



Rio Mora National Wildlife Refuge and Conservation Area

Environmental Assessment

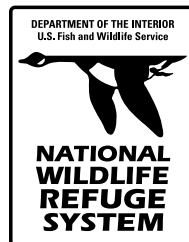


July 2012



U. S. Fish and Wildlife Service Mission Statement

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



National Wildlife Refuge System Mission Statement

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 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

Environmental Assessment for the Proposed
Rio Mora National Wildlife Refuge and Conservation Area,
Colfax, Mora, and San Miguel Counties, New Mexico

June 1, 2012

U.S Fish and Wildlife Service
National Wildlife Refuge System
Southwest Region
Division of Planning
Albuquerque, NM

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1. PURPOSE OF AND NEED FOR PROPOSED ACTION

Introduction

The United States Fish and Wildlife Service (Service) is proposing to establish the Rio Mora National Wildlife Refuge (NWR) in Mora County, NM, and establish the Rio Mora Conservation Area in Colfax, Mora, and San Miguel counties, NM, where up to 300,000 acres of land could be acquired from willing sellers or donors through fee title purchase or conservation easements. The proposed Rio Mora NWR would be established by the Service accepting the donation of the 4,600-acre Wind River Ranch from the Thaw Charitable Trust. The Mora River watershed would form the Rio Mora Conservation Area boundary and would be the focus of conservation partnership efforts cultivated from the proposed Rio Mora NWR.

This Environmental Assessment (EA) is being prepared to evaluate the effects associated with this proposal and complies with the National Environmental Policy Act (NEPA) in accordance with Council on Environmental Quality regulations (40 CFR 1500-1509) and Department of the Interior (516 DM 8) and Service (550 FW 3) policies. NEPA requires examination of the effects of proposed actions on the natural and human environment. In the following chapters, we present three alternatives and analyze the environmental consequences of each.

The scope of this Environmental Assessment is limited to the proposed acquisition of lands for establishment of a new national wildlife refuge and designation of a conservation area. The Environmental Assessment is not intended to address the development or implementation of detailed, site-specific programs for the administration and management of specific property. A Land Protection Plan, Conceptual Management Plan, and Interim Compatibility Determinations, prepared concurrently for this proposed project, provide general outlines on how the proposed Rio Mora NWR or additional acquisitions would be managed.

Project Area Location

The proposed Rio Mora NWR is the current Wind River Ranch, which encompasses approximately 4,600 acres of land in south-central Mora County approximately 5 miles west of the town of Watrous, New Mexico. The property occurs at elevations of 6,500-6,900 feet at the transition zone between the Great Plains and the Southern Rocky Mountains. The Mora River flows through the center of the property for approximately 5 miles in a 250-300-foot deep canyon.

The proposed Rio Mora Conservation Area is the Mora River watershed, which is approximately 952,000 acres, or 1,500 square miles in size and encompasses land in northeast New Mexico in Colfax, Mora, and San Miguel counties. The Mora River is a major tributary to the Canadian River. With the headwaters in the Sangre de Cristo Mountains near 12,000 feet in elevation, the river flows approximately 100 miles to the east where it enters the Canadian River at an elevation of approximately 4,600 feet. The watershed is in both the Southern Rockies and the Great Plains Landscape Conservation Cooperatives (LCCs); the Southern Shortgrass Prairie and Southern Rockies Ecoregions (Ecoregions of the U.S. - USDA Forest Service, modified by The Nature Conservancy); and Southern Rockies-Colorado Plateau (Intermountain West Joint Venture) and Shortgrass Prairie Bird Conservation Regions (Playa Lakes Joint Venture).

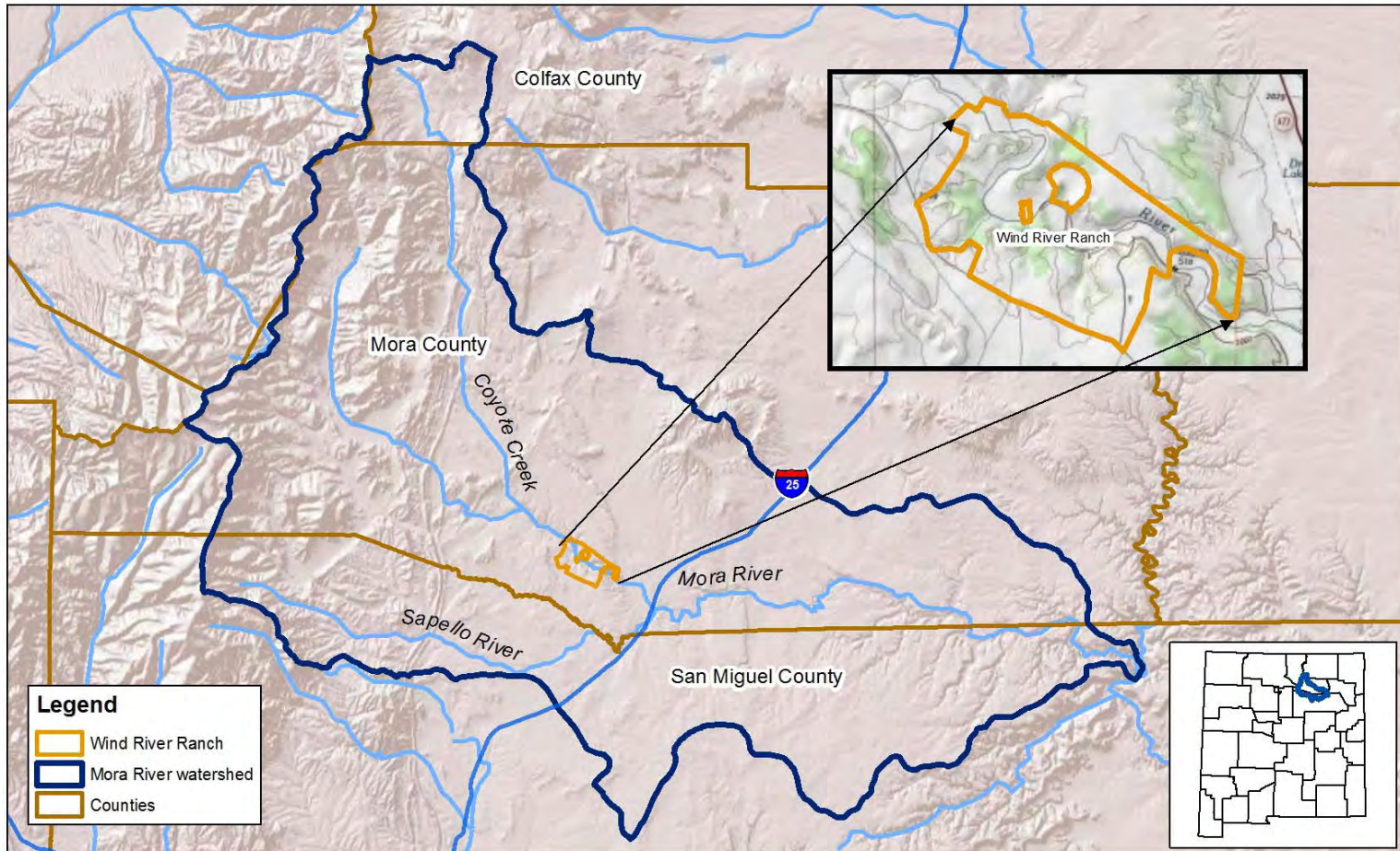


U.S. Fish & Wildlife Service

Rio Mora Conservation Area and NWR

Mora, San Miguel, Colfax counties, New Mexico

Figure 1: Location



PRODUCED IN THE DIVISION OF REFUGE PLANNING
 LAND STATUS CURRENT TO: 9/31/09
 MAP DATE: March 2012
 BASEMAP: N/A
 MERIDIAN: N/A
 FILE: Mora River_base map letter 3_16_2012sk



Background

The U.S. Fish and Wildlife Service is the principal federal agency with the responsibility for conserving, protecting, and enhancing fish and wildlife and plants and their habitats for the continuing benefit of the American people. The Service manages the 150 million-acre National Wildlife Refuge System (System) which encompasses 556 national wildlife refuges, thousands of small wetlands and other special management areas. It also operates 70 national fish hatcheries, 64 fishery resource offices, and 78 ecological services field stations. The agency enforces federal wildlife laws, administers the Endangered Species Act, manages migratory bird populations, restores nationally significant fisheries, conserves and restores wildlife habitat such as wetlands, and helps foreign governments with their conservation efforts. It also oversees the Wildlife and Sport Fish Restoration program that distributes hundreds of millions of dollars in excise taxes on fishing and hunting equipment to state fish and wildlife agencies.

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, Public Law 105-57).

Purpose and Need

The goals of the National Wildlife Refuge System are to:

- 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, environmental education and interpretation); and
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

The primary goal of the proposed action is to establish the Rio Mora NWR and establish and expand conservation efforts within the Rio Mora Conservation Area. The proposed Rio Mora NWR would serve as a core area for protection of native species and natural processes, and facilitate research, outreach, interpretation, and environmental education to help the Service catalyze further conservation efforts and advance partnerships working toward shared conservation goals within the Mora River watershed.

Actions outlined within this proposal are intended to 1) protect and restore part of one of the great grassland landscapes of North America, 2) protect and restore riparian areas in the Mora River watershed, 3) reduce threats to species from habitat fragmentation and degradation, altered ecological processes, invasive species, and impacts from global climate change, and 4) build on existing partnerships to restore wildlife populations and productivity to degraded ecosystems.

Key species and habitats of concern for this area include: long-billed curlew, loggerhead shrike, burrowing owl, mountain plover, southwestern willow flycatcher and a number of other riparian and aquatic species, and breeding and stopover habitat for a number of other declining migratory grassland and woodland birds.

The initial vision for the proposed Rio Mora NWR and Conservation Area is to: work in partnership with the local community to conserve, protect, and manage the abundant fish and wildlife resources in a working rural landscape of northeast New Mexico; restore and protect riparian and upland ecosystems; maintain a landscape that is resilient to the effects of climate change and that supports long-term sustainable uses important to the region's economy and culture.

