open areas flushed at 150m (500 ft) but 98% would tolerate human activities at 300m (1,000 ft). Activities that disturb eagles while feeding, especially during winter, can cause them to expend more energy,

which increases their susceptibility to disease and poor health (Stalmaster 1987). A significant decrease in the proportion of bald eagles feeding at a site was observed when motorized boating activity occurred within 200m of that area in the preceding 30 minutes (Skagen 1980).

Recommendations from WDFW’s Priority Habitats and Species reports (Larsen et al. 2004) to reduce human disturbance to priority species follow.

Management Recommendations from WDFW’s Priority Habitats and Species

Species	Management Recommendation
American white pelican	<ul style="list-style-type: none"> Establish a buffer zone of 400-800m (0.25-0.5 miles) and up to 1,600 m (1.0 mi) from the nesting island, closed to human activity such as boating (especially power boating), fishing, water skiing, discharge of fire arms, wildlife observation, etc. (Doran et al. 2004) Close nest islands to trespass during the breeding season from March 15 through August 31
Great blue heron	<ul style="list-style-type: none"> Establish protective buffer limiting human activity within 820-985 feet from the outer edge of active colonies between February 15 through July 31.
Bald eagle	<ul style="list-style-type: none"> Protect core communal roost stands and staging stands with a buffer of approximately 120 m (400 ft) around core stands. The forest structure of buffer stands should include large trees and follow prescriptions to prevent deterioration from the effects of wind throw. Activities that produce noise or visual effects within 120 m (400 ft) of the edges of communal roost trees or staging trees should be conducted outside of the critical roosting period (November 15 - March 15). Leave 250-ft wide strips of perch trees and protective buffers along shorelines within eagle nesting territories and winter feeding areas. Consider timing restrictions to avoid activities that may disturb eagles during critical periods. The following periods and distances may be less in urbanizing areas where eagles show more tolerance to human activities: Wintering: November 15 through March 15 within 400-ft of roost stands

Public Review and Comment:

Open houses were held and written comments were solicited from the public during the drafting of the Comprehensive Conservation Plan and Environmental Assessment for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination (check one below):

- Use is Not Compatible
 Use is Compatible with Following Stipulations

Stipulations necessary to ensure compatibility: The following stipulations are required to ensure that motorized and nonmotorized boating is compatible:

- Continue to maintain areas closed year-round to boating, and areas seasonally closed, and waters open year-round.
- No air-thrust or inboard water-thrust watercraft or waterskiing will be allowed in Refuge waters.
- Continue periodic law enforcement to help ensure compliance with regulations and area closures.
- Regulations will be described in brochures and posted at Refuge boat ramps. Outreach and education to boating groups will occur periodically.
- Monitor boating activities by periodically assessing and estimating the level of boating activity in various Refuge locations. Maintain survey efforts to assess populations of wintering waterfowl and colonial nesting waterbirds. Monitoring data will be used by the Refuge Manager in the periodic re-evaluation of this Compatibility Determination.

Justification:

Recreational boating itself is not considered wildlife-dependent recreation. Although recreational boating has a potential to impact wetland wildlife, implementing the prescribed measures listed in the Stipulations section should reduce many of these impacts. Effects to wintering species from purely recreational boating is expected to be minimal except on sheltered Refuge backwaters that are occasionally used by kayak and nonmotorized boats. Summertime use may cause disturbance to nesting colonial waterbirds, but with island integrity being an area of emphasis in the CCP, law enforcement efforts will be stepped up to prevent unauthorized access to closed portions of islands. With this effort, it is anticipated that fewer boaters will closely approach islands, and recreational boating disturbance to colonial waterbirds will decline. Overall, the combination of closed areas, seasonal use areas, minimally used areas, and seasonal high use areas will result in an adequate amount of habitat available to the majority of disturbance-sensitive wildlife. In addition, high-speed boating disturbance near island shorelines would be reduced.

It is anticipated that birds will find sufficient food resources and resting places such that their abundance and use of the Refuges will not be measurably lessened, the physiological condition and production of waterfowl and other waterbirds will not be impaired, their behavior and normal activity patterns will not be altered dramatically, and their overall status will not be impaired.

Improved outreach and educational information for Refuge visitors involved in activities associated with boating would also help to reduce the impacts associated with boating activities. Recreational boating is not a Big Six wildlife dependent recreational activity but it can bring visitors to the Refuge and often enhances the visitors' appreciation of natural resources.

Mandatory 10- or 15-year Reevaluation Date: (Provide month and year for allowed uses.)

_____ Mandatory 15-year re-evaluation date (for wildlife-dependent public uses)

2017 Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

___ Categorical Exclusion without Environmental Action Statement

- Categorical Exclusion and Environmental Action Statement
 Environmental Assessment and Finding of No Significant Impact
 Environmental Impact Statement and Record of Decision

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McNary and Umatilla Refuges CCP/EA - May 2007

Signatures:

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(Signature) (Date)

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Approval: Myra M. Hyle 4/25/07
(Signature) (Date)

Concurrence:
Refuge Supervisor: Laurel W. Cameron 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA: Carolyn L. Baker 5/7/07
(Signature) (Date)

Horseback Riding Compatibility Determination

RMIS Database Use: Horseback riding

Refuge Name: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; Umatilla County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 when the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System Mission: “The mission of the 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 of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use:

Umatilla: Horseback riding on Umatilla Refuge is currently limited to gravel roads open to vehicular travel and to the newly created Morrow County Heritage Trail, which bisects the McCormick Unit. The Heritage Trail, as it passes through the Refuge, consists of a section of the old 730 Highway which is paved. This trail is also open to bicyclists and pedestrians and is well marked with route signs. As proposed, horseback riding would be allowed on roads open to vehicular travel and on the Heritage Trail section which passes through the Refuge. Currently, the most used road by horse traffic is the Refuge’s auto tour route, though use is infrequent.

Availability of Resources:

The cost to administer and monitor this use is listed below. Base funding is available to cover staff costs.

Umatilla Costs:

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and management:	\$0	\$0
Maintenance:	\$0	\$1,000
Monitoring:	\$0	\$0
Special equipment, facilities, or improvements:	\$2,000	\$0
Total	\$2,000	\$1,000
Offsetting revenues:	\$0	\$0

Anticipated Impacts of the Use(s):

Possible biological impacts of horseback riding include disturbance to wildlife and habitat modification. Wildlife can be affected by the sight and sound of recreationists (Boyle and Sampson 1985). Habitat can be affected through vegetation trampling, soil compaction, and erosion (Cole 1983, 1990).

Some of the effects of disturbance to wildlife from recreational activities include: affecting foraging behavior; reducing productivity; causing abandonment or altering of breeding territories; altering distribution; altering flight behavior; causing energy depletion; and disrupt nest and brood rearing attentiveness (Klein 1989, Knight and Skagen 1988).

Public use activities can also have adverse impacts on vegetation and soil conditions. Impacts from vegetation trampling can lower species richness, decrease ground cover and plant species density, increase weedy annuals, and induce changes in species composition (Gragherr 1983, Bright 1986,

Bonanno 1992).

Impacts related to horseback riding include exotic plant seed dispersal (Beck 1993, Hammitt and Cole 1987), soil compaction and erosion (Bainbridge 1974, Hendee et al. 1990, Hammitt and Cole 1987), stream sedimentation (Seney and Wilson 1991), trail widening (Whitaker 1978), vegetation trampling (Nagy and Scotter 1974, Weaver and Dale 1978, Whitaker 1978), aesthetic concerns relative to horse manure (Lee 1975), direct wildlife disturbance (Owen 1973), and direct and indirect conflicts with other recreationists. Exotic plants can be spread to new sites through forage (e.g., hay brought in to feed horses, which contains seeds of exotic plants) and manure (Beck 1993).

Exotic plant establishment is further facilitated by increased trail disturbance as many exotic plants gain a competitive advantage in highly disturbed sites. This soil disturbance is often created through soil compaction with as much as 1,500 p.s.i. exerted on the soil surface with each step (Hendee et al. 1990). Additionally, hoof action tends to dig up and puncture the soil surface (McQuaid-Cook 1978) which causes greater sediment loss than any other form of recreational trail use (Seney and Wilson 1991), and increases the potential for disturbance tolerant vegetation (e.g., exotic plant) to establish. Trail widening is also a consideration, as horses tend to walk on the down slope sides of trails (Whitson 1974). Anticipated results include a wider trail, a much wider area of disturbance, and ongoing trail maintenance problems. Vegetation impacts can be much more pronounced considering that hikers tend to flatten vegetation while horses tend to churn up soil, thus, cutting plants off at the rootstalk (Whitaker 1978). This can increase spread of previously established exotics by providing loose disturbed soil for germination and spreading reproductive plant structures. This impact initially increases exotic plant encroachment with light to moderate trail use and eventually lowers species richness values to near zero with heavy impacts (Hendee et al. 1990).

Wildlife disturbance relative to horseback riding has been poorly studied, with most references using other activities such as hiking and cross-country skiing to infer horseback riding impacts. One study identified disturbance tolerance of waterfowl to horseback riders and found that horseback riders could approach geese up to a distance of 46 m. This is compared to suggested hiking trail distances of 75 m (Miller et al. 1998) and boat buffers ranging from 77 to 273 m (depending on the type of boat, whether or not the boat is motorized, and species impacted; Burger et al. 1999). The 46 m approach distance offered by Owen (1973) is consistent with observations, suggesting that horseback wildlife observers can approach wildlife at closer distances than through other forms of travel. Many wildlife species appear to be habituated to livestock, thus, are less likely to flee when approached through this method. Using the 46 m buffer as an example, this would translate into 144 acres of habitat potentially being impacted directly by horse use, though the two established trails are located along areas where disturbance to waterfowl is not likely. Any form of approach is expected to cause some disturbance, which will vary according to the species affected and the type, level, frequency, and duration of disturbance, as well as the time of day or year that it occurs.

Public Review and Comment:

Open houses were held and written comments were solicited from the public development of the CCP/EA for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination: (check one below)

Use is Not Compatible

Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

At present, horseback riding on Umatilla Refuge does not seem to be impacting wildlife and associated habitat any more than other permitted public use activities (i.e. fishing, hiking, and vehicle access). This is likely due to the relatively low level of use, most of which occurs during cooler months when wildlife is not as active. However, as stated in the anticipated impacts described in the previous section, any increased or unrestricted horseback riding could lead to significant impact on wildlife resources through exotic seed encroachment, vegetative trampling, erosion, and wildlife disturbance. These impacts would be cumulative with associated impacts from other public use opportunities. Therefore, in order to ensure the compatibility of this use, the following stipulations shall be applied.

- Horseback riding must be restricted to those areas already designated for riding (i.e. roads open to vehicular travel, and previously designated trails).
- Open roads and designated trails would be subject to seasonal closures based on presence of sensitive wildlife populations.
- Horse trailers would be restricted to designated parking areas listed in the Refuge brochure and posted on site.
- Horseback riding would be a day use only activity.
- Designated horse trails would be signed at both ends and at regular intervals throughout the length of the trail. Riders would be required to ride single-file on these trails. Riders would be restricted to the designated trail.
- A maximum number of riders per party, day, or season may be established.
- Monitor vegetation damage and impact along roadsides, designated parking areas, and trails.
- Monitor funds required to enforce regulations and administer use. Monitor level of use.
- Activity could be closed upon finding of significant negative impacts to Refuge facilities or wildlife resources.
- Require the use of certified weed-free hay and the washing of horses before and after rides to minimize weed spread.
- All educational and interpretive materials for riders will emphasize principles of the Leave-No-Trace backcountry horse use (www.Int.org).

Justification:

While not one of the six priority wildlife dependent public uses listed or identified in the National Wildlife Refuge System Administration Act as amended (1997), horseback riding is believed to be a compatible public use under the stipulations outlined in this compatibility determination. Primary reasons for this determination include:

1. Wildlife observation can be an element of horseback riding.

2. Horseback riding allows the Refuges to reach a target audience not reached through other opportunities; horseback riders are potential partners and a potential source of support for the Refuges.
3. Impacts associated with horseback riding would be minimized through implementation of the stipulations noted above.
4. Trail use and impacts will be monitored and the use modified if necessary.

Horseback riding, if practiced as described in the Description of Use section above, would not interfere with the Refuge's achieving their purposes or contributing to the System mission.

Mandatory 10- or 15-Year Reevaluation Date: (provide month and year for "allowed" uses only)

_____ Mandatory 15-year reevaluation date (for wildlife dependent public uses)

12/2017 Mandatory 10-year reevaluation date (for all uses other than wildlife dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

___ Categorical Exclusion without Environmental Action Statement

___ Categorical Exclusion and Environmental Action Statement

X Environmental Assessment and Finding of No Significant Impact

___ Environmental Impact Statement and Record of Decision

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Concurrence:
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(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): Carolyn R. Bohner 5/17/07
(Signature) (Date)

Swimming and Beach Use Compatibility Determination

Use: Swimming and Beach Use

Refuge Name: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; and Morrow County, Oregon.

Establishing and Acquisition Authorities: (Umatilla)

Umatilla Refuge was established in 1968 when the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within said states.

Refuge Purposes: (Umatilla)

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System Mission: “The mission of the 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 of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use:

Under Preferred Alternative 2 of the CCP/EA, current seasonal beach use and associated other uses such as swimming would be discontinued on all Columbia River Islands of the Refuges. These uses are currently allowed on three designated islands within the Umatilla Refuge: 1) a large sandy beach located on the far, east tip of West Blalock Island; 2) a large sandy beach located on the far, east tip of Big Sand Dune Island; and 3) a sand peninsula (sometimes a small sand island) located on the far, east tip of Crow Butte Island. Beach use including boating, sunbathing and picnicking have a long history of use in this area (see Anticipated Impacts for further discussion on that historic use). The season of use has been restricted to July 1 through September 30.

The three beach sites are on the extreme tips of islands, directly adjacent to deep-water navigation channels that are not part of the Refuge. This shipping channel is within 30 meters of the beaches. The uses that occur on these sites and that are analyzed in this CD include non-Big Six uses such as picnicking, sun bathing, swimming, and boating. Waterskiing takes place almost entirely in the deep water shipping channel, outside of Refuge jurisdiction, rather than in the shallows within Refuge areas that have numerous exposed bars and other hazards to boating. Waterskiing will not be allowed on Refuge waters and has been determined to be not appropriate as a Refuge use.

In recent years, beach users normally include relatively small groups of less than 10 persons per beach. On the 4th of July numbers sometimes reach nearly 50 per beach. In 1994, it was estimated that 1,219 users (Refuge-wide for a full year) engaged in boating not associated with fishing, and 5,367 users engaged in fishing related boating (USDOI 1996).

More recent data of this quality is lacking. Observational information by staff to date, suggests substantial increase in the number of beach users in recent years. This trend is expected to continue into the future, especially in light of developments in local communities. Most noteworthy is the possibility of a major motor speed way development in Boardman, Oregon, associated with NASCAR racing. Illegal trespass onto the closed islands, as well as overnight camping on opened beaches, is now occasionally encountered.