By itself, the proposed Rio Mora NWR cannot meet the wildlife conservation mandates that direct the Service. This makes it essential to pursue the conservation area approach in the Mora River Watershed. For the Service to be successful in the long-term we need to inform and engage local citizens in the conservation in the area. The focus of this conservation area approach will be to build on existing partnerships, develop new partnerships, and utilize outreach and environmental education to meet the Service's wildlife conservation mandates and reduce the need for fee or easement land acquisition. This approach can reinforce and build a greater culture of conservation, as well as help increase the productivity and sustainability of forest and rangeland resources. Maintaining productivity of the natural systems will help provide landowners with viable alternatives to other actions that negatively impact wildlife and other natural resources (such as development). With limited resources it may not be possible or desirable to acquire additional interests in land beyond the acceptance of the donation of the Wind River Ranch. None the less, the proposed land protection capacity of up to 300,000 acres allows the Service to be in a position to respond to specific wildlife needs and interest from local landowners considering sale or easements. Successful implementation of the partnership approach would offer the greatest chance for conservation success with the least investment of taxpayer money. This is not only an efficient approach for long-term conservation, but is an economically responsible way to conduct conservation business.

The goals for the proposed Rio Mora NWR and Conservation Area follow:

- Conserve the ecological integrity of the Mora River watershed by maintaining and enhancing the productivity of the native ecosystems and wildlife populations.
- Conserve, restore, enhance, and protect riparian, wetland, and grassland habitats for migratory bird productivity.
- Protect the integrity of native riparian and associated upland ecosystems by preventing habitat fragmentation and ecological degradation, and conducting restoration.
- Conserve working landscapes based on grazing operations that support important wildlife habitat and a viable livestock industry.

- Support the recovery and protection of threatened and endangered species, and reduce the likelihood of future listings under the Endangered Species Act.
- Provide a buffer against climate change by providing resiliency for the ecosystems and connectivity for species range shifts and seasonal movement.
- Through landscape-scale conservation work, preserve the ecological function of these habitats by providing for floodwater retention, ground water recharge, carbon sequestration, improved water quality, and reduced soil erosion and water loss.
- To provide environmental education opportunities for students, private landowners and the general public, and to foster stewardship by demonstrating methods for management, protection, and restoration of the wildlife and natural resources in the Mora River watershed.
- To promote the reconnection of Americans with nature by creating an area of national significance that provides land management demonstration, environmental education, and interpretation opportunities.

The vision and goals would be achieved through management, protection, restoration, research, and education. Important components would include:

- To use the proposed refuge as a demonstration site for wildlife conservation and management, and landscape scale ecological restoration compatible with agricultural land uses.
- To engage in scientific programs focused on land management practices that make a meaningful contribution to the conservation of biodiversity, ecosystem-function, ecological restoration, and landscape connectivity in the southwestern U.S.
- To develop careers of young natural resource managers through undergraduate and graduate education, particularly with students from groups which are under-represented in the fields of the natural sciences.
- To develop and enhance environmental science curricula and develop a community conservation ethic by working with school children and teachers in northern New Mexico.
- To develop cooperation among landowners, agencies, NGOs, tribes and local governments so that strategies beneficial to conservation and private land management can be coordinated across a broader area and lessons shared.

In addition to the wildlife conservation benefits, the proposed action would offer a number of benefits for the public: providing recreational opportunities; maintaining quality of life for the nearby communities; adding economic benefits to the local area; and highlighting the rich cultural history of the area.

Refuge Purposes

National wildlife refuges are established for particular purposes. Formal establishment is generally based upon a statute or executive order that specifies a purpose for that refuge. This proposed project would be administered as part of the National Wildlife Refuge System in accordance with the National Wildlife Refuge System Administration Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997, and other relevant legislation, executive orders, regulations, and policies. The acquisition authority for the proposed Rio Mora National Wildlife Refuge and Conservation Area is the Fish and Wildlife Act of 1956, as amended; the Migratory Bird Conservation Act of 1929; Endangered Species Act of 1973 as

amended; the Refuge Recreation Act of 1962; and the National Wildlife Refuge System Administration Act of 1966.

Proposed Refuge Purposes: The purposes for establishment of the proposed Rio Mora NWR and Conservation Area are:

“...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...for the development, advancement, management, conservation, and protection of fish and wildlife resources....” 16 U.S.C. 742f (Fish and Wildlife Act of 1956).

“...suitable for use...for any other management purpose, for migratory birds. 16 U.S.C. § 715d (Migratory Bird Conservation Act of 1929);

“to conserve (A) fish or wildlife which are listed as endangered species or threatened species” or (B) plants...” 16 U.S.C. § 1534 (Endangered Species Act of 1973);

“...for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ... the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors ...” 16 U.S.C. § 460k-460k-4 (Refuge Recreation Act of 1962).

“... for conservation, management, and ... restoration of the fish, wildlife, and plant resources and their habitats ... for the benefit of present and future generations of Americans...”
“Recognition that wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation... are legitimate and appropriate... and are the priority general public uses of the Refuge System.” 16 U.S.C. 668dd(a)(2) (National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997)

Decision(s) to be Made

The Service’s planning team has completed an analysis of the environment and management alternatives. Based on the analysis, documented in this Environmental Assessment, the Service’s Regional Director for the Southwest Region, with concurrence of the Director of the Fish and Wildlife Service, will make two decisions:

- Determine whether or not the Service should establish the Rio Mora NWR through acquisition of the Wind River Ranch, and establish the Rio Mora Conservation Area with authority to acquire a maximum of 300,000 acres of land through fee title purchase or conservation easements.
- If yes, determine whether the selected alternative would have significant impact on the quality of the human environment. The National Environmental Policy Act of 1969 requires that federal agencies make this decision. If the quality of the human environment would not be significantly affected, a finding of no significant impact (FONSI) will be signed and made

available to the public. If the alternative would have a significant impact, completion of an environmental impact statement would be required to address those impacts.

Regulatory Compliance

This Environmental Assessment was prepared by the Service and represents compliance with applicable federal statutes, regulations, Executive Orders, and other compliance documents, including the following:

- Administrative Procedures Act (5 U.S.C. 551-559, 701-706, and 801-808) as amended
- American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996)
- Antiquities Act of 1906 (16 U.S.C. 431-433)
- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470)
- Bald Eagle Protection Act (16 U.S.C. 668-668d) as amended
- Clean Air Act of 1972, as amended (42 U.S.C. 7401 *et seq.*)
- Clean Water Act of 1972, as amended (33 U.S.C. 1251 *et seq.*)
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*)
- Executive Order 12898, Federal Action Alternatives to Address Environmental Justice in Minority Populations and Low Income Populations, 1994.
- Executive Order 13112, Invasive Species (issued in February 1999)
- Fish and Wildlife Coordination Act of 1958, as amended (16 U.S.C. 661 *et seq.*)
- Fish and Wildlife Improvement Act of 1978 (16 U.S.C. 7421)
- Floodplain Management (Executive Order 11988)
- Migratory Bird Treaty Act (16 U.S.C. 703-712 as amended)
- National Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee) as amended
- National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 *et seq.*)
- Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq.*)
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq.*)
- Protection and Enhancement of the Cultural Environment (Executive Order 11593)
- Protection of Wetlands (Executive Order 11990)
- National Pollutant Discharge Elimination System, as amended (33 U.S.C. 1251 *et seq.*)
- Soil and Water Conservation Act of 1977 (16 U.S.C. 2001-2009) as amended

This EA reflects compliance with applicable State of New Mexico and local regulations, statutes, policies, and standards for conserving the environment and environmental resources such as water and air quality, and the required Endangered Species Act Section 7 consultation.

USFWS Land Acquisition Policy

Land interests are acquired only from willing sellers/donors and are subject to the availability of funding. The presence of a national wildlife refuge would not mean increased regulation of adjacent private land uses. The Service acquires lands and interests in lands, such as easements, and management rights in lands through leases or cooperative agreements, consistent with legislation or other congressional guidelines and executive orders, for the conservation of fish and wildlife and to provide wildlife-dependent public use for recreational and educational purposes. When land is needed to achieve those objectives, the Service seeks to acquire the

minimum interest necessary to reach those objectives. If fee title is required, the Service gives full consideration to extended use reservations, exchanges, or other alternatives that will lessen the impact on the owner and the community. Donations of desired lands or interests are accepted. In all fee title acquisition cases, the Service is required by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) to offer 100 percent of the property's appraised market value, as set out in an approved appraisal that meets professional standards and federal requirements.

We only propose fee acquisition when adequate land protection is not assured under other ownerships, active land management is required, or we determine the current landowner would be unwilling to sell a partial interest such as a conservation easement. Generally, the lands we would acquire in fee require more than passive management to meet the wildlife conservation goals.

Conservation easements leave the parcel in private ownership, while allowing the Service involvement in land management decisions in a way that enables us to meet our conservation goals, as well as being able to provide some assistance to the landowner with stewardship and management of their lands. Easements are a property right, and typically are perpetual. If a landowner later sells the property, the easement continues as part of the title. The structure of such easements would provide permanent protection of existing wildlife habitats while also allowing habitat management or improvements and access to sensitive habitats, such as for endangered species or migratory birds. We would determine, on a case-by-case basis, and negotiate with each landowner, the extent of the rights we would be interested in buying. Those may vary, depending on the configuration and location of the parcel, the nature of wildlife activities in the immediate vicinity, the needs of the landowner, and other considerations. In general, easement acquisition would maintain the land in its current configuration with no further subdivision or development.

Properties subject to easements generally remain on the tax rolls and taxes are still paid by the landowner. The Service does not pay refuge revenue sharing (i.e., funds the Service pays to counties in lieu of taxes) on easements. Easements generally work best when:

- only minimal management of the resource is needed, but there is a desire to ensure the continuation of current undeveloped uses and to prevent fragmentation over the long term;
- a landowner is interested in maintaining ownership of the land, does not want it to be substantially altered, and would like to realize the benefits of selling development rights;
- current land use regulations do not limit the potential for adverse management practices;
- the protection strategy calls for the creation and maintenance of a conservation area that can be accommodated with passive management; or
- only a portion of the parcel contains lands of interest to the Service.

On easement lands the opportunities for wildlife-dependent public uses, partnerships, or scientific research would be at the discretion of the landowner. These uses would be considered on lands owned in fee by the Service.

While land owned by the U.S. Government is not taxable by state or local authorities, the federal government has a program in place to compensate local governments for foregone tax revenues

as a result of federal acquisition of private land. The Refuge Revenue Sharing Act of June 15, 1935, as amended (16 U.S.C. 715s) requires the Service to make payments to local taxing authorities, typically counties, to offset the loss of local tax revenues due to federal ownership. The Service makes annual payments to local taxing authorities, based on the estimated values of lands that the Service owns located in those jurisdictions. Money for these payments comes from the sale of oil and gas leases, timber sales, grazing fees, the sale of other National Wildlife Refuge System resources, and from congressional appropriations, which are intended to make up the difference between the net receipts from the refuge Revenue Sharing Fund and the total amount due to local taxing authorities. The actual refuge Revenue Sharing payment does vary from year to year because Congress may or may not appropriate sufficient funds to make full payment.

Eligibility for relocation assistance for tenants on the property will be assessed under Public Law 91-646. Public Law 91-646 was passed by Congress to provide for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs. The Service is required to assist eligible displaced tenants with finding comparable safe and sanitary housing.

The principal federal funding source to acquire property beyond the Wind River Ranch would be the Land and Water Conservation Fund which is derived primarily from oil and gas leases on the outer continental shelf, motorboat fuel tax revenues, and sale of surplus federal property, not from general taxpayer dollars. About 90 percent of that fund is now derived from Outer Continental Shelf oil and gas leases. The Federal Government receives no less than 40% of these funds as directed by the Land and Water Conservation Fund Act of 1965, to acquire and develop nationally significant conservation lands, such as National Wildlife Refuges. Funding for other acquisitions could also be provided by the Migratory Bird Conservation Fund or the North American Wetlands Conservation Act. The donation of the Wind River Ranch, worth an estimated \$6 million, could be used to meet the matching fund requirements of many grants and promote additional conservation actions. There could be additional funds to acquire lands, waters, or interest therein for fish and wildlife conservation purposes through other congressional appropriations, donations, or grants from non-profit organizations and other sources.

Related Efforts and Resources

U.S Fish and Wildlife Service National Wildlife Refuges

Las Vegas NWR is located approximately 7 miles to the south of the Mora River watershed and Maxwell NWR is approximately 35 miles to the north of the Mora River watershed. The Las Vegas NWR encompasses 8,672 acres of shortgrass prairie, natural playa wetlands, steep canyons, and agricultural lands managed to provide food for migratory birds. The Maxwell NWR encompasses 3,700 acres of shortgrass prairie, playa wetlands, woodlots, wetlands, and agricultural lands managed to provide food for migratory birds. Both of these refuges are focused on providing protected feeding and resting areas to meet energy needs for Central Flyway migratory bird flocks, and to reduce crop depredation problems that existed in the area. Each year thousands of ducks, geese, and sandhill cranes utilize the refuges. Native vegetation on both refuges is managed to provide taller structure for nesting habitat conditions that are not common

in the surrounding areas. Both refuges offer extensive environmental education and interpretation programs.

Wind River Ranch Foundation and Denver Zoological Foundation

The Wind River Ranch is owned by the Thaw Charitable Trust and operated through the Wind River Ranch Foundation (Foundation), a 501c3 non-profit organization. The mission of the Foundation is to conserve wild landscapes in northern New Mexico through ecological restoration, research, and education. Over the past 8 years the Foundation has established grassroots conservation and education programs that have been developed with significant input and support from partners, neighbors, and the local community. The Foundation works cooperatively with the Denver Zoological Foundation (Denver Zoo) on a number of research, restoration, education and outreach projects. The ranch property has been re-consolidated (after it had been sold piecemeal over the years) by acquiring 13 parcels. The property was historically used by a number of Native American tribes, then became part of the Mora Land Grant and was used for livestock grazing and some subsistence farming. Since 2005, the ranch has been managed for protection of native species and natural processes and it has been grazed by bison for the past 5 years. The Wind River Ranch Foundation currently funds the day-to-day operation and maintenance costs of the ranch. The ranch is managed by three full-time staff and their salaries are financed by the Foundation. All program funding has been obtained by the staff through competitive grant-writing.

Assets:

There are several homes, an office building/bunkhouse, a newly remodeled education building, corrals, barns, vehicles, ranch/farm equipment, and other lesser assets on the ranch. The Wind River Ranch in cooperation with the InterTribal Buffalo Council (ITBC) currently manages approximately 61 bison (*Bison bison*) on the ranch. Though the ITBC does not own any of the bison, they have provided funding for a full-time ITBC Native American bison manager to help with the day-to-day management of the animals. ITBC has expressed interest in continuing the management of bison on the Wind River Ranch. The ranch owns 25 of the 61 animals with the remainder of the herd belonging to the Jicarilla Apache tribe, who graze under a short-term lease agreement.

Restoration and Research:

The Wind River Ranch has been actively protecting seeps and springs and restoring tributaries of the Mora River, as well as restoring natural meandering to the mainstream of the river, and conducting research related to restoration. Bison, prairie dogs, and their influences on the ecosystems are key parts of existing research and restoration projects. As a result of restoration activities over the last several years, riparian vegetation structure is recovering from impacts from past management. Two years ago southwestern willow flycatchers were observed on the Wind River Ranch during the breeding season, but breeding by the species was not confirmed. Staff from the New Mexico Ecological Services office has confirmed that suitable breeding habitat is present on the ranch. More extensive surveys for the species are planned for the 2012 breeding season. Among others, the Service's Partners for Fish and Wildlife Program has funded planning, design, and implementation of successful wetland/riparian restoration on the ranch. The Denver Zoo plans to include the Wind River Ranch as part of an existing multi-site research project to compare the effects of bison grazing on grassland birds, reptiles, amphibians, and

small mammals to cattle grazing. That project will include graduate students and/or undergraduate interns.

Environmental Education, Interpretation, and Outreach:

The U.S. Fish and Wildlife Service's "Conserving the Future, Wildlife Refuges and the Next Generation", recommendation 20 states, "*Develop an environmental education strategy that inventories existing efforts, identifies priorities for investment of staff and funds, and outlines basic standards for all refuges.*" This recommendation has already been implemented at the Wind River Ranch. The Wind River Ranch has offered extensive environmental education opportunities and outreach to underserved communities. Over 750 school-children come to the ranch each year, where they receive instruction in the natural sciences. Between 2007 and 2009, Education Department staff of the Denver Zoological Foundation and Wind River Ranch staff assessed the needs of science teachers and superintendents from more than 20 schools in northern New Mexico. They subsequently designed a curriculum to meet those needs. The efforts for in-school and hands-on activities in the classroom incorporate national environmental education guidelines, state standards and benchmarks, and the interests of agencies who serve schools.

The Wind River Ranch currently hosts workshops for teachers, landowners, and conservation professionals, as well as think-tank sessions. The ranch has been, and continues to be utilized by a number of New Mexico Highlands University interns, graduate students, and faculty as a research site and outdoor lab. A number of graduate students and faculty from other universities have also utilized the ranch as a research site.

A watershed partnership was proposed several years ago by staff at the Wind River Ranch to coordinate conservation actions in the Mora River watershed, but funding was not secured to support the partnership. There was broad support for the idea and letters of support were received from a number of federal, state, and local governments, numerous non-governmental organizations, and private land owners. Since then, the watershed partnership has been pursued informally by Wind River Ranch staff. Partnerships were formed with a number of neighboring ranch owners who control approximately 300,000 acres of land near the Wind River Ranch. Establishment of the proposed Rio Mora NWR at the current Wind River Ranch can serve as the core for further development of the partnership in the watershed. Because so much of the groundwork for this has already been done by staff at the Wind River Ranch and others in the watershed, the Service plans to capitalize on that effort so the momentum is not lost.

Fish and Wildlife Service Partners for Fish and Wildlife Program (Partners Program)

The Partners Program is the Service's program that works with private landowners on mutually beneficial restoration projects. Creating and facilitating partnerships to conduct restoration efforts at the watershed scale is a focus of the program. On the Wind River Ranch, the Partners Program has funded ecological restoration efforts on the Mora River and several of its tributaries. The Partners Program could be a key element in building upon grassroots efforts to promote conservation throughout the watershed.

Bureau of Land Management (BLM)

The BLM manages approximately 3,590 acres within the proposed conservation area in scattered, small parcels. The 16,030-acre Sabinoso Wilderness is a remote area just south of the proposed conservation area. The Wilderness includes a series of high, narrow mesas with grassland and woodlands surrounded by cliff-lined canyons. Elevations range between 4,500 and 6,000 feet above sea level. The focus of management by the BLM is to preserve its wilderness character. The Wilderness is surrounded by privately owned land. Currently there is no public access but the BLM is working with private landowners to arrange access agreements.

National Park Service (NPS)

The 720-acre Fort Union National Monument, managed by the Department of the Interior National Park Service, is located in the proposed conservation area near the proposed refuge. Fort Union was established in 1851 to protect residents, travelers, and freight along the Santa Fe Trail, and to subdue tribal resistance to the changes that came with such activities and the displacement of Indian peoples from their land. The site contains the largest concentration of 19th century adobe ruins in the United States and is one of few federally managed sites preserving remains of the Santa Fe Trail. The remains of the Loma Parada village, which historically was a popular destination for soldiers from Fort Union, are partially on the Wind River Ranch. Opportunities exist to partner with the NPS on outreach and interpretive work.

North American Waterfowl Management Plan (NAWMP)

The proposed conservation area falls under both the Intermountain West and Playa Lakes Joint Ventures (PLJV). The Playa Lakes Joint Venture has prepared an Area Implementation Plan for the shortgrass prairie region of New Mexico where national bird plan goals were stepped down and recommendations made that were expected to increase bird populations to desired levels (PLJV 2008). In the 2011 NAWMP priority map, the PLJV delineated concentrations of playa wetlands and other wetlands to better highlight the distribution of playas within the PLJV boundary and their importance throughout the waterfowl migration and wintering seasons. One of the high priority areas overlaps the proposed Rio Mora Conservation Area.