Availability of Resources:

Currently, staffing levels for law enforcement are inadequate for implementation of this or other alternate management options for allowing swimming and beach use. Current law enforcement staffing consists of only one full time LE Officer (LEO) covering eight refuges spread out nearly 250 miles within the Mid-Columbia Basin. Boat patrols require a minimum of two LEOs. An ongoing agreement with the Morrow County Sheriff’s Department, as well as assistance by inter-tribal officers, has provided some additional coverage on the islands, but this effort is small and sporadic.

Availability of dedicated funding would provide possible opportunity to expand such agreements for improved enforcement. Current staffing levels of law enforcement are totally inadequate for conducting this public use.

In 1996, a Public Use EA (USDOJ, 1996) was completed which called for full closures on the Columbia River Islands and buffers surrounding the islands where boating and water use was prohibited. Swimming and beach use were terminated as a result. Refuge efforts at enforcing the closure were moderately successful but hampered at that time by a shortage of law enforcement staff. As a result of inadequate law enforcement then, and a lack of public acceptance of these provisions, a compromise was made in 1998 which allowed public beach use at the three designated beaches described under "Description of Use." This change provided some improvement in protection to wildlife resources and was practical to implement, but did not address negative wildlife impacts from beach use identified in the 1996 EA.

	One-time Costs (\$)	Recurring Costs (\$/year)
Law Enforcement		18,000
Sign maintenance	1,500	800
Program monitoring/education	1,000	1,200
Administration		1,500
TOTAL	\$2,500	\$21,500

Anticipated Impacts of the Use:

Background:

There is a varied past of closures to public use on the Refuge's Columbia River Islands, however this is not inclusive of the larger islands such as Crow Butte or Whitcomb Island. The "Columbia River Islands" of the Refuge refer to relatively smaller islands of the Blalock Island Complex that are all portions of the former Blalock Island of the pre-dam era, as well as Telegraph Island, and Long Walk Island (also known as the Coyote Islands).

Prior to 1995, a segment of the Blalock Island Complex was under the management of the Corps that included all lands and waters within T5N, R25E, sections 13, 23, and 24, that are located between the north and south navigation channels of the Columbia River. The exposed land within the described area included portions of islands currently named East Blalock, West Block, and Big Sand Dune. Seasonal closures were enforced on all Refuge managed islands, with an open period from July 1 to Sept 30.

In 1995, the 1969 cooperative agreement between the Corps and Service for management of Umatilla Refuge was amended "is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged." (Cooperative Agreement 1995). The amended agreement did not include or designate any special purposes to these portions of the islands. Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely "development, conservation, and management of wildlife resources" and "furthering the national migratory bird management program".

Near that same time, in 1996, the Refuge finalized an environmental assessment (EA), titled *Environmental Assessment of Public Use on Umatilla National Wildlife Refuge*. The EA “was prepared to partially fulfill the requirements of the Final Settlement Agreement [of Aududon et al. v. Babbitt] by considering and disclosing the impacts of waterborne recreation and other public uses on Umatilla National Wildlife Refuge” (USDOI 1996). The preferred alternative from this EA included a year round closure of all Columbia River Islands and the establishment of buffer zones where necessary to minimize disturbance to breeding bird colonies. The preferred alternative was implemented and the islands were closed to all use in 1996. A later compromise in 1998 re-opened three islands for seasonal beach use from July 1 to September 30.

Impacts on Wildlife:

Breeding Birds—We anticipate negative impacts to colonial nesting birds from direct beach use at the designated sites for Crow Butte, West Blalock, and Sand Dune Islands. Nesting activity by colonial birds currently occurs on Sand Dune Island, where up to hundreds of great blue herons, great egrets, and black-crowned night herons use willow trees for nesting. A human-induced fire, as a result of beach use activities, could totally eliminate the trees supporting the colony. In addition, nesting birds cannot use beach areas for foraging sites while feeding young; and young fledged birds cannot use beach areas being used by humans. However, the nesting location at Sand Dune Island is at a distance beyond the recommended buffers identified in the 1996 EA (USDOI 1996), so direct interference with the nesting colony is not a problem except for beach users who illegally trespass into the interior of the island. Although the timing of most beach use occurs in late summer (July 1-September 30), which is generally after the nesting season, young birds and foraging adults would still use the beach areas well into July and early August, if they were available. Beach use is supported by boating, and there is a considerable body of evidence suggesting negative consequences for birds from boating (USDOI, 1996 - For a wealth of information on disturbance caused by boating and beach use see pp. 37-40; for nesting occurrences see p. 34, Table 5.) Also see Boating and Fishing CDs in the CCP.

Preferred nesting habitat that is abundant on most islands for use by Canada geese is sage-steppe areas that provide large shrubs for concealment and protection, but also allow sufficient open space for seeing and escaping approaching threats. Other areas are also used for nesting by geese such as riparian trees and shrubs, and tall grasses that provide good concealment. All three designated beach sites are located on extreme portions of the islands on exposed sandy tips that minimize direct impacts to geese on active nests. However, nest sites do occur well within recommended buffer distances from designated beaches (USDOI, 1996). The timing of the heaviest use by humans occurs in the summer, which is a time of year that is well after nesting activity. However, the sandy beach sites are preferred for loafing by geese. The presence of human activity on beaches precludes that use by the birds. It should be noted though, that the designated beach sites do represent a small percentage of suitable loafing area that is available. Human-induced fire resulting from beach users is a threat to the sagebrush habitat used by nesting geese. Such a fire could totally eliminate the sagebrush supporting nesting geese, especially at Blalock Island (See USDOI 1996 for information on occurrences of nesting).

Other breeding bird use on the islands includes bank swallows, various passerines, American avocets, California quail, ring-necked pheasant, and possibly long-billed curlews and burrowing owls. Designated and seasonal beach use would likely cause minor negative impacts for all said species. Human use directly on the islands would occur generally outside of the main breeding season; however, some of the species such as bank swallows and avocets could still be using beach sites for nesting during July. Fledged young of the year are known to use beach areas and associated vegetation zones for resting and feeding. Another concern is loss of beach areas for use by migrating shorebirds and other waterbirds including American white pelicans. Beach users displace shorebirds causing additional stress during the migration period. In addition, any boating activity during the breeding season could cause serious harm, especially to terns, avocets, and ducks (some nesting data is available for ducks: see USDO I 1996).

Mammals—The Umatilla Islands represent some of the best fawning sites for mule deer on the Refuge. The islands have ample vegetation for food and concealment, are distant from the main shore, and are surrounded by deep water channels, providing a site with reduced predation and disturbance. Given that the location of the designated beaches are on the tips of the islands, and that the deer have suitable cover, disturbance from beach use sufficient to cause significant detriment to fawning activity would not be anticipated. Additionally, mule deer are overly abundant on the Refuge and there is active management in place to reduce their numbers. Negative impacts to other mammals would not be expected at any significant level.

Habitat—With use restricted to designated beaches, there would be only minimal disturbance to habitat. The designated beaches are frequently washed over and are very dynamic. However, illegal activities stemming from the designated beaches pose the most serious threats to habitats on the island. Paper/plastic litter and human waste are expected problems, as well as some trespass onto the closed island areas. Wildfire resulting from beach users is the most significant threat, with fire ignitions potentially resulting from camp fires, fireworks or other sources. Campfires and use of fireworks are common violations on the beaches and pose a significant threat to habitat and wildlife resources.

Cultural Resources—The islands have a rich cultural resource history and use by early Americans. The potential for loss or damage to important sites is increased by the presence of beach use and associated public uses, including the potential for fire, disturbance, and inadvertent discoveries and/or exposures.

Public Review and Comment:

Open houses were held and written comments were solicited from the public during development of the CCP/EA for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination (check one below):

Use is Not Compatible

Use is Compatible with the following stipulations

Stipulations Necessary to Ensure Compatibility:

n/a

Justification:

Swimming and beach use is not listed as one of the Big Six wildlife dependent recreational uses under the National Wildlife Refuge Improvement Act of 1997, as amended. Swimming and beach use on the three designated island sites on Umatilla Refuge are not necessary for the safe, practical, and effective conduct of existing Refuge wildlife-dependant recreational uses. While a certain portion of beach users do participate in fishing activities, it's obvious that beach access is not needed to facilitate this single activity. Furthermore, campfires and use of fireworks are common violations on the beaches and pose a significant threat to habitat and wildlife resources, especially trees used by colonial nesting birds and sagebrush used by nesting geese. Beach users displace wildlife including migrating shorebirds, fledged young of the year birds who use the beach vegetation zone, and adult colonial nesting birds foraging to feed young of the year in nests. The proposed use is also inconsistent with the 1996 EA which determined that beach uses should be terminated.

Swimming and beach use does not contribute to the public's understanding and appreciation of the Refuge's natural and cultural resources, nor is the use beneficial to the Refuge's natural or cultural resources. Beach use increases the potential for damage or degradation of important cultural resources on the islands.

Currently, the availability of resources for administration and adequate law enforcement patrols to implement swimming and beach use is not sufficient. Given the growing limitations of staffing and budget, resources are insufficient to meet the requirements for needed protection to wildlife resources and the public safety of Refuge visitors. Currently, there is no longer any law enforcement staff stationed at Umatilla Refuge and the one full-time officer for the Refuge Complex is stationed in the Tri-Cities.

Based on the analysis above, swimming and beach use has a negative impact on Refuge habitat, displaces wildlife, and pulls staff and operational resources away from programs that contribute to the conservation and management of wildlife, therefore, materially interferes with the Refuge achieving its purposes, and is determined not a compatible use.

Mandatory 10- or 15-Year Reevaluation Date: (provide month and year for "allowed" uses only)

N/A

NEPA Compliance for Refuge Use Decision: (check one below)

Categorical Exclusion without Environmental Action Statement

- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

References:

- U.S. Department of the Interior. 1995. Environmental Assessment of Public Use on Umatilla National Wildlife Refuge, Morrow County, Oregon, Benton County, Washington.
- U.S. Army Corps of Engineers. 1995. Amendment to the 1969 Cooperative Agreement between Corps and Service.
- U.S. Army Corps of Engineers. 1969. Cooperative Agreement between the Corps and Service.

Signatures:

Prepared by: David Linsman 4/22/07
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: Greg M. Hughes 4/25/07
(Signature) (Date)

Concurrence:

Refuge Supervisor: Lance W. Cameron 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): Arnold Bohra 5/7/07
(Signature) (Date)

Farming Compatibility Determination

RMIS Database Use: Farming

Refuge Name: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; Morrow County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 when the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System Mission: “The mission of the 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 of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use:

Current cropland farming practices include organic and biological farming (Cropland Management Plan, 1996). Under organic farming practices the use of chemical fertilizer and pesticides are eliminated. The use of organic fertilizers (such as manure) and crop rotation (including nitrogen fixing crops) are used to improve soil fertility and tilth. Control of weeds and plant pests are accomplished by crop rotation, mechanical techniques, and biological controls such as predatory insects. Crop variety is limited as some crops are unable to be successfully cultivated under organic practices in this area. Under biological farming practices, crops grown are selected primarily for their wildlife value. Use of organic fertilizer and crop rotations are used to improve soil fertility, but chemical fertilization is used if soil tests determine particular deficiencies, or if manure or crop rotations are found impractical for a particular crop. Plant pests and weeds are controlled by crop rotations, mechanical techniques, and bio-controls where practical, but approved low toxicity chemical agents are used as needed on a case by case basis.

Production methods include cooperative agreement farming, which involves a negotiated agreement between the Refuge and private farmer to produce crops for both parties. The cooperator is responsible for all the costs of production except for maintenance of underground irrigations systems and pumps. In return for producing a specified amount of crops for the Refuge, the cooperator is allowed to harvest and sell the remaining crops. All crop selections are agreed to by the Refuge, and special conditions are documented in the cooperative agreement (Cropland Management Plan, 1996).

Currently, a total of 1,297 acres are in cooperative farming programs on Umatilla Refuge, with the Refuge obtaining 324 acres (25%) of crops for wildlife, and the cooperator(s) harvesting 973 acres (75%) for their share. The 75%/25% (cooperator/Refuge) share ratio was deemed appropriate for this area by the Oregon State University Agricultural Extension office (Cropland Management Plan, 1996). Any field which is double cropped during the growing season is assessed the 75%/25% cooperator/Refuge split for each crop (Cropland Management Plan, 1996).

Crops grown include cereal grains and green forage for migratory and wintering waterfowl use. Grain crops grown to meet the high energy demands of migratory and wintering waterfowl include corn, wheat and occasionally buckwheat. Green forage crops which provide for the fall, winter and spring Canada goose population include alfalfa, winter wheat, and occasionally grass (Cropland Management Plan, 1996). The Refuge shares are obtained by 1) taking a share of a crop which is also being harvested by the farmer or 2) having the farmer grow specific crops just for the Refuge by splitting a field or devoting an entire field to Refuge shares. Exceptions include involving the cooperator in establishing native upland grasses in former farm fields, as well as developing native grasses in shelterbelts on the perimeter of current farming circles for improved weed and erosion

control and wildlife uses.

The Comprehensive Conservation Plan (CCP) would continue this program under similar conditions as present (see Objective 1a).

Availability of Resources:

The following funding/annual costs would be required to administer and manage cooperative agreement farming, as described above.

	One-time Costs	Recurring Costs
Underground irrigation system and pumps		\$10,000
Road maintenance		\$1,000
Program monitoring		
Administration		\$4,000
TOTAL	0	\$15,000

Anticipated Impacts of the Use:

The Columbia Basin and the lands of the Umatilla Refuge were once dominated by shrub-steppe habitat. This greater area, at present, is dominated by cropland farming. Combined with other development in the area, this once vast expanse of shrub-steppe habitat has been significantly degraded as a result of conversion, fragmentation, small patch size, lack of connectivity, introduction and spread of nonnative invasive weeds, livestock grazing, and fires. With a paralleled history, the biological integrity of the relatively small area (10,255 acres) of shrub-steppe habitat on the Refuge is in an overall degraded to highly degraded state. Croplands represent 9.5 percent of the total upland area on the Refuge. Other direct impacts of cropland management include exposure of soils to wind erosion, the use and introduction into the environment of chemical agents from pesticide usage, and continuance of the introduction and spread of weeds through use of manures and field to field movement of cultivating and harvesting equipment.

About 100 bird species can occur in sagebrush habitats (Braun et al. 1976). Some of these species are sagebrush-obligates, almost entirely dependent on sagebrush habitats year-round or during the breeding season. These species include sage grouse, Brewer’s sparrow, sage sparrow, and sage thrasher. These sagebrush obligate birds have been reduced or most likely extirpated as breeders on Umatilla Refuge. Some of the songbirds may occur as migrants. When considering the conversion of Refuge croplands to shrub-steppe habitat the potential benefit would be negligible on a landscape scale for improving functional attributes of this system in support of dependant species (in particular, obligate nesting species).