Landscape Conservation Cooperatives (LCC)

Landscape Conservation Cooperatives (LCCs) are public-private partnerships composed of states, tribes, federal agencies, non-governmental organizations, universities and others. The role of LCCs is: to leverage funding, staff and resources; to develop common goals; to develop tools and strategies to inform landscape-scale planning and management decisions; to link science to management; and to facilitate information exchange among partners.

The proposed Rio Mora conservation area is in both the Southern Rockies LCC and The Great Plains LCC. LCCs are partnerships that provide applied science and decision support tools to assist natural resource managers with conservation of habitat and wildlife resources. Among the priorities identified by the Great Plains LCC are three of the priority habitats identified in the project area - riparian areas, playa wetlands, and shortgrass prairie. At least twelve species identified as high priority for the Great Plains LCC occur within these habitats in the watershed.

United States Forest Service (USFS)

The USFS Santa Fe and Carson National Forests manage approximately 73,000 acres of land in the watershed. This land is in the watershed's forested, higher elevations and includes many of the headwater streams that drain to the Mora River or other major watershed tributaries. The land is managed for multiple uses. In addition, the Mills Canyon section of the Canadian River, part of Forest Service land making up the Kiowa National Grassland, is proposed for Wilderness Area designation. This land lies to the east of the proposed Mora River NWR, and it is just north of the recently designated Sabinoso Wilderness Area on BLM lands along the Canadian River.

New Mexico Department of Game and Fish (NMDGF)

The New Mexico Department of Game and Fish has contributed significant funds for restoration efforts at the Wind River Ranch and supplied guidance and labor for restoration projects. They have also held teacher workshops at the Wind River Ranch. The proposed actions are in alignment with implementation steps identified in the Comprehensive Wildlife Strategy for New Mexico (NM Department of Game and Fish 2006). The cooperation of landowners uniting in partnership with agencies, local governments, tribes, universities, local schools, and NGOs, was identified as paramount to successful wildlife conservation. The findings of that plan assert that, *“we will need to create partnerships among local, state, federal, and tribal governments, non-government organizations, universities, and individuals to effectively forward our common wildlife conservation interests,”* and that these strategies need to be implemented on a landscape scale.

The Comprehensive Wildlife Strategy for New Mexico (New Mexico Department of Game and Fish 2006) identified shortgrass prairie as the highest priority terrestrial habitat. The NMDGF identifies this section/assessment unit of the Mora River as important for a transitional warm-water to cold-water fishery which adds to the diversity of aquatic life and the wildlife supported by it. Conservation of the Mora River has also been noted as a priority for the New Mexico Environment Department.

The proposed project aligns with Prioritized Conservation Actions identified in the Comprehensive Wildlife Strategy including:

- “Protected areas have been established as wildlife corridors to reduce habitat fragmentation and provide Species of Greatest Conservation Need (SGCN) access to necessary habitat.”
- “To collaborate with state and federal agencies, the New Mexico Legislature, non-governmental organizations (NGOs), and private landowners to conserve riparian and other important wildlife habitat corridors linking Rocky Mountain Montane Mixed-Conifer Forest and Woodlands within and between other ecoregions.”
- To “collaborate with federal and state agencies and private landowners to ensure the ecological sustainability and integrity of the shortgrass prairie. Methods may include: establishing conservation agreements, agency memorandum of understanding, or land acquisition projects.”
- To “Support actions that create incentive based or voluntary partnerships with private landowners to conserve and manage their properties to sustain SGCN.”

New Mexico State Parks

Coyote Creek State Park is approximately 83 acres in size. The federally endangered southwestern willow flycatcher breeds there along the valley of Coyote Creek. The New Mexico meadow jumping mouse, a Candidate for listing has also been documented at the park. The park is utilized by the public for camping, hiking, fishing, and picnicking. Park management supports this project as an additional destination of offer their campers. Coyote Creek is one of the major tributaries draining into the Mora River approximately 5 miles upstream of the Wind River Ranch. Park management supports this project as an additional destination of offer their campers.

New Mexico State Land Office

The New Mexico State Land Office manages over 32,000 acres within the proposed conservation area at the headwaters of Coyote Creek and the confluence of the Mora and Canadian Rivers. In general, these lands are managed by lease as part of private ranches, with proceeds mainly funding the public education system in New Mexico. Wind River Ranch staff have cooperated with the New Mexico State Land Board on education projects with local schools and served on their wildlife advisory group.

InterTribal Buffalo Council (ITBC)

The Wind River Ranch works in partnership with the ITBC on bison management at the ranch and provides a location and opportunity for bison management workshops and Native American cultural ceremonies involving bison. The Service goals for metapopulation management of bison align well with the goals of the ITBC. The ITBC has provided funding for a full time staff person at the Wind River Ranch to manage the bison herd. The bison are a central theme in many of the restoration, education, and outreach programs directed by the Wind River Ranch staff. Future cooperation with the ITBC could help attain goals of the Department of the Interior Bison Initiative (2008).

Natural Resources Conservation Service (NRCS) Conservation Districts

Conservation districts are local units of government established under state law to carry out natural resource management programs at the local level. These districts work cooperatively with private landowners to manage and protect land and water resources. There are three conservation districts active in the proposed conservation area: Mora – Wagon Mound, Tierra y Montes, and Colfax Soil & Water Conservation Districts. NRCS staff conducted initial planning efforts for the restoration projects on the Wind River Ranch and are interested in continuing to participate in future restoration projects.

America's Great Outdoors Initiative

President Obama launched the America's Great Outdoors (AGO) Initiative to develop a 21st Century conservation and recreation agenda for our nation. The AGO Initiative takes as its premise that lasting conservation solutions should rise from the American people – that the protection of our natural heritage is a non-partisan objective shared by all Americans. The vision of the AGO Initiative involves connecting Americans to the great outdoors, conserving and restoring America's great outdoors, and working together for America's great outdoors. The AGO Initiative seeks to empower all Americans—citizens, young people, and representatives of community groups; the private sector; nonprofit organizations; and local, state, and tribal governments—to share in the responsibility to conserve, restore, and provide better access to our

lands and waters in order to leave a healthy, vibrant outdoor legacy for generations yet to come. The proposed project, and current management of the Wind River Ranch, serves many objectives outlined by the AGO Initiative. (For more information about the AGO Initiative, please visit: <http://americasgreatoutdoors.gov/>.)

The proposed projects can address a number of America's Great Outdoors objectives (AGO 2011) including:

Objective 1: Provide Quality Jobs, Career Pathways, and Service Opportunities

Objective 2: Enhance Recreational Access and Opportunities

Objective 3: Raise Awareness of the Value and Benefits of America's Great Outdoors

Objective 4: Engage Young People in Conservation and the Great Outdoors

Objective 7: Conserve Rural Working Farms, Ranches, and Forests Through Partnerships and Incentives

Objective 8: Conserve and Restore our National Parks, Wildlife Refuges, Forests and other Federal Lands and Waters.

Objective 9: Protect and Renew Rivers and Other Waters

Objective 10: Make the Federal Government a More Effective Conservation Partner

Audubon of NM

Audubon has designated the Wind River Ranch as an Important Bird Area (IBA). Important Bird Areas are sites which provide essential breeding, migrating or wintering habitat for one or more species of bird and/or they support one or more high-priority species, large concentrations of birds, exceptional habitat, and/or have substantial research value. Designation as an IBA confers no regulatory authority.

The Nature Conservancy (TNC)

The project area is also within a number of terrestrial and aquatic conservation sites identified as part of TNC's 2007 Biodiversity and Conservation Assessment of the Southern Shortgrass Prairie Ecoregion (The Nature Conservancy 2007) and the Southern Rocky Mountains: An Ecoregional Assessment and Conservation Blueprint (Neely et al. 2001).

Public Participation, Issue Identification, and External Coordination

Public input was solicited and background information regarding the project proposal was presented to the public in a number of different ways. In early 2011, the Service initiated outreach efforts by contacting stakeholders to discuss the proposal. Staff from the Las Vegas NWR and the Service's Southwest Regional Office attempted to contact tribal, federal, state, and local agencies, public representatives, neighbors, and conservation groups to assess the feasibility of this effort. Several tours and events were held at the Wind River Ranch to discuss the proposed project and to solicit feedback from federal, state and local agencies, government representatives, neighbors, community members, and other interested parties.

An initial contact list was developed which included mostly agencies, non-governmental organizations, elected officials, as well as the landowners adjacent to the Wind River Ranch. This initial list of contacts included approximately 200 people. In July of 2011, press releases were circulated in the local communities (Las Vegas, Mora, and Watrous) to present the proposed project and announce public scoping meetings to be held to describe the proposed

project and solicit feedback. A planning update was also made available on the Region's website (listed on the press release) and included an email account and mailing address to submit comments. Copies of the planning update document were emailed to the initial contact list, and printed copies were hand delivered to a number of locations for distribution in the local communities. The meetings were also announced on two local radio stations and by a notice in the Las Vegas Optic newspaper. The two public scoping meetings were held in the local area (in Mora on July 25th and in Las Vegas on July 26th, 2011). Comments were accepted during the public scoping period from July 25 to September 19, 2011. Over 118 landowners, citizens, and elected officials (or their representatives) attended the two scoping meetings. Afterwards the Service received over 50 written, email, or phone call communications providing comments, requesting more information, identifying issues or concerns, or requesting to be added to a contact list to receive future updates. Throughout the planning process anyone expressing interest or concern has been added to the contact list (if contact information was provided).

The Draft Land Protection Plan (including the Conceptual Management Plan and Interim Compatibility Determinations), and Draft Environmental Assessment were made available for a public review and comment period (March 30-May 1, 2012). Two hearings were held during this period to offer the public the opportunity to provide input on the proposed actions and the draft documents. The public hearings and availability of draft documents for public review were announced through email and regular mail to the contact list developed for the project (at this time approximately 325 contacts), through the Las Vegas Optic newspaper, and through a public notice posted in a number of locations around in the local communities. The first meeting was held in Mora on April 12th, and the second in Las Vegas on April 13th, 2012. Over 84 landowners, citizens, and elected officials (or their representatives) attended the two hearings and eight individuals gave public comment. Afterwards the Service received an additional 8 written, email, or phone call comments. Comments received at the hearings and by other means through the comment period are addressed in Appendix 3 of the Land Protection Plan. Copies of the Land Protection Plan are available by writing: Division of Planning - NWRS, U.S. Fish and Wildlife Service, 500 Gold Ave. SW, Albuquerque, NM, 87102.

Public Scoping Meetings:

Monday July 25, 2011 5:30-7:30 pm
Mora High School Lecture Hall
Mora, NM

Tuesday July 26, 2011 5:30-7:30 pm
Donnelly Library Lecture Hall
New Mexico Highlands University
Las Vegas, NM

Public Hearings:

Thursday, April 12, 2012 6:00 p.m. — 8:00 p.m.
Mora High School Lecture Hall
Mora, New Mexico

Friday, April 13, 2012 2:00 p.m. — 4:00 p.m.
Lora Shields Science Building - Lecture Hall 1
New Mexico Highlands University
900 University Avenue
Las Vegas, New Mexico

Issues Identified During Scoping

All comments received during the scoping period were considered and addressed in this EA. The comments were analyzed, organized, and grouped (if applicable) to reflect different issues or concerns. Respondents were self-selected (i.e., they voluntarily provided comments); therefore their comments do not necessarily represent the sentiments of the public as a whole. Individual comments will be made part of the administrative record.

Individual comments received during the scoping period ranged from those not wanting to see more federal land in the area to those in support for establishment of the proposed refuge and the conservation area. A large majority of the comments supported the proposed action and many of these comments also requested that the Service maintain the environmental education and interpretation, restoration, bison herd management, research programs, and the extensive partnerships that the Wind River Ranch Foundation created.

2. ALTERNATIVES

Alternative A (No Action): The Service would not establish the Rio Mora National Wildlife Refuge or Conservation Area.

The Thaw Charitable Trust has pursued several conservation outcomes for the Wind River Ranch in recent years. They have indicated that if the proposed donation is not accepted and the property does not become national wildlife refuge, they will need to sell the property before the end of the year (2012). It may or may not be sold with a conservation easement or deed restriction to limit future development. Currently the property is managed with conservation and education purposes as the highest priorities. If the property is sold, our assumption is that conservation and education purposes would no longer be a priority. The conservation benefits and environmental education and interpretation opportunities fundamental to the Service's mission would not be realized.

The benefits of connecting people to nature realized from partnerships catalyzed by Wind River Ranch staff, for conservation, management, restoration, research, environmental education, interpretation, and outreach at the watershed scale, would be lost. The likely scenario with no action would be continued levels of fragmentation, ecological degradation, unnatural levels of erosions and sedimentation, and a continued loss of, or negative effects to declining wildlife species and ecosystems in the Mora River watershed. The Service's mission and mandates would not be supported in the watershed.

Alternative B (Rio Mora NWR only alternative): The Service would establish the Rio Mora National Wildlife Refuge by accepting the donation of the 4,600-acre Wind River Ranch.

Wildlife and natural resource values would be maintained or improved on the proposed Rio Mora NWR and remain in effect for perpetuity (see Conceptual Management Plan for details). With the relatively small size of the proposed Rio Mora NWR these benefits would generally not extend beyond the property. In the long-term, changes in land use around the proposed NWR would likely negatively affect wildlife and other natural resource values within the proposed NWR.

Within the watershed few protection and restoration activities would occur, and these would tend to be more reactive in nature and would not be focused on strategically guiding efforts to protect wildlife resources and critical ecosystem processes. It is likely that land conversion and degradation of ecosystems and wildlife values would continue at rates similar to those in recent times. Refuge-based partnerships for environmental education and interpretation, watershed level conservation and restoration, and scientific research could be pursued, but with fewer options or tools to achieve Service goals and mandates. The Service's mission and mandates would not be supported and beneficial effects at the scale of the Mora River watershed would not be realized.

Alternative C (Rio Mora NWR and Conservation Area) Preferred Alternative:

The Service would establish the Rio Mora National Wildlife Refuge by accepting the donation of the 4,600-acre Wind River Ranch, and also establish the Rio Mora conservation area with

authority to acquire up to a total of 300,000 acres of land within the Mora River watershed through fee title purchase or conservation easement from willing sellers.

This alternative provides the most flexibility and greatest number of tools to manage for priority species and habitats, ensuring the protection in perpetuity of nationally significant trust resources, and providing opportunities to engage the public with wildlife-dependent recreation and environmental education and interpretation opportunities (see Conceptual Management Plan for details). This alternative would provide both protection and partnership options that would result in greater opportunities to conserve and restore extensive habitat areas than the other alternatives, and would better enable the Service to meet its mission and mandates. It would offer more opportunities for compatible public uses than either Alternative A or B, and would also catalyze refuge-based partnerships for environmental education and interpretation, watershed level conservation and restoration, and scientific research. This alternative would enhance management of native habitats increasing the likelihood of successful conservation of the resources at the watershed scale.

Comparison of Alternatives

The likely scenario with Alternatives A and B would be continued levels of fragmentation, ecological degradation, unnatural levels of erosions and sedimentation and a continued loss of, or adverse effects to declining species and ecosystems in the watershed. As a result many physical, biological, and social factors would be negatively affected.

The likely scenario with Alternative B would be perpetual conservation of wildlife and other natural resources on the proposed Rio Mora NWR which would provide a very small incremental benefit; however, this would be minor at the scale of the Mora River watershed.

The likely scenario with Alternative C would be greater protection of trust species and important habitats and greater community awareness and appreciation for these resources leading to increased conservation. A number of management or protection options would be made available to avoid fragmentation, ecological degradation, unnatural levels of erosions and sedimentation, the continued loss of, or negative effects to declining species and ecosystems. As a result many physical, biological, and social factors would be maintained or improved under this preferred alternative. The Service believes that this will benefit private citizens and land management entities alike.

3. AFFECTED ENVIRONMENT

Physical Environment

Climate Change/Air Quality

Climate patterns are generally driven by regional to global influences. Climate change in the Southwest is predicted to result in conditions becoming warmer and drier, and precipitation events to become more erratic and extreme, resulting in more extreme droughts and earlier snow pack melt-off that will alter hydrologic regimes and stress natural systems (IPCC 2007). The relatively small population, limited urban influence, and the current land uses on the Wind River Ranch and within the watershed result in low levels of emissions by vehicles, human infrastructures, and industry. The land cover on the Wind River Ranch is mostly natural and approximately 98 percent of the land cover within the watershed is natural, consequently carbon sequestration occurs at relatively natural levels.

Topography

On the Wind River Ranch and within the watershed the natural topography is highly variable. In the eastern part of the watershed on the Great Plains, the topography is generally flat to rolling with isolated high mesas and occasional deep canyons where streams flow. In the western part of the watershed in the Rocky Mountains and foothills, the topographic relief is greater and can be extreme over a small area. Human changes to the topography in the area are mainly a result of minor excavations for roads, buildings, irrigation ditches, and utility lines, as well as some tilling of land for crop or hay production. In some places, these alterations may have impacted drainage patterns. Gravel mining operations that occur within the watershed often alter the natural topography to a greater degree, but the changes to the natural topography occur over a relatively small area.

Surface and Ground Water Quality/Quantity

The major source of water supply in the watershed is surface water runoff from the Sangre de Cristo Mountains, with smaller quantities coming from groundwater for livestock watering and domestic supply. At least 47 acequias, or community operated irrigation ditches, occur on the Mora River and its tributaries throughout the watershed (Thompson and Ali 2009). New Mexico recognizes acequias as political subdivisions of the state. Irrigation has changed the flow, geomorphology, and water quality of the major streams within the watershed.

In some places within the watershed riparian areas have been eroded, partially because of reduced vegetation cover due to overgrazing, or where the natural meander of the river has been altered. This has led to down-cutting of the stream, in-turn lowering the water table and stressing the native riparian vegetation. This also can reduce oxygen levels, increase water temperature, and increase sedimentation (Schumm et al 1984). In other places application of irrigation water has created wetlands where they would not have naturally occurred.

Water quality has been assessed in the Canadian River tributaries, including the Mora River, by the New Mexico Environment Department (2008). They reported that generally water quality was good. There were some sampling locations where water quality standards were not met: fecal coliform criteria were exceeded on the Mora and Sapello Rivers; impairment

determinations of New Mexico water quality standards for specific conductance were documented for Coyote Creek (Mora River to Black Lake) and the Mora River (Hwy 434 to headwaters). Impairment of the plant nutrients criterion was determined for Little Coyote Creek (Black Lake to headwaters) and the Mora River (USGS gage east of Shoemaker to Hwy 434). Temperature criteria were exceeded on Coyote Creek (Mora River to Black Lake). Impairment due to sedimentation/siltation was determined on the Mora River (Hwy 434 to headwaters) and the Sapello River (Mora River to Manuelitas Creek). They attributed some of the impairments as being due to low flows associated with the drought conditions in 2002.

Flooding

Floods would have naturally occurred, especially during spring melt-off of high snowpack or with summer thunderstorms. Human alterations along the floodplains associated with building of roads and other infrastructure, and substantial changes or complete removal of native vegetation have reduced the capacity of the natural systems to slow and store flood waters. This has resulted in flood events with greater capacity to cause damage, especially to infrastructure located in the floodplains.

Stable rivers that meander across valley floors have functional floodplains, or areas that occur naturally along the stream where the river deposits water during flood events. Floodplains are thus pressure relief valves for a river (Zeedyk and Clothier 2009). When flood waters spread across the vegetated floodplain, it spreads the energy of the river and creates resistance. By dissipating energy and slowing flows, floodplains reduce erosion of the bank and bed of a flooding river. Flooding deposits rich sediments onto the floodplain, recharges water tables, creates diverse habitats, and sustains communities of plants and animals (Zeedyk and Clothier 2009).

Minerals and Energy Resources

Commercial wind and solar energy production facilities have been proposed within, or near the Mora River watershed. To date none of these facilities have been constructed. Commercial mining for gravel occurs at small scales across the area. In some cases these activities have taken place close to, or within stream and river floodplains, which could contribute unnatural sediment loads to those streams systems.