Many other species occur in shrub-steppe habitat but are not as dependent on sagebrush. Examples of these species are burrowing owl, lark sparrow, vesper sparrow, horned lark, loggerhead shrike,

long-billed curlew, and western meadowlark. Umatilla Refuge supports many if not all of these species during breeding and/or migration.

Primary invasive plants are described in Chapter 4 of the CCP/EA and in the 1996 and 1999 Cropland Management Plans.

Public Review and Comment:

Open houses were held and written comments were solicited from the public during development of the CCP/EA for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination (check one below):

Use is Not Compatible

Use is Compatible with the following stipulations

Stipulations Necessary to Ensure Compatibility:

The following stipulations ensure that Cropland Farming Management is compatible:

- Cropland farming will be done under an approved Cropland Management Plan per agency policy.
- Annual cooperative farming agreements will be established with the cooperator per agency policy.
- Pest plants and weeds will be controlled by crop rotations, mechanical treatments and biological controls where practical; approved pesticides will be used only on a case by case basis.
- Pesticide use must be in compliance with the Service policy requirements for completing an approved Pesticide Use Proposal, and it must meet other State and Federal requirements.
- Cooperators will provide a record of herbicides used including chemical name, amount used, date, location, and how applied.
- Pesticide applicators must meet all State, Federal and agency requirements.
- Diligence shall be exercised in the control of county-listed invasive weeds.
- Monitoring of the cropland farming program will be performed by qualified Refuge staff.

Justification:

Although not a Big-Six use, cropland farming management is a critical Refuge operation in meeting

purposes of the Refuge (e.g., “for waterfowl management” Rivers and Harbors Act of 1965), as well as goals and objectives established in the CCP/EA (e.g., Goal 1: Manage high quality food and sanctuary to support large concentrations of migratory waterfowl; Objective 1A: Provide Crops for Waterfowl). Umatilla Refuge provides mitigation for losses of waterfowl habitat caused by the John Day Lock and Dam Project. Options for providing a more natural means to secure food supplies for area waterfowl do not exist (Cropland Management Plan 1996). Area wetlands do not produce adequate natural waterfowl foods, because of their rarity and the lack of availability of high quality, productive wetlands. Consequently, waterfowl have relied heavily on waste grain in area corn fields (Cropland Management Plan, 1996).

The Refuge share of cropland farming, which is managed primarily for the benefit of waterfowl, includes cereal grains and green forage. Grain crops grown to meet the high energy needs of migratory/wintering waterfowl include corn, wheat, and buckwheat. Green forage crops, which primarily provide for the fall, winter, and spring goose populations, include alfalfa, winter wheat, and occasionally grass. Because of restrictions on crops grown, areas farmed by the cooperator for their share provide additional benefit (not included in Refuge share) to waterfowl by providing waste grains and/or green forage in harvested fields.

Mandatory 10- or 15-Year Reevaluation Date: (provide month and year for “allowed” uses only)

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)
12/2017 Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

- Categorical Exclusion without Environmental Action Statement
- Categorical Exclusion and Environmental Action Statement
- Environmental Assessment and Finding of No Significant Impact
- Environmental Impact Statement and Record of Decision

References

U.S. Fish and Wildlife Service. 1999. Cropland Management Plan. Mid Columbia Refuge Complex.
U.S. Fish and Wildlife Service. 1996. Cropland Management Plan. Mid Columbia Refuge Complex.

Signatures:

Prepared by: David Lindeman 4/22/07
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: [Signature] 4/25/07
(Signature) (Date)

Concurrence:
Refuge Supervisor: [Signature] 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): [Signature] 5/7/07
(Signature) (Date)

Research Compatibility Determination

RMIS Database Use: Research; Scientific Collecting; Surveys

Refuge Name: Umatilla National Wildlife Refuge

County and State: Benton County, Washington; Morrow County, Oregon.

Establishing and Acquisition Authorities:

Umatilla Refuge was established in 1968 when the Service entered into a Cooperative Agreement with the Corps on July 3, 1969 in accordance with section 4 of the Act of Congress approved December 22, 1944, as amended (76 Stat. 1195; 16 U.S.C. 460d), and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended, 16 U.S.C. 661 et seq.), and a General Plan for Wildlife Management approved by the Secretary of Army, the Secretary of the Interior, and the heads of the agencies of the States of Oregon and Washington exercising administration over wildlife resources within said states.

Refuge Purposes:

- “for the conservation, maintenance, and management of wildlife, resources thereof, and habitat thereon, under plans...” (All lands, 16 U.S.C. §§ 664, Fish and Wildlife Coordination Act).
- “those lands and waters acquired for primary purposes of the project [John Day Lock and Dam] and found to have their greatest value in furthering the national migratory bird program will be made available by cooperative agreement to the Bureau of Sport Fisheries and Wildlife of the U.S. Fish and Wildlife Service” (All lands, General Plan, Umatilla Lock and Dam, 1968).
- “for waterfowl management” (Original fee lands, Rivers and Harbors Act of 1965, Public Law 89-298).
- “is hereby modified to include the portions of Blalock and Sand Dune islands that were previously classified for recreational use...All remaining terms and conditions of the Cooperative Agreement remain unchanged.” Therefore, these lands are managed under the same purposes as other lands under the cooperative agreement of 1969 and General Plan, namely “development, conservation, and management of wildlife resources” and “furthering the national migratory bird management program”. (Portions of Blalock and Sand Dune Islands only, 1995 Amendment to the 1969 Cooperative Agreement between USACE and USFWS.)
- Additional Land Acquisitions: A land tract of 670 acres, a tract of 27.1 acres and another tract of 27.6 acres was acquired under the Fish and Wildlife Act “development, management, advancement, conservation, and protection of fish and wildlife resources.” The 27.6 acre tract also was acquired under the joint authority of the Emergency Wetlands Resources Act, which authorizes the purchase of wetlands consistent with the wetlands priority conservation plan.
- Tracts totaling 136.45 acres were acquired under the Migratory Bird Conservation Act “for migratory bird Refuges, both for inviolate sanctuaries and for management purposes.”

Additional detail on the purposes of this Refuge may be found in Chapter 1 of the CCP/EA.

National Wildlife Refuge System Mission: “The mission of the 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 of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use: Fish, wildlife, and habitat research is an existing use and is conducted on Refuge lands and waters by independent researchers, partnering agencies, educational groups, and Refuge staff. Some research is used to address basic wildlife conservation questions such as survival of federally listed endangered and threatened juvenile salmon stocks in the Columbia River. Other research is more specific to Refuge management and resources and is used in an adaptive way to measure the effectiveness of Refuge habitat and wildlife management programs.

Umatilla and McNary Refuges together receive three to seven requests per year on average to conduct scientific research on the Refuges. Most have involved Columbia River System salmon and steelhead research at McNary Refuge and include studies of: piscivorous waterbirds; Caspian tern foraging; salmon/ steelhead PIT tag recovery; smolt radio telemetry and migration patterns; habitat use of burrowing owls; and wetland/groundwater hydrology. Between the years 2000 and 2005 there were between four and seven active special use permits issued for research and monitoring studies including those summarized in the following table. Under the CCP, special use permits would only be issued for monitoring and investigations which contribute to the enhancement, protection, preservation, and management of native plant and wildlife populations and their habitats, especially as they relate to Refuge lands and management activities.

Summary of research activities at Umatilla Refuge 2000-2005.

Organization	Research Topic and Description	Location of Research and Habitats	Timing of Research	Equipment and Facilities Used
OSU and Real Time Research (contract with NOAA Fisheries Service); Dr. Daniel Roby	Avian predation of salmonids; mainly Caspian terns diet preferences and impacts to salmon and steelhead smolts	Colonial nesting waterbird colonies primarily on Crescent, Badger, and Foundation Islands in Columbia River	Nesting season from April through June; research started in 1998	Seasonal field spy blind set up; access by boats; low-altitude fly-over some years
NOAA Fisheries Service; Northwest Fisheries Science Center; Brad Ryan	Salmon/steelhead PIT tag recovery; nesting colonies are searched for tags deposited on the island as a result of predation	Nesting islands are searched for PIT tags; both hand-held and jeep mounted detection antenna are used; primarily on Crescent, Badger, and Foundation Islands in Columbia River	Fall and early winter; annual and ongoing research effort	Access to island by boat; at Crescent Is. a jeep is used to mount radio tag receiver and magnetic collector otherwise hand-held wands are used
USGS-BRD and Arizona Coop Fish and Wildlife Unit	Habitat use and requirements of burrowing owls	Refuge uplands and shrub steppe areas; off-Refuge sites; nest searches conducted and habitat evaluated	Breeding season from February through July	Access by vehicle on established roads

Research proposals are reviewed by the Refuge and conservation partners, as appropriate. If a proposal is approved, special use permits are issued and administered by the Refuge Manager. Evaluation criteria for approving studies will include, but not be limited to, the following:

- research contributing to specific Refuge management issues will be given higher priority over other research requests
- research that will conflict with other ongoing research, monitoring, or management programs will not be granted
- research projects that can be accomplished off-Refuge are less likely to be approved
- level and type of disturbance will be carefully evaluated when considering a request
- Refuge evaluation will determine if any effort has been made to minimize disturbance through study design, including considering adjusting location, timing, scope, number of permittees, study methods, number of study sites, etc.
- Approvals are subject to sufficient staffing for the Refuge to monitor researcher activity in a sensitive area
- the length of the project will be considered and agreed upon before approval
- projects will be reviewed annually
- These criteria will also apply to any properties acquired in the future within the approved boundary of the Refuge

Availability of Resources: Under the Preferred Alternative 2, the following annual funding costs (based on FY 2005 costs) would be required to administer and manage research activities as described above. Refuge operational funds are currently available through the Service budget process to administer this program as envisioned under Alternative 2. However, grants may be sought with the assistance of the Friends of Mid-Columbia River Refuges group to assist for smaller projects.

Category and Itemization	One-time (\$)	Annual (\$/yr)
Administration and management (Refuge biologist and managers): Evaluation of applications and permit management	\$0	\$1,500
Maintenance:	\$0	\$0
Monitoring of ongoing research projects and their effects: (Refuge biologist and managers)	\$0	\$2,500
Special equipment, facilities, or improvements:	\$0	\$0
Offsetting revenues:	\$0	\$0
Total	\$0	\$4,000

Anticipated Impacts of Use:

Short term impacts - Use of the Refuge to conduct research will generally benefit Refuge fish, wildlife, plant populations, and their habitat, and contribute to recovery of listed threatened and endangered species. Monitoring and research investigations are also an important component of adaptive management. Research investigations would be used to evaluate salmon and steelhead recovery efforts and assist managers in managing Refuge habitats to aid in recovery efforts. Specific restoration and habitat management questions would be addressed in research investigations, such as the burrowing owl studies, to improve habitat and benefit wildlife populations.

Standardized monitoring would be used to insure data compatibility for comparisons from across the landscape. An expected short-term effect of monitoring and research investigations is that Refuge management activities would be modified to improve habitat and wildlife populations, as a result of new information.

Some effects would occur through disturbance which is expected with some research activities, especially where researchers are entering sanctuaries or sensitive islands with colonial nesting birds. Researcher disturbance could include altering wildlife behavior, going off designated trails, collecting soil and plant samples or trapping and handling wildlife. Death of animals due to the use of lethal collection methods as well as accidental death and injury from trapping and handling and other invasive procedures (pit-tagging, force feeding, and blood collection) can occur. American white pelican colonies are known to be sensitive to human disturbance and will abandon nests. The public's perception of lethal methods, such as the taking of cormorants to determine stomach contents, might be negative.

Disturbance to breeding, resting and feeding wildlife and their habitats may occur through frequent contact with researchers performing data collection and monitoring activities. Results of disturbance could include the abandonment of nest and young resulting from frequent visitation to nest or breeding sites. In addition, trapping and marking of wildlife for habitat and population studies may result in injury and mortality; study of food habits, parasitism or disease may require the taking of animals; and measurement of habitat characteristics or experimental manipulation of habitats may result in the alteration or destruction of wildlife habitat.

Damage or alteration to the habitat from researchers would be minor; however, some increase in invasive plants is possible from ground disturbance and/or transportation of source seed on research equipment and personnel. The radio antenna used for PIT tag monitoring is moored to the ground with stakes and wires; but they too are removed after each season of use and have no lasting impact. The use of vehicles to collect pit-tags could damage young vegetation. However, the nesting colonies are found in the cobble-stone substrate of the island, which is generally devoid of vegetation and/or limited by the bird colonies themselves.

Most effects would be minor because only a minimum number of samples (e.g., water, soils, vegetative litter, plants, and macroinvertebrates) and required for identification and/or experimentation and statistical analysis would be permitted and captured, and marked wildlife would be released. Refuge evaluation of research proposals would insure that only proposals with adequate safeguards to minimize impacts would be accepted. Potential impacts associated with research activities would be minimized because sufficient restrictions would be included as part of the study design, and researcher activities would be monitored by Refuge staff. Refuge staff would ensure research projects contribute to the enhancement, protection, preservation, and management of native Refuge wildlife populations and their habitats, thereby, helping the Refuges fulfill the purposes for which they were established, the mission of the National Wildlife Refuge System, and the need to maintain ecological integrity.

Additionally, special use permit conditions would include restrictions to further ensure impacts to wildlife and habitats are avoided and minimized.

Long-term impacts Expected long-term and cumulative effects include: a growing body of science-based data and knowledge as new/continued monitoring and new/continued research complements and expands upon previous investigations; resulting in an expanded science-based body of data and information from which to draw upon to implement the best Refuge management possible. Natural resources inventory, monitoring and research are not only provisions of the Improvement Act, but they are necessary tools to maintain biological integrity and diversity and environmental health, which are also key provisions of the Act. Inventory, monitoring and research are intended to improve habitat and wildlife populations. This in turn could improve wildlife-dependent recreation by increasing encounters with wild things.

Public Review and Comment: Open houses were held and written comments were solicited from the public during development of the CCP/EA for the McNary and Umatilla Refuges. Appendix A of the CCP/EA further details public involvement undertaken during development of the CCP.

Determination (check one below):

- Use is Not Compatible
 Use is Compatible with Following Stipulations

Stipulations Necessary to Ensure Compatibility:

The criteria for evaluating a research proposal, outlined in the description of use section above, will be used when determining whether a proposed study will be approved on the Refuge. If proposed research methods are evaluated and determined to have potential adverse impacts on Refuge wildlife or habitat, then the Refuge will determine the utility and need of such research to conservation on management of the Refuge's wildlife and habitat. If the need is demonstrated by the research permittee and accepted by the Refuge, then measures to minimize potential impacts (e.g., reduce the numbers of researchers entering an area, restrict research in specified areas) will be developed and included as part of the study design and included on the special use permit.

Special use permits will contain specific terms and conditions that the researcher(s) must follow relative to activity, location, duration, seasonality, etc. to ensure continued compatibility. All Refuge rules and regulations (CFR 50) must be followed unless otherwise accepted in writing by Refuge management. Stipulations necessary to ensure compatibility include:

- Extremely sensitive wildlife habitat areas will be avoided unless sufficient protection from research activities (i.e., disturbance, collection, capture and handling) is implemented to limit the area and/or wildlife potentially impacted by the proposed research.
- When and where needed, some areas may be temporarily/seasonally closed to research; research can be permitted to resume when impacts to wildlife and habitat are no longer a concern.
- Research activities will be modified to avoid harm to sensitive wildlife and habitat when unforeseen impacts arise, such as a wildfire altering landscape conditions or large declines in a population.
- At any time, Refuge staff may accompany the researchers to determine potential impacts.

- Refuge staff will monitor researcher activities for compliance with conditions outlined on the Special Use Permit. A Refuge manager and/or Project Leader may determine that previously approved research and special use permits be terminated due to observed impacts.
- The Refuge manager and/or Project Leader will also have the ability to unilaterally cancel a Special Use Permit if the researcher is out of compliance with permit conditions and/or to ensure wildlife or habitat protection and/or visitor and public safety.
- All researchers will be required to submit a detailed research proposal for review and recommendation by the Refuge biologist and approval by the Refuge Manager. The biologist will provide the required proposal format to researchers.
- Agencies and entities operating stationary monitoring stations requiring utilities (air quality, weather) will cover maintenance and operating costs including utilities for their station.
- All samples and specimens collected from the Refuge are Refuge property. Once research is complete or terminated, researchers shall check with the Refuge to ascertain whether samples and specimens are to be turned over to Refuge offices. Service personnel shall be provided access to the samples and specimens at any time at no cost (unless arrangements are made to the contrary).
- The Refuge Biologist will review all research proposals and identify any conditions of the research permits that eliminate or minimize negative impacts to any one area, species, or habitat of the Refuge. The Refuge Biologist will make a recommendation to the Refuge Manager on whether the research should occur, based on weighing of benefits and impacts.
- Research requiring the collection of animals will only be authorized after careful consideration by the Refuge Biologist and Refuge Manager as to the importance of Refuge populations to the conservation of the species, the possible adverse impacts to the Refuge populations, and the humaneness of the collection methodology. State and Federal collection permits are required.
- Consultation will be conducted for any research activities that may possibly have an impact on threatened or endangered species.
- The Refuge Manger will issue no more than six special use permits annually for Refuge research. Additional permits may be considered depending on staff workload and cumulative impacts of existing research projects on wildlife and habitats. The permit holder will list each person assisting on the research project and provide description and license number of vehicles that will be used.
- Refuge staff will monitor research projects to ensure that on-going research is not causing long-term habitat damage or impacting any animal populations.
- Additional site specific and research specific terms and conditions will be included in all SUP's.

Justification: Two provisions of the National Wildlife Refuge Improvement Act are to “maintain biological integrity, diversity and environmental health” and to conduct “inventory and monitoring.”

Refuge plans and actions based on research and monitoring provide an informed approach to habitat and wildlife programs. Refuge monitoring and research will directly benefit and support Refuge goals, objectives and management plans and activities and can contribute to recovery of endangered/threatened species. Management of fish, wildlife, plants and their habitat will improve through the application of knowledge gained from monitoring and research. Biological integrity, diversity and environmental health will benefit from scientific research conducted on natural resources at the Refuge. The Refuge manager and biologist will ensure that proposed monitoring and research investigations will contribute to the enhancement, protection, conservation, and management of native wildlife populations and their habitats on the Refuge, thereby helping the Refuges fulfill the purposes for which they were established, as well contributing to the mission of the Refuge System.

Mandatory 10- or 15-Year Reevaluation Date: (provide month and year for “allowed” uses only)

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

2017 Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

_____ Categorical Exclusion without Environmental Action Statement

_____ Categorical Exclusion and Environmental Action Statement

X Environmental Assessment and Finding of No Significant Impact

_____ Environmental Impact Statement and Record of Decision

Signatures:

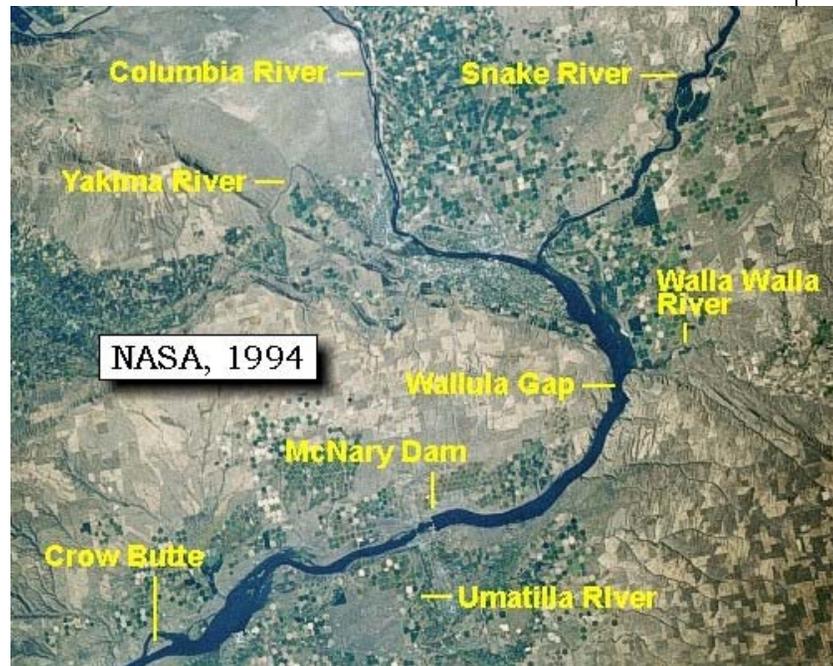
Prepared by: David Linder 4/22/07
(Signature) (Date)

Refuge Manager/
Project Leader
Approval: Lyza M. High 4/25/07
(Signature) (Date)

Concurrence:
Refuge Supervisor: Laurel W. Cameron 4/30/07
(Signature) (Date)

Regional Chief,
National Wildlife
Refuge System
(for HI, ID, OR,
PI, and WA): Carolyn D. Bobb 5/7/07
(Signature) (Date)

MAPS



Aerial view of Mid-Columbia River area
and Refuges (1994) - NASA

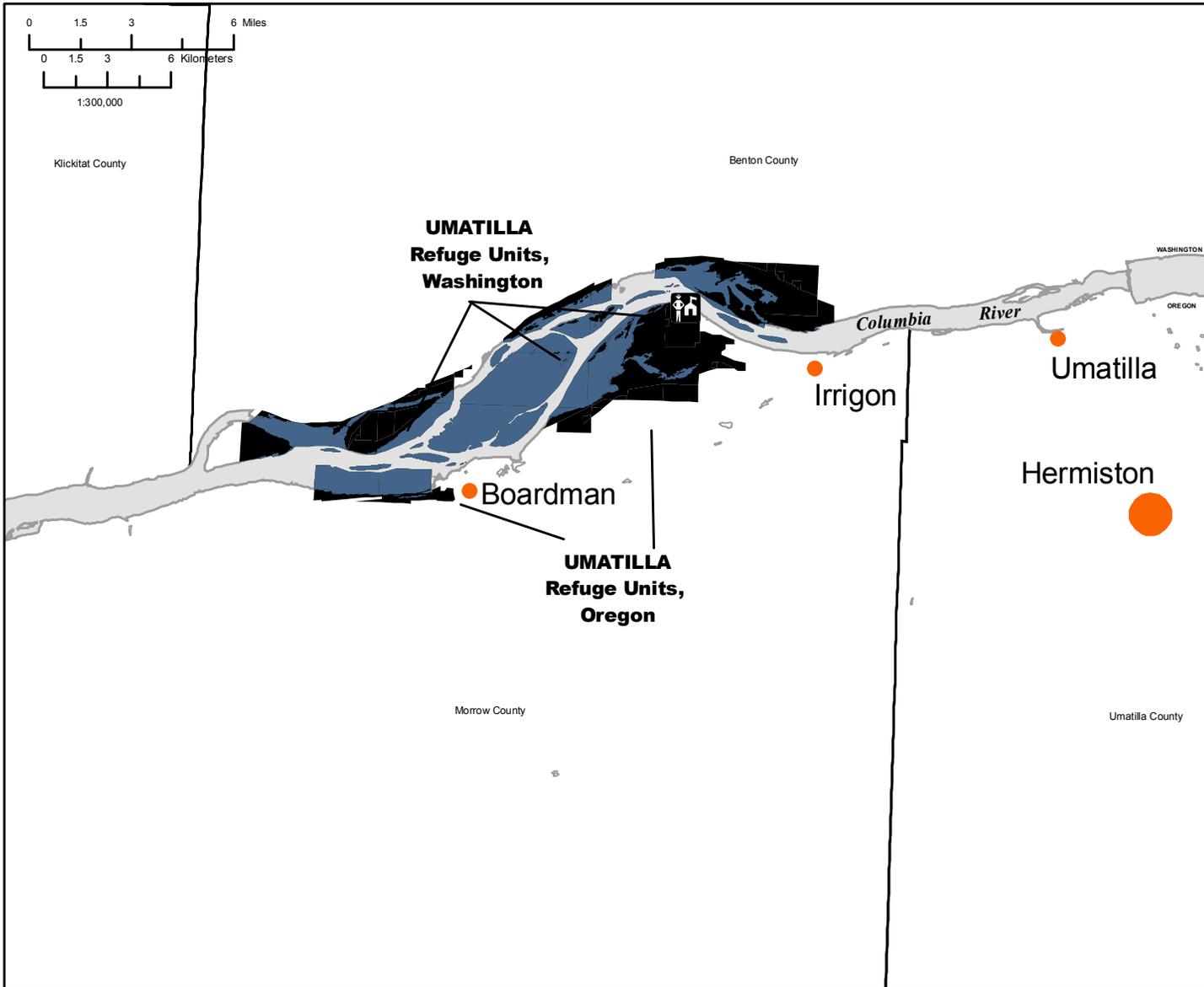


U.S. Fish & Wildlife Service

Umatilla National Wildlife Refuge

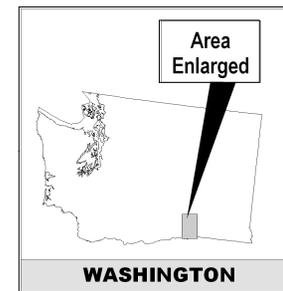
Benton County, Washington
Morrow County, Oregon

Comprehensive Conservation Plan Vicinity Map



Legend

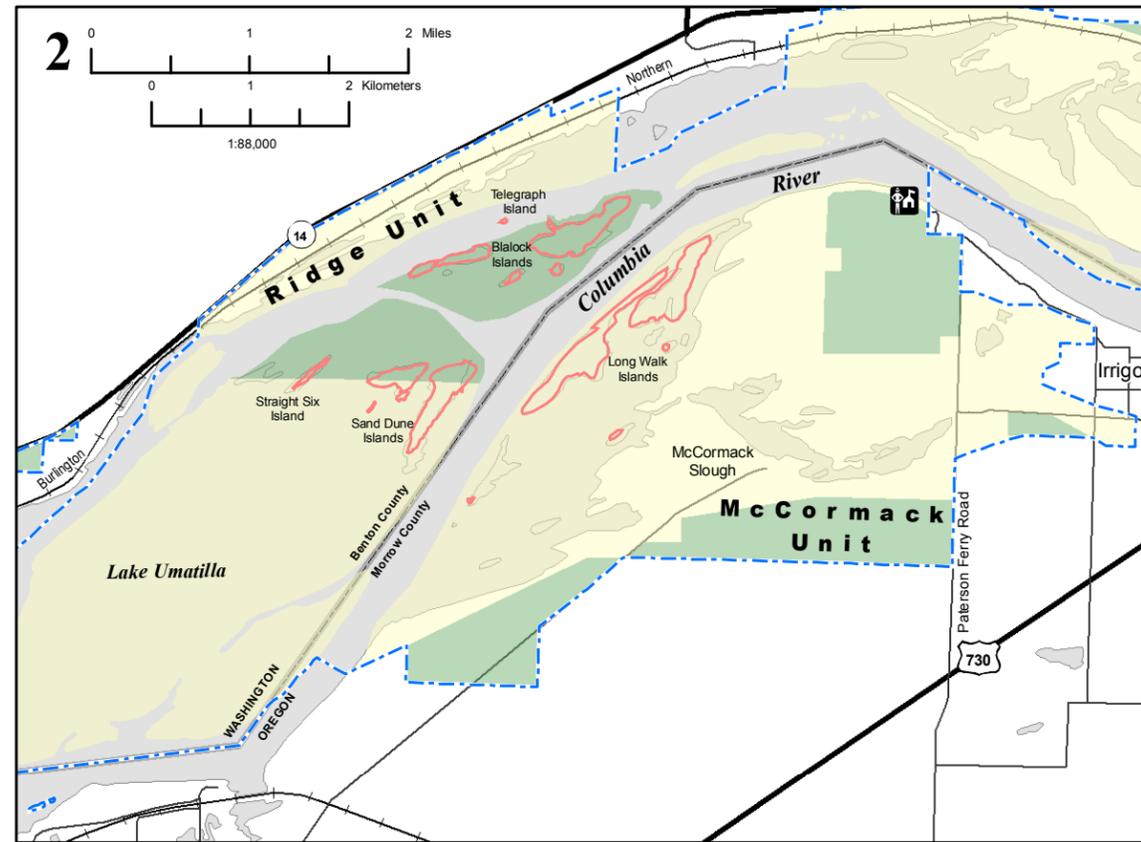
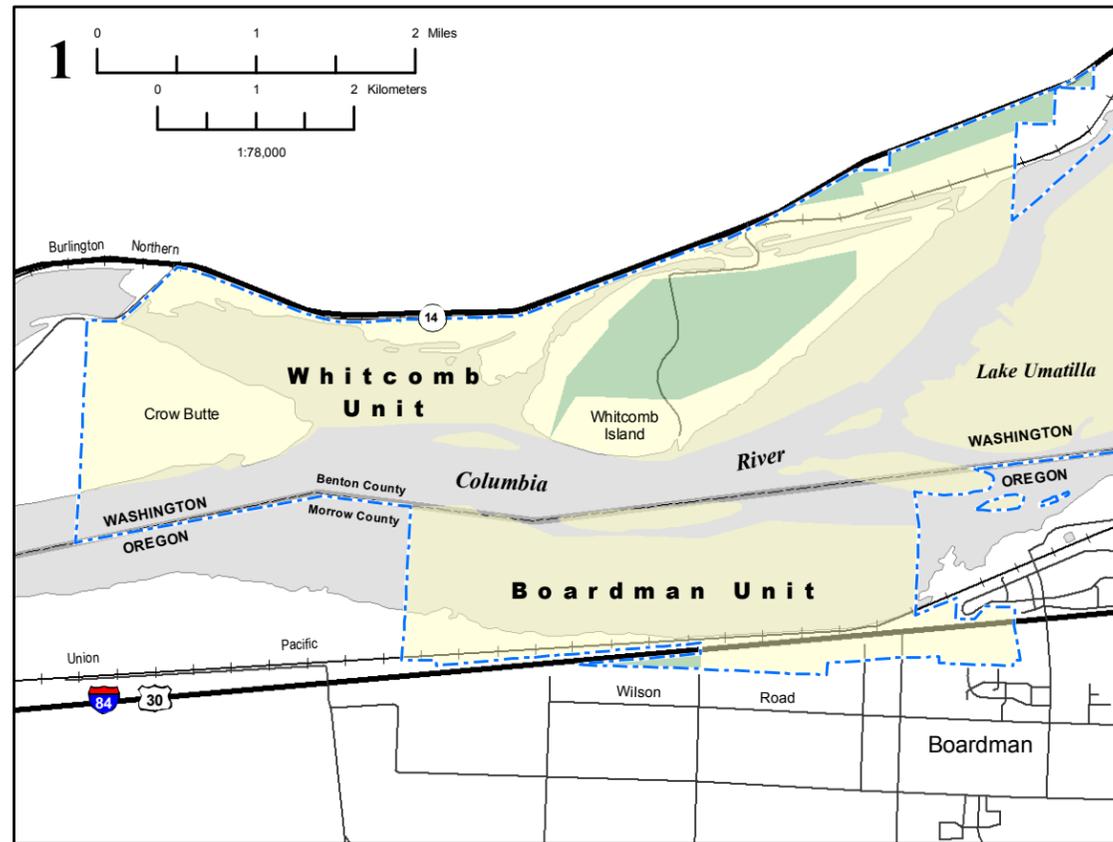
-  Upland portions of Refuges
-  Aquatic portions of Refuges (includes some islands)
-  Columbia River (non-Refuge)
-  County boundaries
-  Refuge Headquarters