There have been efforts to secure leases for oil and gas exploration in the watershed, but to date there are no known commercial extraction operations. New Mexico has a split-estate system, which considers mineral rights and the surface property rights above them to be separate and those rights can be sold or leased separately. Many landowners in Mora County also own their mineral rights. In other cases throughout the Mora River watershed at least part of the subsurface mineral rights are not owned by the owners of the surface rights. The Wind River Ranch Foundation owns approximately 60 percent of the mineral rights under the property. A number of negative effects to the environment have been documented from oil and gas extraction activities in the western U.S. Both positive and negative effects to economic and social systems have also been documented.

Biological Environment

Vegetation

The most significant habitats (Ecological Systems – National Vegetation Classification Standard 2008) represented on the proposed Rio Mora NWR include shortgrass prairie, piñon-juniper (*Pinus edulis-Juniperus monosperma*) woodlands, and smaller amounts of ponderosa pine (*Pinus ponderosa*) woodlands and riparian systems. Approximately 5 miles of the Mora River flows through the center of the property. Vegetation along the river is dominated by relatively dense willow (*Salix* spp.) thickets with scattered cottonwood (*Populus* spp.) trees.

The dominant habitats within the proposed conservation area (generally from higher to lower elevations) include montane conifer forests and woodlands, aspen (*Populus tremuloides*) forests and woodlands, ponderosa pine forests and woodlands, lower montane-foothill riparian woodlands and shrublands, piñon and juniper woodlands and savanna, shortgrass prairie, playa wetlands, and Great Plains riparian habitats. Cultivated agricultural lands are a very small part of area, but small irrigated hay meadows or croplands occur in a number of areas along the major streams in the watershed.

In some places within the watershed riparian areas have been eroded, partially because of reduced vegetation cover, or where the natural meander of the river has been altered. This has led to down-cutting of the stream, in-turn lowering the water table and stressing the native riparian vegetation as well as lowering the productivity of the habitat for livestock use. Willows and cottonwood trees are less abundant than they would have been historically. Cottonwoods no longer exist in continuous gallery forests, but have been reduced to small isolated stands.

In general, upland grassland and piñon-juniper habitats have been altered by fire suppression, over grazing, and increased atmospheric carbon dioxide inputs (Romme et al 2009). This has reduced the productivity of many of these habitats, increased water runoff and erosion, lowered the local water table, and increased down-cutting in streams and arroyos. Some playa wetlands have been excavated or cultivated, which destroys the natural hydrologic processes and natural ecological function.

Wildlife Species Diversity/Abundance

The elevation transition between the Great Plains and the Sangre de Cristo Mountains, the juxtaposition of two ecoregions, and the riparian habitats in this arid part of the West all enrich the species diversity of the area. The location of the Wind River Ranch in the heart of this transition, and recent management and restoration projects, provide for remarkable species diversity. Over 150 bird species, 23 amphibian and reptile species, and 35 mammal species have been documented to occur on the Wind River Ranch. The fact that a large proportion of the watershed is still in natural land cover helps provide resources for abundant wildlife populations. Nevertheless, a number of species have been eliminated from large areas of their former range, including the Mora River watershed. These species are viewed as competing with livestock for grass (prairie dogs, *Cynomys* spp. and bison *Bison bison*), impeding attempts at irrigation (beavers, *Castor canadensis*), or preying on livestock (wolves, *Canis lupus* and grizzly bears, *Ursus arctos*). These are often considered keystone species that contribute greatly to ecological and evolutionary functions. Even though individuals of those species still persist at low levels across parts of their historic range, they can become so low in abundance relative to natural

levels, or not distributed widely enough to exert their ecological function (Soulé et al. 2005). That causes a series of indirect effects that ripple through trophic levels, affecting life-forms that seem distantly removed (Terborgh et al. 1999; Miller et al. 2001; Soulé et al. 2005).

Wildlife

Federally Listed Species

Southwestern willow flycatcher (*Empidonax traillii extimus*)

The species breeds in dense riparian habitats in the Southwest. Its breeding range includes far western Texas, New Mexico, Arizona, southern California, southern portions of Nevada and Utah, southwestern Colorado, and possibly extreme northern portions of the Mexican States of Baja California del Norte, Sonora, and Chihuahua. The species breeds in relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes (e.g., reservoirs). Most of these habitats are classified as forested wetlands or scrub-shrub wetlands. The southwestern willow flycatcher has experienced extensive loss and modification of breeding habitat, with consequent reductions in population levels. The recovery plan for the southwestern willow flycatcher (U.S. Fish and Wildlife Service 2002) outlines habitat characteristics suitable for the species, and the average abundance of the species is known for some habitats. Recent information suggests that higher elevation habitats for this species, such as those in the Mora River watershed, may support greater densities than estimates from lower elevation range (USFWS NM Ecological Services Field Office).

As a result of restoration activities over the last several years on the Wind River Ranch, riparian vegetation structure is recovering from impacts from past management. There are scattered large cottonwood trees along the river and cottonwood poles have been planted. Coyote willow has regenerated to form dense stands in places along the river and on several small tributaries. Two years ago flycatchers were observed on the Wind River Ranch during the breeding season, but breeding by the species was not confirmed. New Mexico Ecological Services staff has confirmed that suitable breeding habitat is present. More extensive surveys at the Wind River Ranch for the flycatcher are planned for the 2012 breeding season. Designated critical habitat for the species occurs at higher elevations in the Mora River watershed on Coyote Creek (approximately 25 stream miles and 19 linear miles from the Wind River Ranch).

Mexican spotted owl (*Strix occidentalis lucida*)

This species occurs in mature montane forest and woodland, shady wooded canyons, and steep canyons in Arizona, Colorado, New Mexico, Texas, and Mexico. The owl generally nests in older forests made up of mixed conifer or ponderosa pine/Gambel's oak (*Quercus gambelii*). Nests are found in live trees in natural platforms, snags, and on canyon walls from 4,100 to 9,000 ft. elevation). Throughout the species range the majority of the owls are found on Forest Service, tribal, National Park Service, and on Bureau of Land Management lands. Within the Mora River watershed critical habitat occurs in the upper reaches, on both National Forest and private lands. One of the greatest threats to the species is from destruction of habitat by catastrophic wildfires. Designated critical habitat for the Mexican spotted owl occurs in the higher elevation portions of the Mora River watershed, on both public and private land.

Candidate Species

Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*)

The Rio Grande cutthroat trout is a subspecies of cutthroat trout occurring in the Rio Grande, Pecos, and Canadian drainages of southern Colorado and northern New Mexico. The majority of populations occur on Forest Service lands within the Southern Rocky Mountains. Most of these populations are spatially restricted, highly fragmented, and primarily confined to headwater streams. The Rio Grande cutthroat occurs in the headwaters of the Mora River (Sublette *et al.* 1990, New Mexico Department of Game and Fish 2006). Threats to the species include degradation of riparian/aquatic habitats and invasion of non-native fish (mainly non-native trout).

Gunnison's prairie dog (*Cynomys gunnisoni*)

Gunnison's prairie dog habitat includes level to gently sloping grasslands and semi-desert and montane shrublands, at elevations from 6,000 to 12,000 feet in Arizona, Colorado, New Mexico, and Utah. Gunnison's prairie dogs are colonial and generally occupy grass-shrub areas in low valleys and mountain meadows. Complexes of Gunnison's prairie dog colonies (metapopulations) expand or contract over time depending upon various natural factors (such as reproduction, food availability, and disease) and human-caused factors (such as chemical control and shooting). The Wind River Ranch established a colony of 300 Gunnison's prairie dogs on the ranch in 2006 and 2007. The Mora County Commission overturned a law against importing prairie dogs into Mora County so that this colony could be established. The colony is still active and occupies a site on grasslands above the Mora River floodplain. This species is suspected to occur in other locations in the watershed but comprehensive surveys have not been conducted.

New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)

The New Mexico meadow jumping mouse (jumping mouse) is endemic to New Mexico, and Arizona, and possibly a small area of southern Colorado. It uses dense streamside riparian/wetland vegetation up to an elevation of about 8,000 feet mainly in two riparian community types: 1) persistent emergent herbaceous wetlands; and 2) scrub-shrub wetlands composed of willows and alders along perennial streams. Threats to the species include habitat degradation due to development, conversion of habitat to agricultural crop production, excessive grazing pressure from livestock, removal of beavers and their dams, down-cutting of streams, drought, and water diversions that reduce suitable habitat. The species has been documented to occur at Coyote Creek State Park in the upper part of the Mora River Watershed. Suitable habitat is not uncommon in the Mora River watershed but systematic surveys have not been conducted in the area to fully document the presence or abundance of the species.

State listed species

At least 13 species listed as threatened, endangered, or species of concern by the New Mexico Department of Game and Fish occur in the watershed. One particularly notable example is the southern redbelly dace (*Phoxinus erythrogaster*), which is listed as endangered in New Mexico. The species is more common in the Ohio and Mississippi River basins but there are a few disjunct populations in the foothills of the Rocky Mountain. The only location for this species in New Mexico is in the headwaters of the Mora River, mainly Coyote Creek, one of the larger tributaries of the Mora River, and tributaries to Black Lake (Sublette *et al.* 1990, NM Department of Game and Fish 2006).

Waterfowl

Northeastern New Mexico has historically been an important migration and wintering area for waterfowl in the Central Flyway, particularly Canada geese. The rolling high plains along the eastern slope of the rugged Sangre de Cristo Mountains, scattered with numerous playa wetlands, are a haven for waterfowl and sandhill cranes during the fall and winter months. The limited aquatic habitats in this arid part of the country have always been heavily utilized by ducks and geese, and have been of some importance as production areas.

Breeding Birds and Bird Migration and Winter Stopover Habitat

Habitats within the Mora River watershed provide important life-cycle needs for a wide variety of neo-tropical migratory birds and many other riparian, grassland, woodland, aquatic, and wetland dependent species. In addition to the species referenced above, the Migratory Bird Program in the Service's Southwest Region has identified at least 18 species from the Birds of Conservation Concern list (U.S. Fish and Wildlife Service 2008) that utilize the area during migration, or for winter stopover habitat.