UTM ZONE 11N
NAD 83

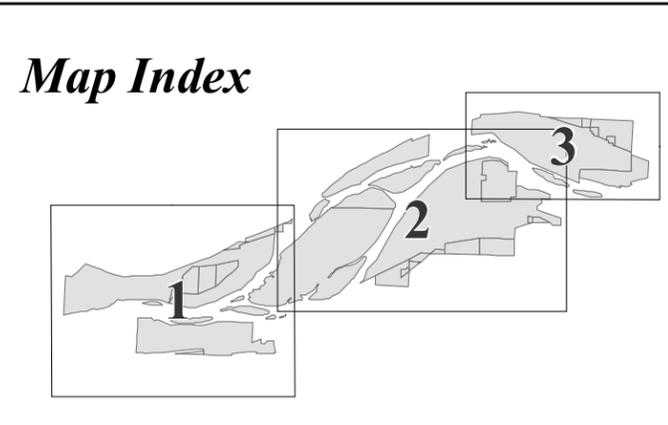
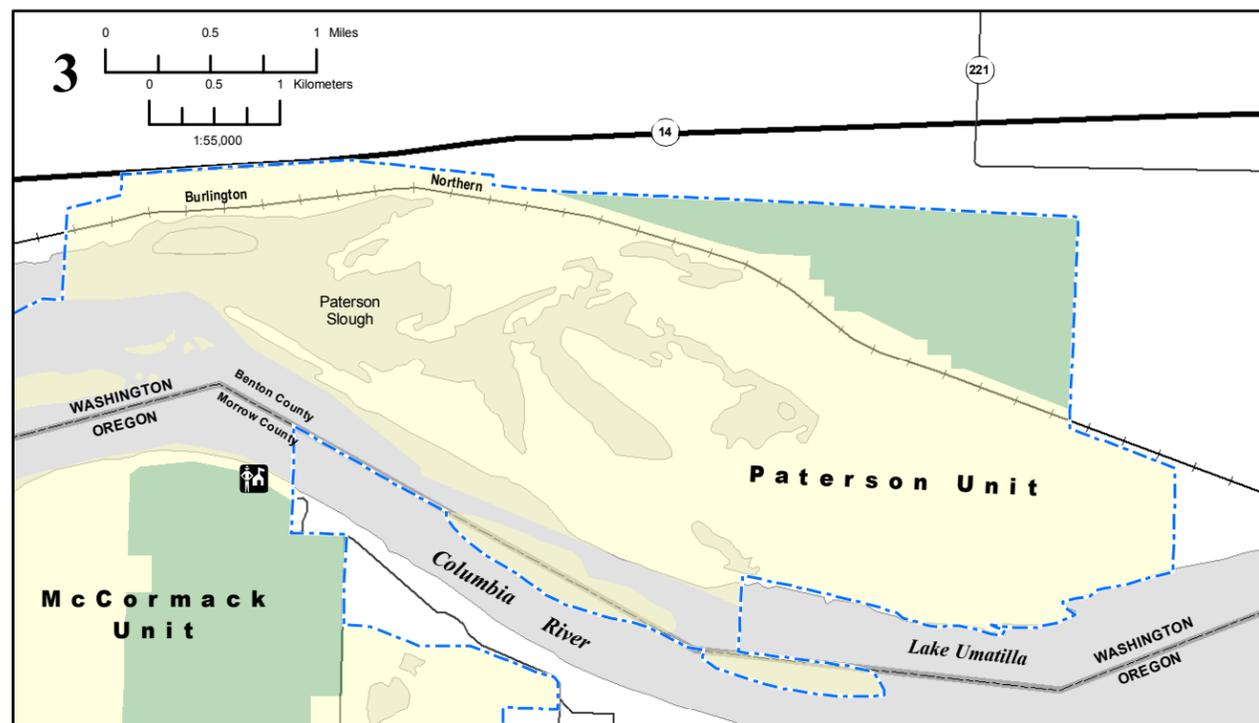


Comprehensive Conservation Plan
Refuge Boundary and Land Status



Legend

- Refuge Headquarters
- FWS Approved Acquisition Boundary
- Umatilla NWR Islands
- FWS Owned Land & Water
- FWS Land & Water Managed Under Agreement



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Kendra Maty, GIS Specialist
Refuge Information Branch
Portland, Oregon
File: 08-148-2.mxd

07/31/2008



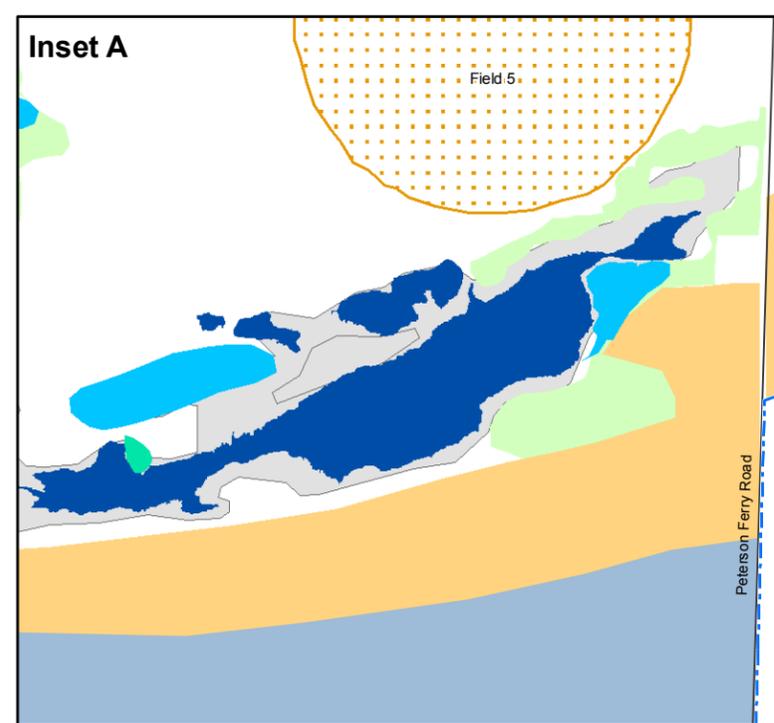
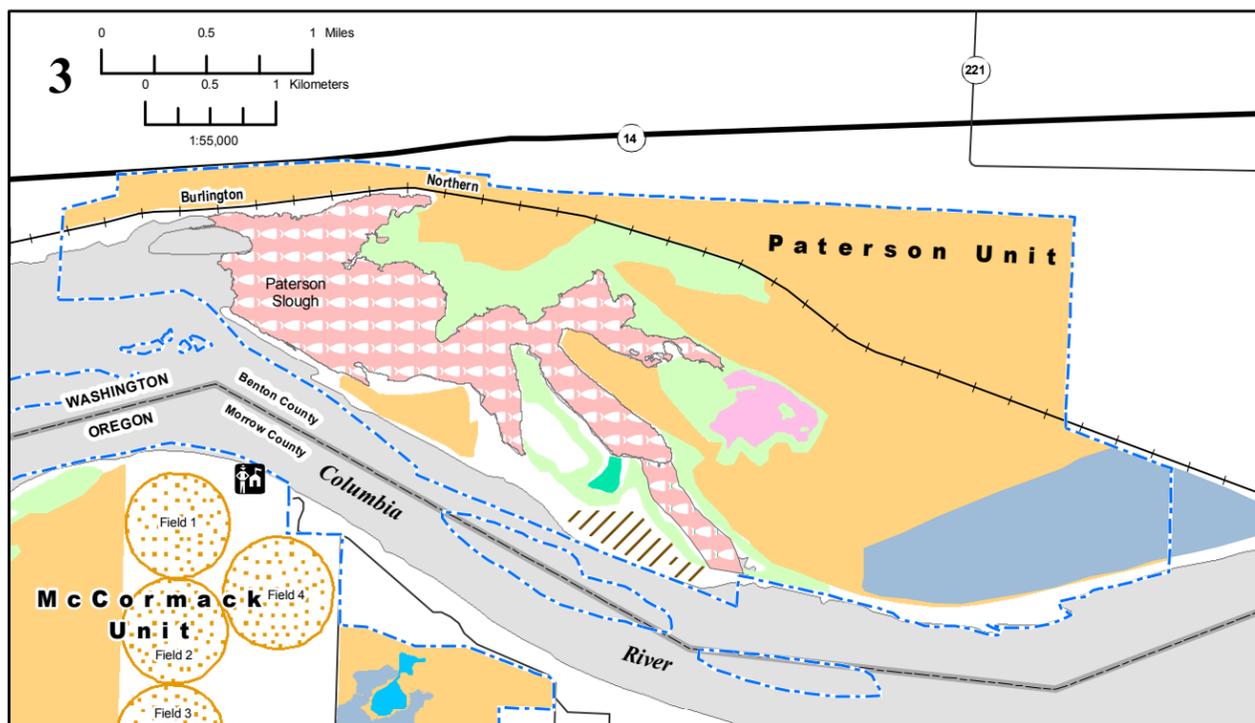
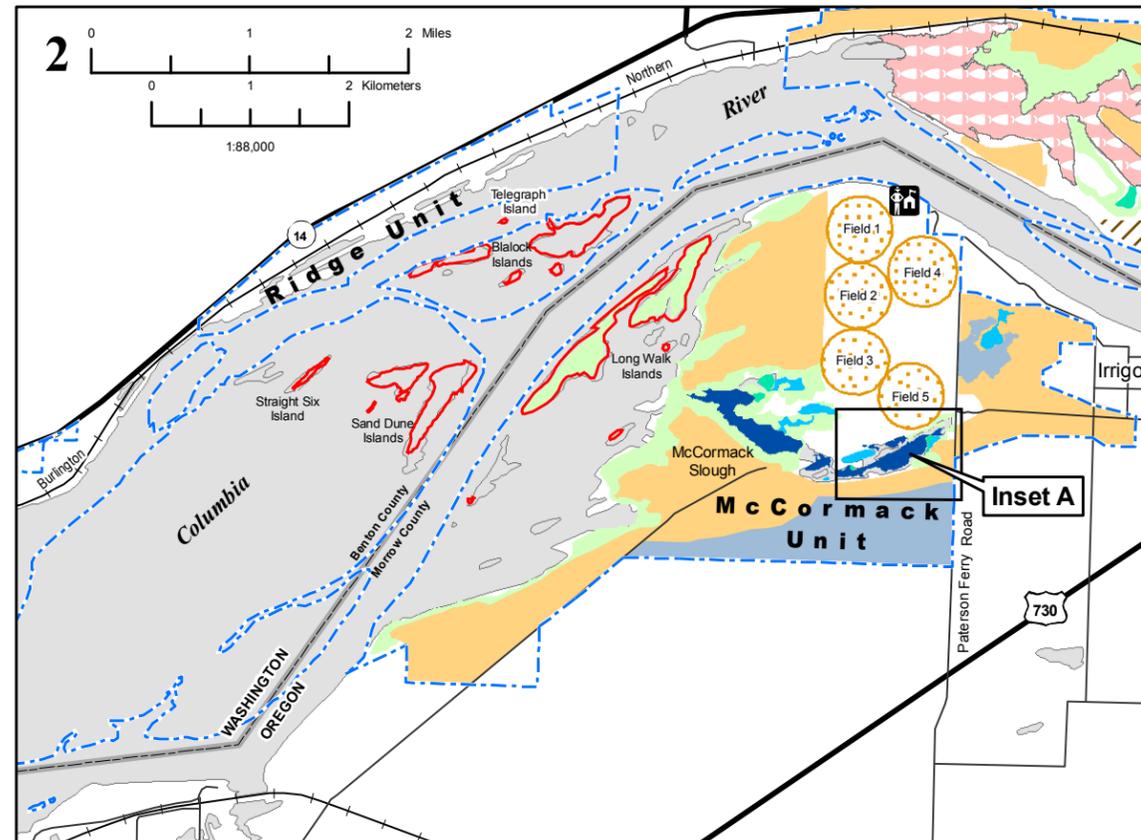
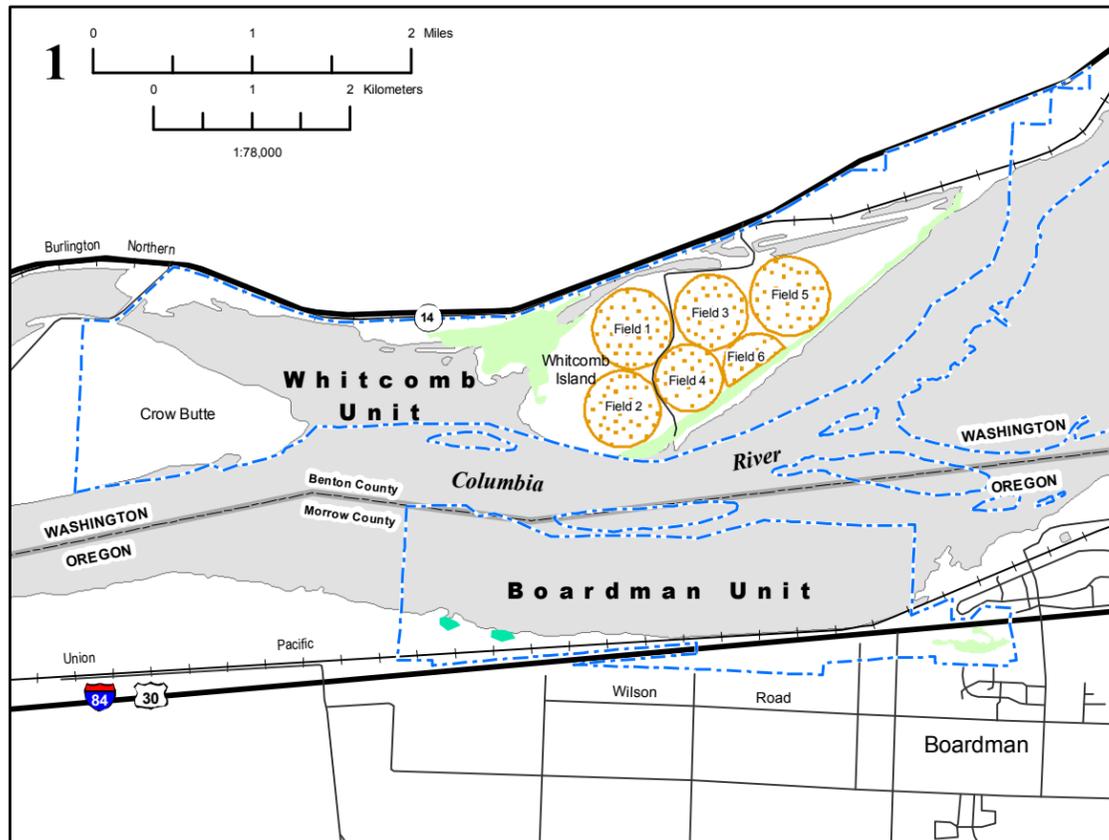
U.S. Fish & Wildlife Service

Umatilla National Wildlife Refuge

Morrow County, Oregon and Benton County, Washington

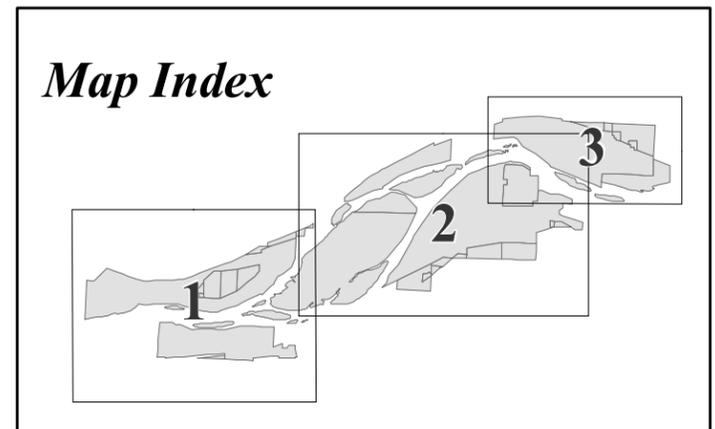
Comprehensive Conservation Plan Habitat Management Actions under Final CCP

Map 3



Legend

- Shrub Steppe: improve condition in key areas
- Shrub Steppe: restore additional areas from roads and croplands (may not represent actual location or acreage)
- Riparian: improve condition in key areas (may not represent actual location or acreage)
- Wetlands: improve submergent habitat and decrease invasives
- Existing wetland moist soil areas
- New wetland moist soil areas to be provided (may not represent actual location or acreage)
- Existing active cropland to provide winter feed for waterfowl
- Shorebirds: maintain and improve value of mudflat areas
- Curlews: restore suitable habitat (may not represent actual location or acreage)
- Salmonids: study feasibility of providing enhanced backwater areas for rearing
- Refuge managed lands
- Umatilla NWR islands



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 Kendra Maty, GIS Specialist
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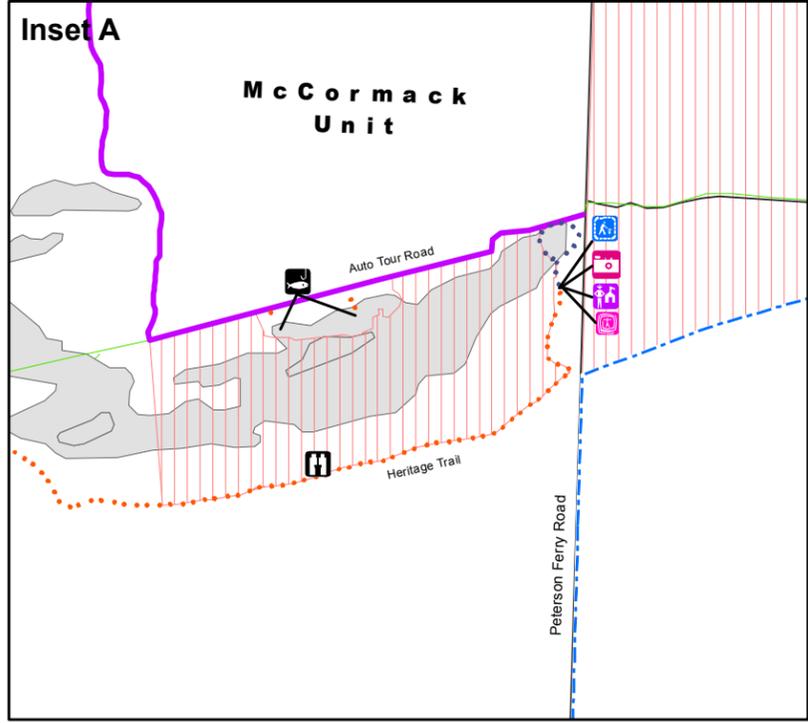
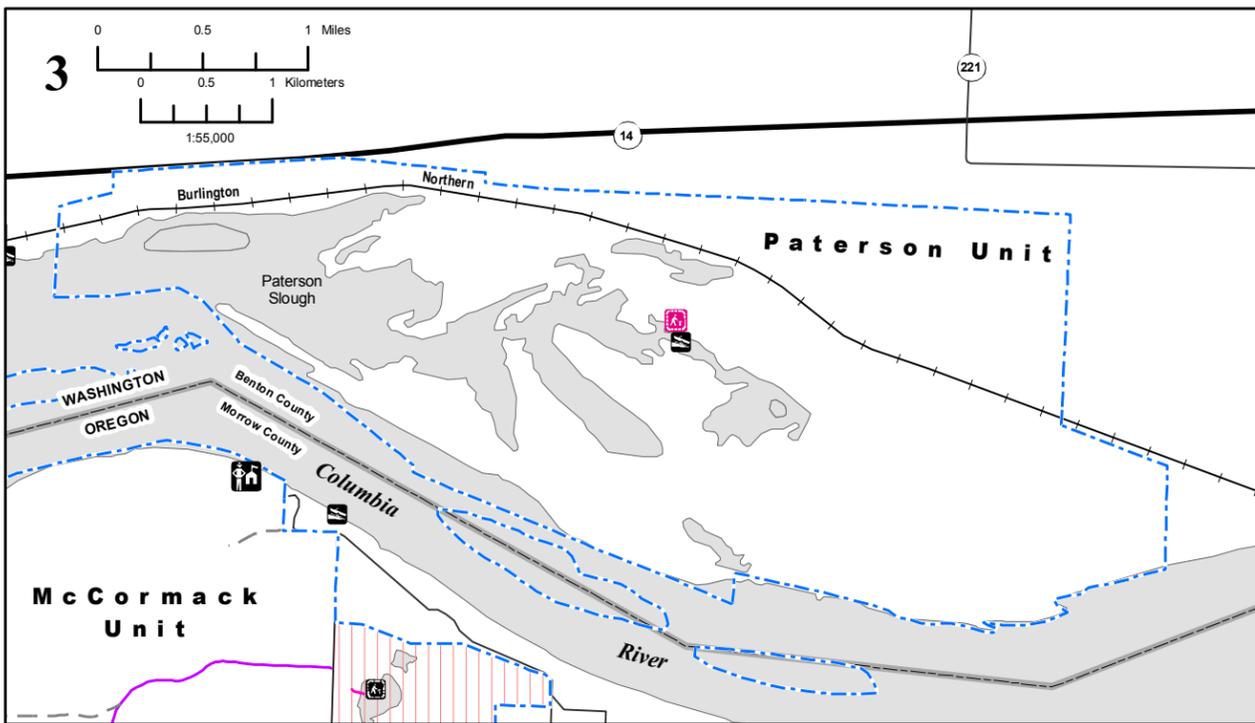
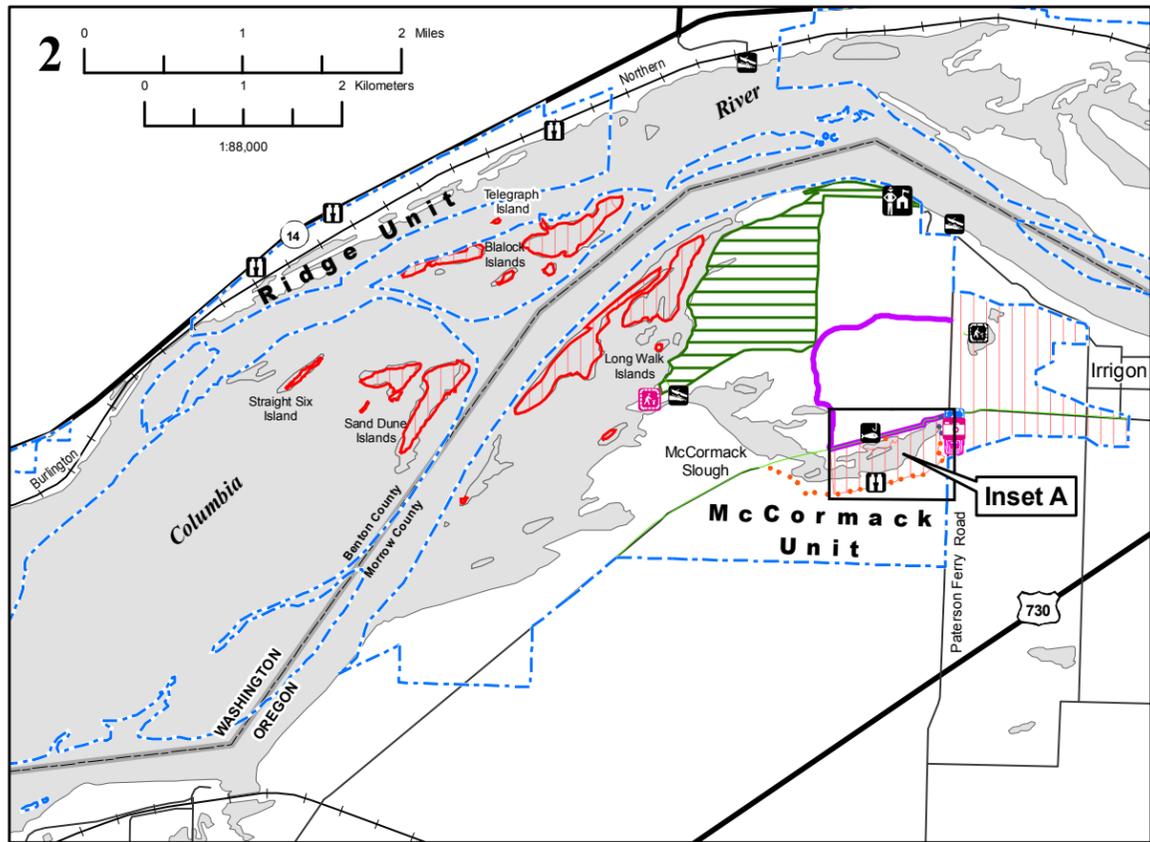
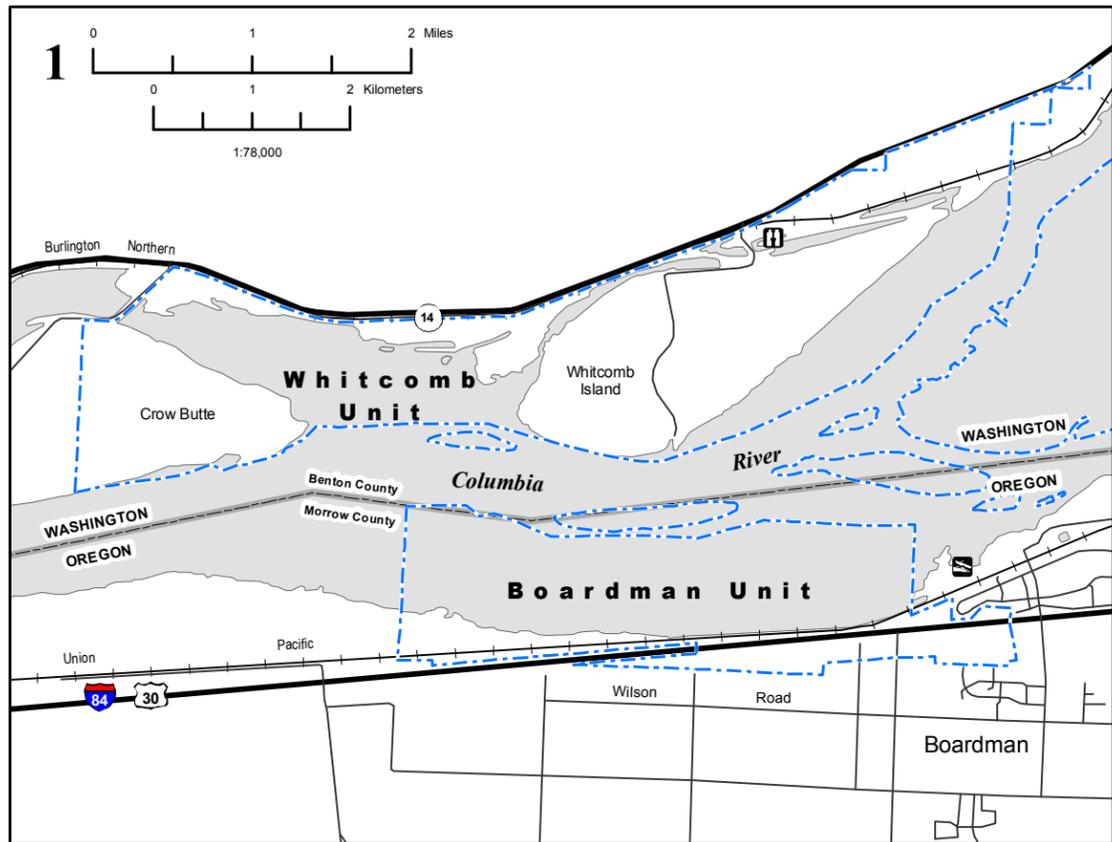