Non-native species

A number of non-native plant species have become established in the ecosystems within the watershed, replacing or reducing the abundance of some native species that evolved with the ecosystems. It is common for non-native species of grass or alfalfa (*Medicago sativa*) to be planted in land cleared for hay meadows. Some of these species can invade native habitats in the area. A number of non-native plants have been observed in the watershed but to date none are known to cause extensive problems. These include tamarisk (*Tamarix* spp.), Russian olive (*Elaeagnus angustifolia*), Siberian elm (*Ulmus pumila*), tumbleweed or Russian thistle (*Salsola* spp.), Canada thistle (*Cirsium arvense*) and kochia (*Kochia* spp.). It is unknown if a thorough non-native plant species inventory has been completed.

Non-native fish have been stocked in the watershed purposely, or have been introduced from bait buckets dumped into waterways. Non-native trout and warm-water sport fish are commonly stocked for recreational fishing. These non-native fish often outcompete or prey on native fish to the extent that the natives are completely removed, or are limited to locations where the non-native species are excluded by barriers (such as waterfalls). This is the case for the native Rio Grande cutthroat trout, which today is limited to high elevation reaches in the watershed.

Human Environment

Cultural/Archaeological/Historic Resources

Historic and cultural resources are expected to occur throughout the Mora River watershed but much of the watershed has not been surveyed for these resources. For several millennia the Mora River provided a travel route for native peoples from the mountains to the plains. In the 1830s, the river valley was occupied by Hispanic homesteads, largely from land grants through Mexico. A large Mexican communal land grant, the Mora Land Grant, historically encompassed 827,000 acres of the area. At least 47 acequias, or community operated irrigation ditches, occur on the Mora River and its tributaries throughout the watershed (Thomson and Ali 2009). Acequias are part of a strong cultural heritage of cooperative management in the local communities and throughout New Mexico.

The 720-acre Fort Union National Monument, managed by the Department of the Interior National Park Service, is located near the proposed refuge. Fort Union was established in 1851 to protect residents, travelers, and freight along the Santa Fe Trail, and to subdue tribal resistance to the changes that came with such activities and the displacement of Indian peoples from their land. The site contains the largest concentration of 19th century adobe ruins in the United States and is one of few federally managed sites preserving remains of the Santa Fe Trail.

The Wind River Ranch holds numerous archeological sites, dating back to the Clovis Culture. There are Archaic pit houses (around 5,000 years before present), cliff houses, and numerous tipi rings and hearths. Pueblo tribes, Jicarilla Apache, Utes, Cheyenne, Comanche, Kiowa, and Navajo used the area to various extents. The Wind River Ranch currently works in partnership with the ITBC on bison management at the ranch and provides a location and opportunity for bison management workshops and Native American cultural ceremonies involving bison. A number of tribes consider the area part of their historic hunting grounds and recognize cultural importance in the area. The Wind River Ranch was part of the Mora Land Grant. The ruins of Loma Parda, a village that served Fort Union, are on the Wind River Ranch, as are parts of the old roads and trails that branched off of the Santa Fe Trail. The fourth governor of New Mexico, Octavio Larrazolo, lived in the historic house (circa 1920) at the headquarters area of the Wind River Ranch. In an area of the state that is predominantly Hispanic, he holds the prestigious title of being one of only 6 Hispanic governors since statehood.

Socioeconomic Resources

The three counties in which the Mora River watershed occurs, Colfax, Mora, and San Miguel, are relatively poor (<http://quickfacts.census.gov>). The percentage of people with income below the poverty level was 17.2% in Colfax County, 11.9% in Mora County, and 24.8% in San Miguel County. The population density of the area is among the lowest in New Mexico and the counties within the Mora River watershed have lost from 2.4 to 5.8% of their residents over the 2000-2010 time period. The agricultural sector is important in all of the counties, outside of the towns and small communities. San Miguel County is home to the city of Las Vegas, which is the largest community in the area and has the most diverse economic base. The total population for all three counties was 48,024 in the 2010 census. A majority of the population in Mora and San Miguel counties is of Hispanic, Latino, or Spanish origin.

Outdoor Educational/Recreational Opportunities

Hunting, fishing, hiking, camping, nature photography, horseback riding, and picnicking are common outdoor recreational activities in the area. Within the Mora River watershed there are several options for recreational use on public lands. National Forest lands and Coyote Creek State Park are suitable and utilized for many recreational purposes by local citizens as well as visitors to the area.

The National Park Service's Fort Union National Monument is a popular destination for cultural and historic education opportunities. Education and outreach form a core component of the activities currently occurring on the Wind River Ranch in partnership with the Denver Zoo. The Denver Zoo has a proven record in environmental education and the structure for their environmental education efforts has been successful for 15 years. Between 2007-2009 the Education Department staff at the Denver Zoo and Wind River Ranch staff assessed the needs of

science teachers and superintendents from more than 20 schools in northern New Mexico. They subsequently designed a curriculum to meet those needs. The efforts for in-school, and hands-on, activities in the classroom incorporate national environmental education guidelines, state standards and benchmarks, and the interests of agencies who serve schools. This education program would be continued as part of the cooperative agreement between the Wind River Ranch Foundation and the Denver Zoological Foundation. The Visitor Services Manager for the Northern New Mexico National Wildlife Refuge Complex has historically, and will continue to provide support for environmental education programs at the Wind River Ranch and continues to build a strong working relationship in the mutual quest to “Connect People with Nature.”

Public Access

Access to the Wind River Ranch is from State Highway 161 which feeds into Interstate 25 near Watrous, NM. It is approximately five miles from Interstate 25 to the entrance to the Wind River Ranch. A commercial gravel mine is currently operating near the Wind River Ranch. This has increased heavy commercial truck traffic on State Highway 161 between the Wind River Ranch entrance and Interstate 25, requiring more highway maintenance. The main access road to the Wind River Ranch is graveled and well maintained. This road descends for ½ miles down a steep hill where it becomes narrow and rough before reaching the headquarters. This part of the access road is not passable when there is significant snow or ice accumulation. Historically, the ranch has been open to the public for arranged events or visits. A segment of a county road provides access to one residence and several inholding tracts within the ranch boundary, at Loma Parada.

Within the Mora River watershed, current public road traffic patterns are typical of rural low-density residential and agricultural land uses. Vehicle traffic in the Mora Watershed is mostly from local residents for daily activities, though recreational visitors to the area increase traffic at certain times of the year.

Within the watershed, publically owned lands managed by the U.S. Forest Service, Bureau of Land Management, National Park Service, New Mexico State Land Office, and New Mexico State Parks are generally open for public use.

Tax Revenues and Property Values

Even though the Wind River Ranch Foundation has 501c3 non-profit status, the Foundation has continued to pay property taxes. Property values in the immediate area surrounding the property would be influenced by the values of nearby properties, local amenities and infrastructure, and current and future surrounding land uses. The large majority of land in the watershed is taxed based on agricultural land values. Sales tax revenues in the local communities benefit from visitors who come to the area for recreational purposes.

Land Use

Within the watershed, livestock ranching dominates the use of private lands. Along some of the larger streams there are small irrigated hay meadows or crop field. Private ownership is a mixture of large ranches (including at least two over 75,000 acres in size) as well as many smaller ranches in the range of 100s to 1000s of acres. Nationwide, large landholdings tend to be subdivided over time, with subsequent sales, because land markets favor increased subdivision. At least two ranches in the area near the proposed NWR have sold in the last few years, and have

been subsequently marketed as large-lot residential subdivisions. Colfax County has no zoning designation or land use regulations on the unincorporated lands. San Miguel County is zoned. Mora County is in the process of drafting a Comprehensive Land Use Plan.

Within the watershed, publically owned lands managed by the U.S. Forest Service, Bureau of Land Management, and New Mexico State Land Office are generally managed under multiple use mandates that allow some commercial extractive uses (e.g., mining, timber harvest, oil/gas extraction) and other commercial or non-commercial recreational uses. Management of those federal lands must also consider maintaining ecological conditions and conserving biodiversity. The Fort Union National Monument managed by the National Park Service is managed mainly for interpretation of historic, cultural, and natural features. New Mexico State Park lands are managed mainly for recreation purposes. Lands managed by the New Mexico State Land Office are generally leased by private citizens or businesses and are managed as part of those agricultural operations or businesses within the agreements with the State. Public use for recreational purposes is allowed on many of these State lands.

Beyond the Mora River watershed there are extensive tracts of public lands managed by the U.S. Forest Service. These occur in higher elevation along the Sangre de Cristo Mountains. Immediately east of the watershed there are scattered public land parcels managed by the U.S. Forest Service, Bureau of Land Management, and the New Mexico State Land Office, including some designated as wilderness.

Quality of Life

Residents derive quality of life values from being able to visit the Wind River Ranch, living in an undeveloped area with beautiful vistas, through the education programs brought to the local schools and/or by having their children experience the education programs at the Wind River Ranch.

Residents on the Proposed NWR

There is one home currently occupied by a staff person and her family on the Wind River Ranch. A second home is occupied by a maintenance person. Other private lands in the watershed are occupied to a variety of levels, from multiple residents and residences to lands with no residences.

Aesthetics and Scenery

The Wind River Ranch has not prohibited access to the ranch. This has allowed many citizens the opportunity to visit the ranch. Maintaining the property in its natural state has allowed the public to enjoy the open vistas, view bison, and view a wide variety of wildlife from the property. In general, because the vast majority of the watershed is undeveloped, the public is able to enjoy spectacular scenery and wildlife viewing from many places.

4. ENVIRONMENTAL CONSEQUENCES

This section analyzes and discusses the potential environmental effects or consequences that can be reasonably expected by the implementation of each of the three alternatives described in Section 2 of this EA. Potential effects are described in terms of type, intensity, and if they are expressed at the scale of the proposed Rio Mora NWR or at the Mora River watershed scale. General definitions are as follows.

Effect Type

Positive effects are those resulting from actions that maintain or enhance the quality and/or quantity of identified resources.

Negative effects are those resulting from actions that degrade the quality and/or quantity of identified resources.

Intensity of effects

Negligible effects result from actions that can be reasonably expected to have little to no effect on identified resources at the identified scale.

Minor effects result from actions that can be reasonably expected to have detectable though limited effects on resources at the identified scale.

Moderate effects result from actions that can be reasonably expected to have apparent and detectable effects on identified resources at the identified scale.

Scale

Local scale effects generally occur at the 4,600-acre proposed Rio Mora NWR.