U.S. Fish & Wildlife Service

Umatilla National Wildlife Refuge

Morrow County, Oregon and Benton County, Washington

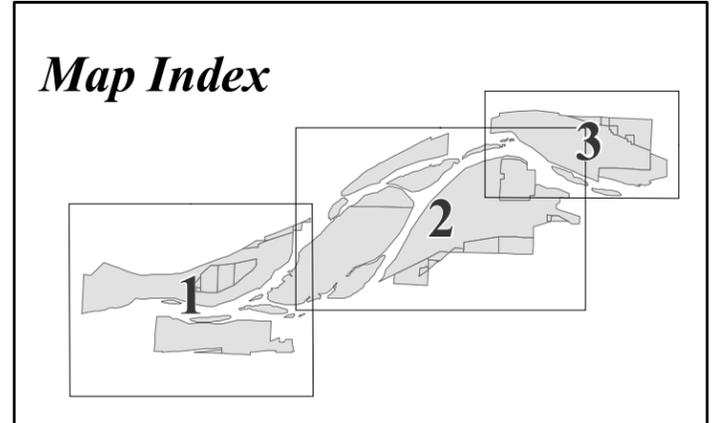
Comprehensive Conservation Plan Public Use Facilities under Final CCP



Legend

- Fishing:**
 - Existing boat ramps
 - Existing stocked family pond
 - New fishing information kiosks to be constructed
- Observation and Photography:**
 - Existing overlooks
 - New photo blind to be constructed
- Interpretation:**
 - Existing kiosk
 - New kiosk to be constructed
- Environmental Education Facility**
 - New environmental education facility to be constructed
- Trails:**
 - Existing trails
 - Auto tour road
 - New Heritage trail realignment to be constructed
 - New Loop trail to be constructed
 - *Proposed realignment of Heritage trail see Objective 9b*
- Refuge Headquarters and Information:**
 - Existing refuge headquarters
 - New location for refuge headquarters
 - Areas closed to the public at all times
 - Area closed to all uses except deer hunting
 - Refuge managed lands
 - Umatilla NWR islands

Note:
Hunt areas and facilities found on Map 5



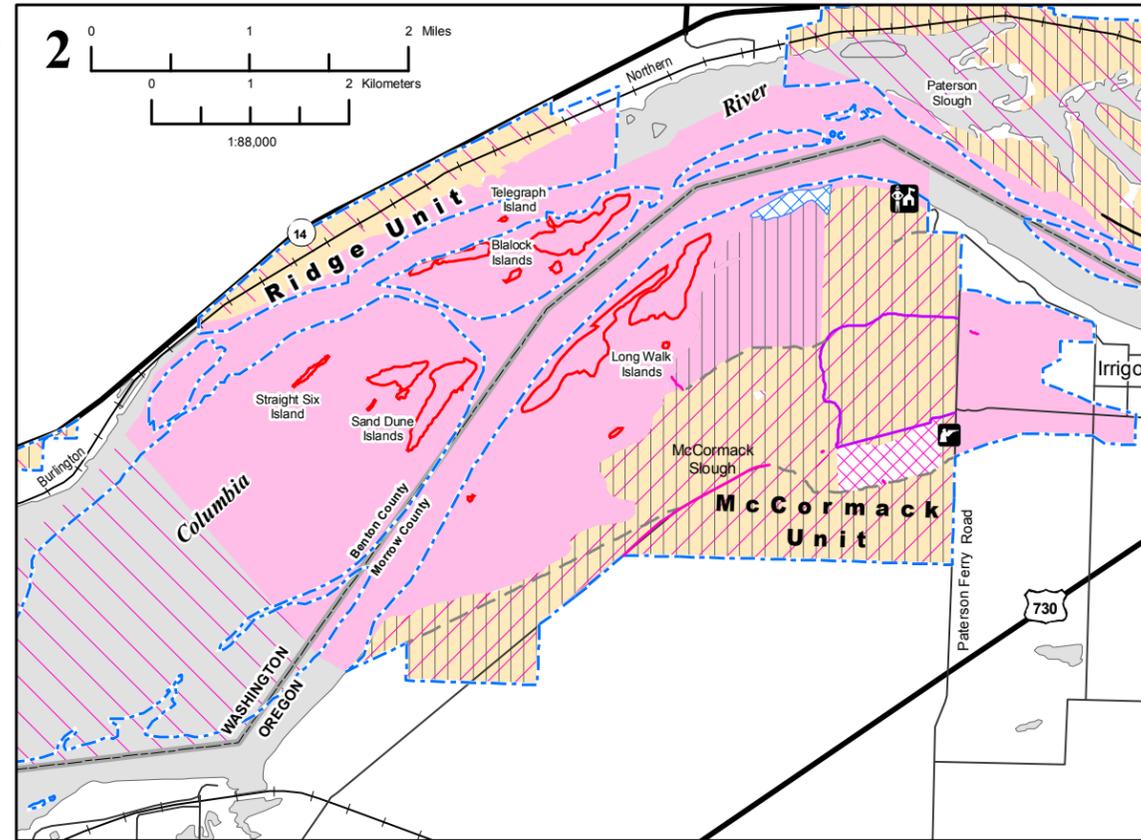
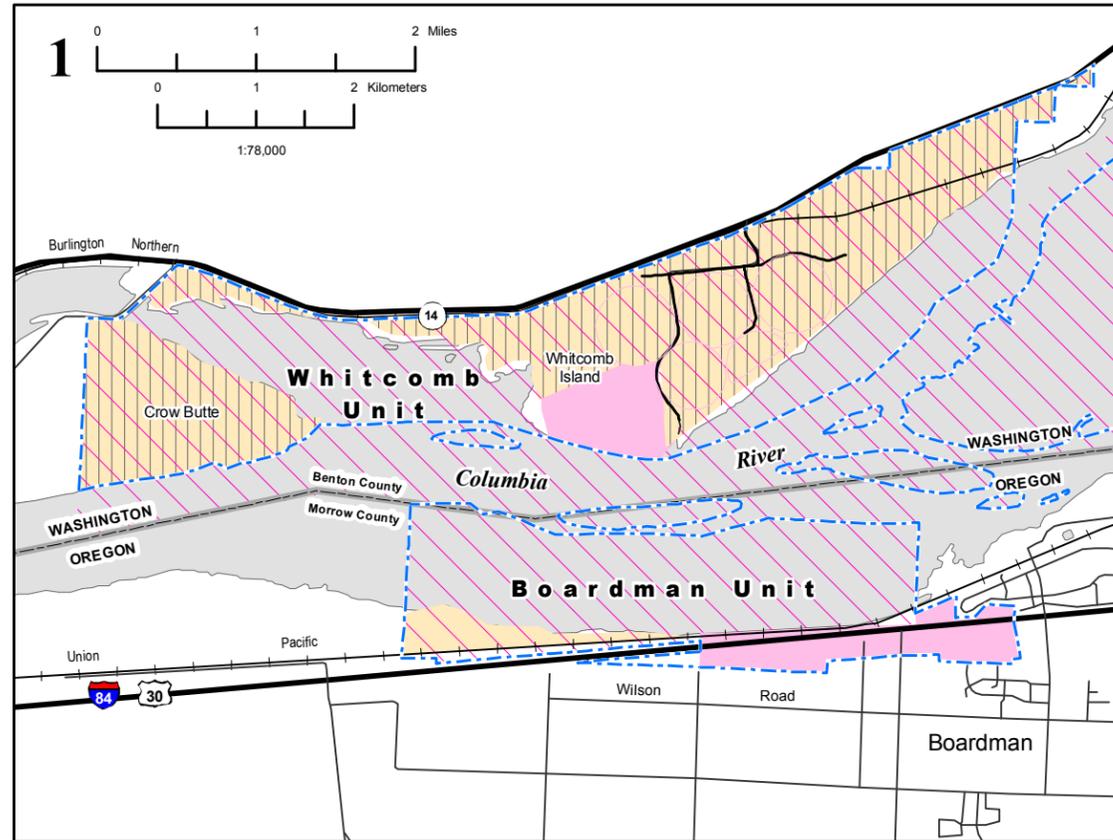
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 Refuge Information Branch
 Portland, Oregon
 File: 08-148-4.mxd

UTM ZONE 11N
NAD 83

07/31/2008



Comprehensive Conservation Plan
Overall Hunt Area Map

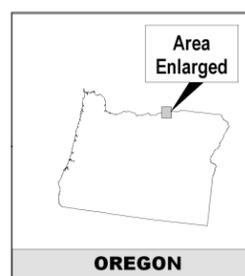
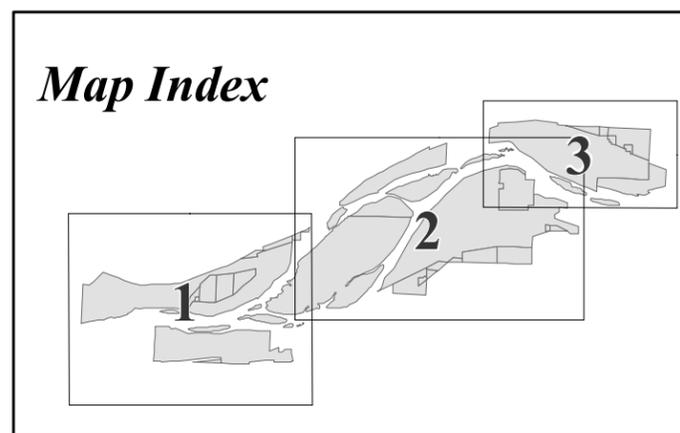
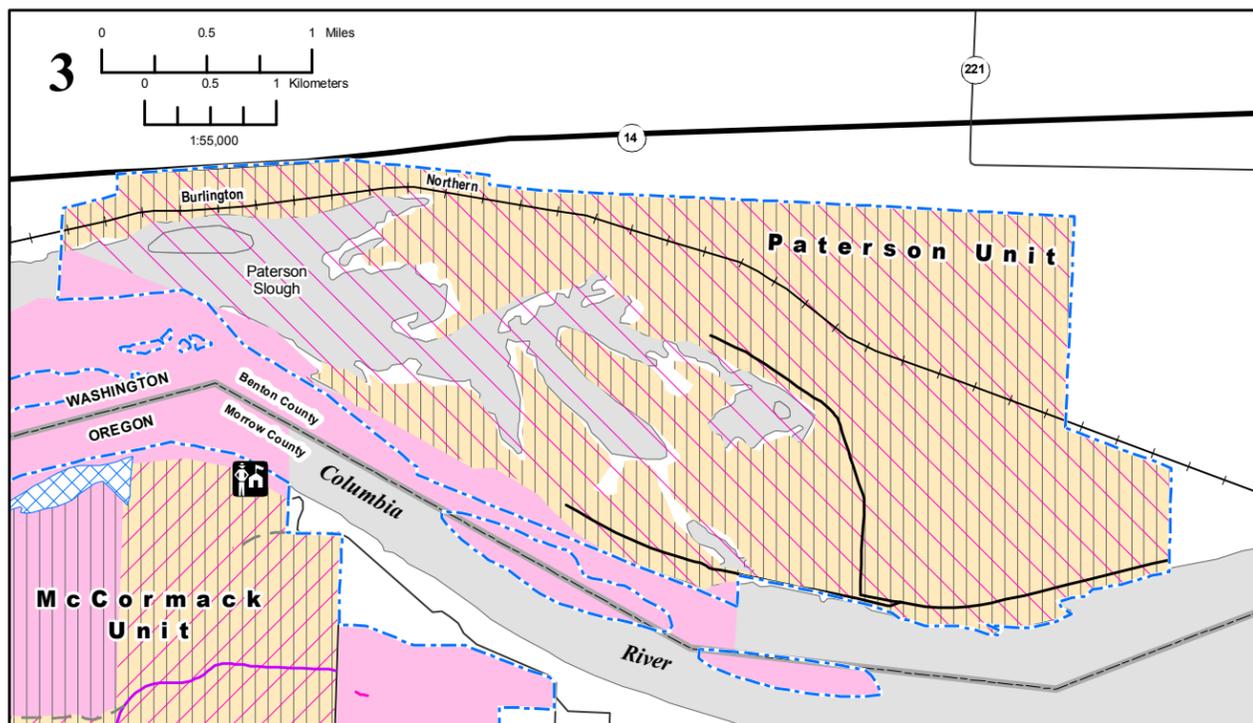


Legend

- Waterfowl sanctuary areas
 - New sanctuary area to be established
 - New hunt area to be established
 - Upland game bird hunt areas
 - Big game hunt areas
- Waterfowl hunt areas:
- Free roam without blinds
 - Reservation / Fee hunt
- Trails:
- Existing trails
 - Auto tour road
 - Seasonal road
 - Public road

Refuge Headquarters and Information:

- Existing refuge headquarters
- Hunter check station
- Refuge managed lands
- Umatilla NWR islands



UTM ZONE 11N
NAD 83

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Kendra Maty, GIS Specialist
Refuge Information Branch
Portland, Oregon
File: 08-148-5.mxd

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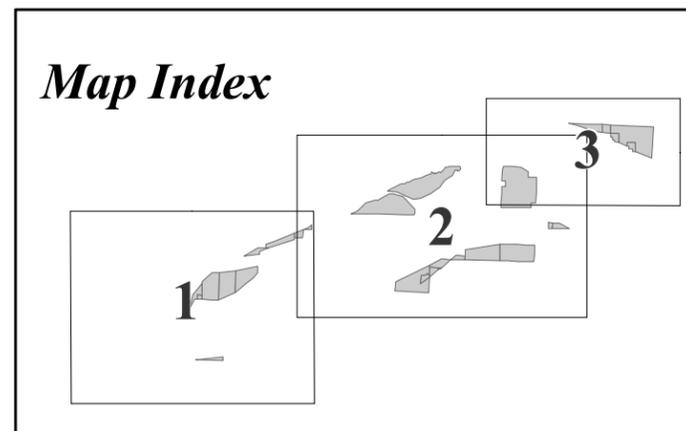
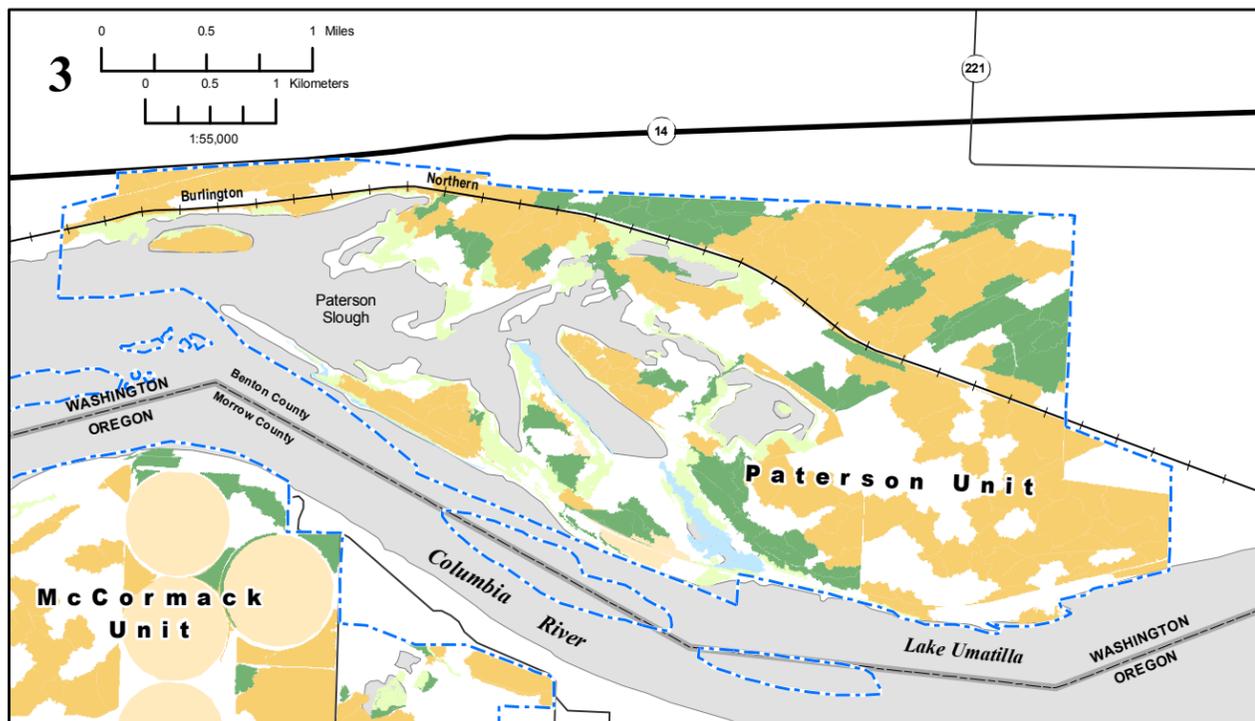
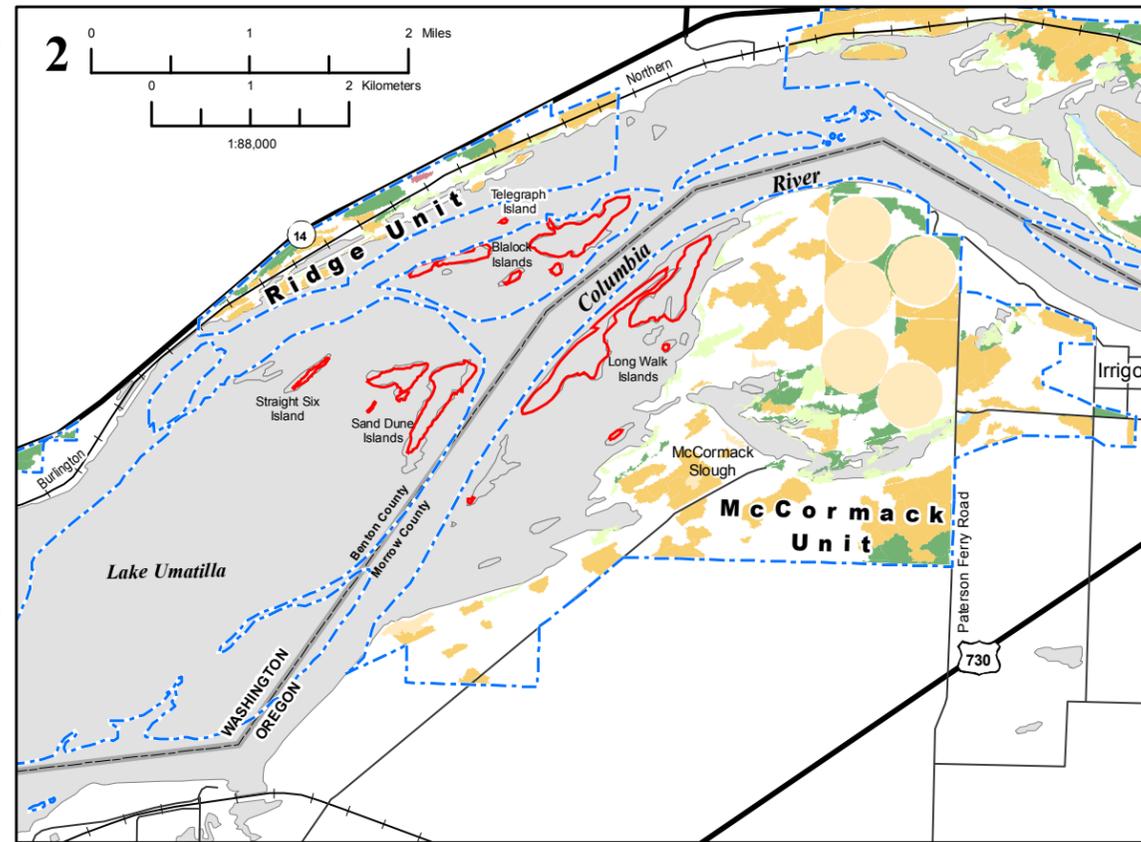
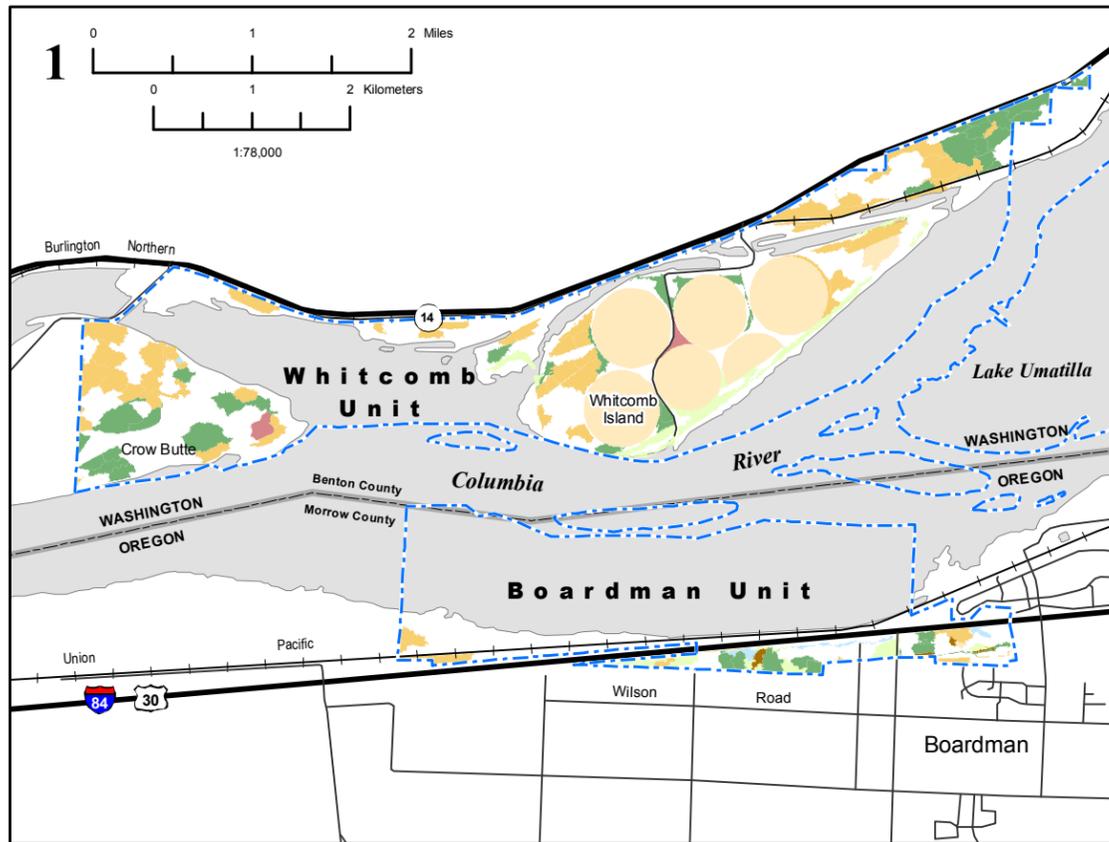


Comprehensive Conservation Plan
Umatilla Main Habitats and Ecotypes

Legend

-  Emergent / Submergent wetland* and playas
-  Grasslands / Scablands*
-  Riparian*
-  Shrub steppe*
-  Cliff and steppe talus*
-  Woodlands / Canyon shrublands*
-  Agriculture fields*
-  Refuge Information
-  Refuge managed lands
-  Umatilla NWR islands

*This map represents areas ground-truthed to the habitats listed above. The mapping/ground-truthing effort is incomplete. Data is current as of 02/22/06.



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 Kendra Maty, GIS Specialist
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 File: 08-148-6.mxd
 07/31/2008

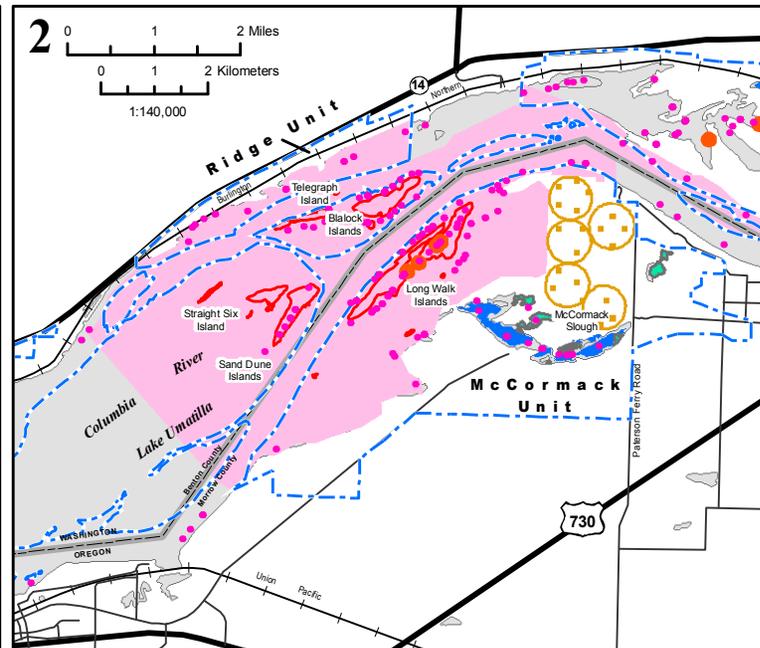
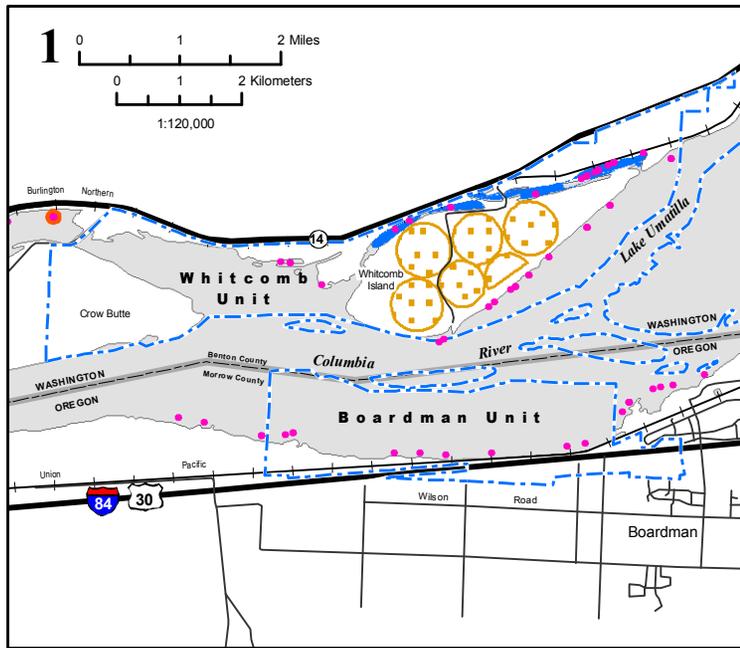


U.S. Fish & Wildlife Service

Umatilla National Wildlife Refuge

Morrow County, Oregon and Benton County, Washington

Comprehensive Conservation Plan Key Waterfowl Use Areas



Legend

Waterfowl locations January 5, 2006

- 1 - 300
- 301 - 1600
- 1601 - 5000
- 5001 - 12000

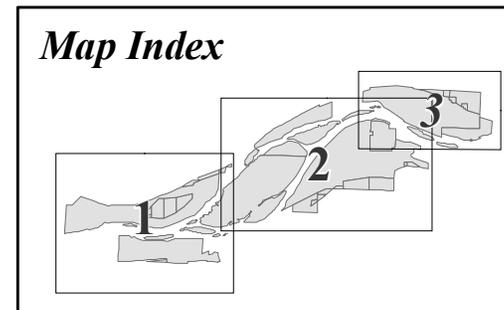
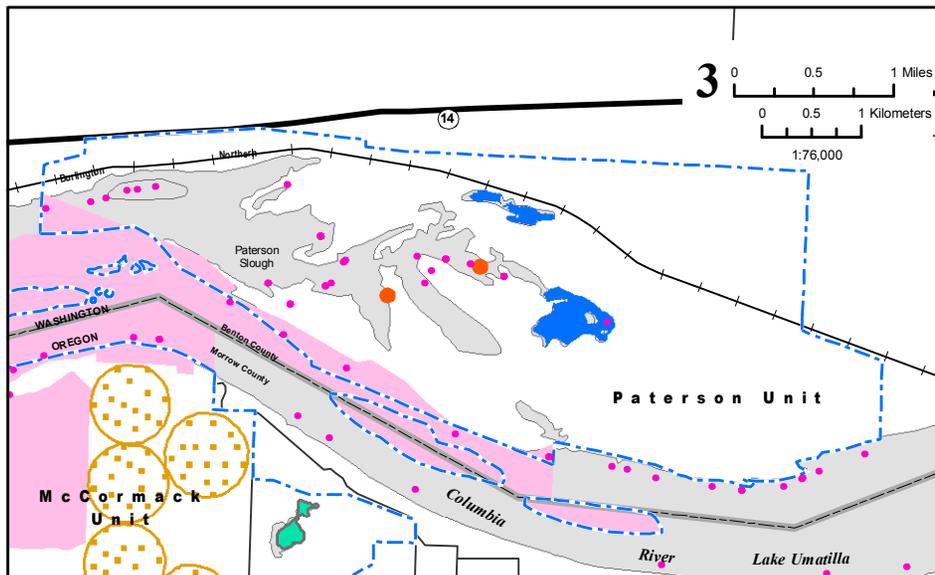
Disclaimer: Overlapping dots on map are not an indication of a double count, rather a cartographic discrepancy.

Waterfowl Habitat

- Existing agriculture areas
- Moist soil emergent wetlands habitat
- Submergent wetlands habitat
- Sanctuary areas

Refuge Information

- Refuge managed lands
- Umatilla NWR islands
- Waterbody boundaries



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 Kendra Maty, GIS Specialist
 Refuge Information Branch
 Portland, Oregon
 File: 08-148-7.mxd

08/01/2008



Mid-Columbia National Wildlife Refuge Complex
64 Maple Street
Burbank, WA 99323
Phone 509/546 8300

Refuge Information
1 800/344 WILD



December 2008

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

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