Watershed scale effects occur throughout greater parts or much of the 952,000-acre Mora River watershed.

Physical Environment

Climate Change/Air Quality

Alternative A:

Under the no action alternative climate change influences would continue as they have in the recent past. In the long-term it is expected that land will continue to be converted from natural cover to non-natural cover, which would reduce the carbon sequestration potential from current levels. Air quality would remain similar to current levels. Most climate patterns are generally driven by regional to global influences so this alternative would likely have negligible negative effects.

Alternative B:

With past and continued restoration on the proposed Rio Mora NWR, the trees, shrubs, and other vegetation established on the site would sequester increased amounts of carbon which would be

expected to more than offset that lost with juniper control. Protecting and restoring native vegetation on the site may help mitigate or buffer against climate change impacts to species or ecosystems by increasing the ecological integrity of the native habitats. Annual refuge use levels are difficult to project at this time; however, we predict a minor increase in vehicle emissions on and near the proposed refuge in the long-term from visitors' vehicles. This may be offset to some degree by the restoration efforts mentioned above. Influences on climate from actions on the proposed Rio Mora NWR alone would be negligible. Land conversion is likely to continue to some level in the Mora River watershed. As a result, carbon sequestration levels will likely decrease over time. Overall, this alternative may have some minor negative effects.

Alternative C (Preferred Alternative):

Historically across the country, conservation actions have rarely been able to keep pace with rates of land conversions. Even with a Service presence and continuing the partnerships catalyzed by staff at the Wind River Ranch, we would not expect levels of carbon sequestration to be different than those discussed in Alternative B. Protecting and restoring native vegetation at the watershed scale site may help mitigate or buffer against climate change impacts to species or ecosystems by increasing the ecological integrity of the native habitat. The effects with this alternative would be similar to those discussed in Alternative B, but conservation efforts at the watershed scale may result in mitigation of some of those effects overall.

Topography

Alternative A:

With no action, changes to topography from minor excavations for roads, building, irrigation ditches, utility lines, and tilling of agricultural lands would continue as they have historically. Some alterations to topographic patterns may negatively influence natural drainage patterns, increase arroyo down-cutting, or increase sedimentation of streams. These effects would be expected to be minor in most cases, though poorly designed or located projects that alter topography may have moderate negative effects.

Alternative B

Moderate positive effects would be expected on the proposed Rio Mora NWR. Topographic alterations within the Mora River watershed would likely continue at current levels, with current designs and methods which would be expected to have effects similar to Alternative A.

Alternative C (Preferred Alternative):

Effects from topographic alterations would be expected to be similar to those described in Alternative B, except in areas in the watershed participating in conservation programs where it is likely that more ecological considerations would go into locating and designing these projects. Overall some minor to moderate positive effects would be expected under this alternative.

Surface and Ground Water Quality/Quantity

Alternative A:

Under this alternative surface and ground water quality and quantity would expected to decline somewhat from current levels due to continued down-cutting of streams and arroyos, with

subsequent increases in sediments and water temperatures, and reduced oxygen levels resulting from a lowering of the water table and reduction in riparian vegetation at all scales. Moderate negative effects would be likely.

Alternative B:

Under this alternative, surface and ground water quality and quantity on the proposed Rio Mora NWR would improve, but conditions throughout the Mora River watershed would remain similar to those identified in Alternative A.

Alternative C (Preferred Alternative):

Under this alternative, surface and ground water quality and quantity on the proposed Rio Mora NWR and within the Mora River watershed would improve. Overall this alternative would be likely to have moderate positive effects compared to Alternatives A and B.

Flooding

Alternative A:

Flooding effects at the proposed Rio Mora NWR and throughout the watershed would remain the same as current levels or increase if there is more development in floodplains throughout the watershed. Further degradation and/or removal of native vegetation, which subsequently limits the ability of the ecosystem to naturally slow and store floodwaters, would result in moderate negative effects over time.

Alternative B:

With continued restoration and protection on the proposed Rio Mora NWR flood effects would be mitigated by natural riparian vegetation, resulting in moderate positive effects. Effects throughout the Mora River watershed would remain the same as those identified in Alternative A.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as Alternative B. With greater protection of floodplains, and restoration of native riparian vegetation and in the Mora River watershed, this alternative would be expected to have moderate positive effects throughout the watershed.

Minerals and Energy Resources

Alternative A:

Under this alternative the level of commercial energy development or extraction would remain under control of the owners of the surface and subsurface rights. Changing land values, energy prices, lease values, specific development processes of individual energy companies, and a number of other factors would influence the location of these activities in relation to sensitive natural resources, and determine the effects. Moderate negative effects could be expected.

Alternative B:

Under this alternative, commercial energy development or extraction on the proposed Rio Mora NWR would be prohibited where the subsurface rights are not split from the surface rights resulting in moderate positive effects. On portions of the proposed Rio Mora NWR and throughout the Mora River watershed, where subsurface rights are split from the surface rights, potential effects would be similar to those in Alternative A.

Alternative C (Preferred Alternative):

Effects of this alternative at the proposed Rio Mora NWR would be similar to Alternative B. Commercial energy development or extraction would be prohibited on lands owned in fee title or easements where the subsurface rights are not split from the surface rights. Lands acquired by the Service which have split subsurface right ownership would potentially be open to mineral extraction. Overall moderate positive environmental effects would be expected within the Mora River watershed.

**Biological Environment
Vegetation****Alternative A:**

Under this alternative degradation of native habitats would continue at or near current rates within the watershed. Some areas would be protected or restored through other private and public conservation programs but overall habitat conditions in the Mora River watershed would gradually decline, resulting in moderate negative effects.

Alternative B:

Protection and vegetation restoration efforts at the Rio Mora NWR would result in moderate positive effects. One could expect a slightly higher number of protection and restoration projects to occur within the Mora River watershed as a result of the Service presence at the proposed Rio Mora NWR, but overall effects would be similar to those under Alternative A.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as alternative B. This alternative would be expected to result in a greater number of protection, management, and restoration projects throughout the Mora River watershed which would result in moderate positive effects.

Wildlife Species Diversity/Abundance**Alternative A:**

In the short-term species diversity and abundance would remain similar to current levels, but over time incompatible land uses or land conversion would be expected to continue to reduce species diversity and abundance. Moderate negative effects would be expected.

Alternative B:

Species diversity and abundance at the proposed Rio Mora NWR would be maintained resulting in moderate positive effects. In the long-term these factors might eventually decline as negative

effects from nearby land uses impacted the ecological integrity of the proposed Rio Mora NWR. Overall effects within the Mora River watershed would be similar to those in Alternative A.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as Alternative B. Species diversity and abundance within the Mora River watershed would be expected to be maintained and increased to some level. Moderate positive effects would be expected.

Wildlife

Alternative A:

Some sites would be protected or restored in projects undertaken by the Service or other conservation partners to benefit populations of federally listed species, candidate species, state listed species, waterfowl, and breeding and migrating birds. At the same time, continued habitat degradation and conversion of natural land cover to non-natural cover in the Mora River watershed would be expected to occur as well. Overall levels of wildlife species decline in the recent past would continue into the future, resulting in moderate negative effects.

Alternative B:

Wildlife values would be protected at the proposed Rio Mora NWR resulting in moderate positive effects. Overall effects within the Mora River watershed would be similar to those in Alternative A.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as Alternative B. Increased levels of protection and restoration within the Mora River watershed should result in greater resilience of the ecosystems and the associated wildlife community. Protection and restoration would likely occur over a greater extent and provide suitable habitat for federally listed species, candidate species, state listed species, waterfowl, and breeding and migrating birds known or suspected to occur in the Mora River watershed. An Intra-service Section 7 biological evaluation with the USFWS New Mexico Ecological Services Field Office has concurred that there would likely be positive effects to federally listed and candidate species. Overall moderate positive effects to wildlife species would be expected.

Non-native Species

Alternative A:

Non-native species are present at the ranch and within the Mora River watershed. General patterns suggest that non-native species tend to become more abundant over time in most areas, especially with increased disturbance and land conversion. Climate change is expected to increase the probability that non-native species could invade new areas. Non-native species are often able to out-compete native species in disturbed areas, or will be able to take advantage of changing climate conditions that native species are not adapted to. Overall minor negative effects would be expected.

Alternative B:

The few non-native species present at the proposed Rio Mora NWR would be controlled resulting in moderate positive effects. With a Service presence at the proposed Rio Mora NWR there may be an increase in awareness and monitoring for invasive species in the Mora River watershed, allowing control efforts to take place before these species become widely established. Overall this alternative would be expected to result in negligible to minor positive effects in the watershed.

Alternative C (Preferred Alternative):

A greater Service presence at the proposed Rio Mora NWR and watershed level conservation partnerships are likely to result in substantial increases in awareness and monitoring for invasive species, allowing control efforts to take place before these species become widely established and more problematic. Overall this would be expected to have moderate positive effects.

**Human Environment
Cultural/Archaeological/Historic Resources****Alternative A:**

If the ranch were sold on the open market, the bison managed by ITBC at Wind River Ranch would likely have to be removed and the opportunities for cultural uses at the site would be lost resulting in negative effects to IBTC and its members. Because there are few incentives for private land owners to protect cultural, archeological, or historical resources, negative effects would be expected as land use changes occur. Projects funded by federal and state agencies often require an assessment, and in some cases, protection for these resources at the project site. This alternative would be expected to result in minor negative effects on the resources in the watershed.

Alternative B:

Cultural, archaeological, and historic resources present on the ranch would be protected under this alternative resulting in minor positive local effects. Part of the historic Loma Parda village would be protected. The decision in the future on whether or not to keep bison at the proposed Rio Mora NWR would determine the effects to cultural uses of bison by Native American tribes and ITBC. If the bison cannot be kept at the ranch most effects would be similar to those addressed in Alternative A. If bison are kept at the ranch and cultural uses can be continued there would be minor positive local effects from this alternative. Overall this alternative would be expected to result in effects similar to Alternative A at the scale of the Mora River watershed.

Alternative C (Preferred Alternative):

Cultural, archaeological, and historic resources present on the ranch would be protected under this alternative resulting in effects similar to Alternative B at the local scale. If the bison cannot be kept at the ranch local effects would be similar to those addressed in Alternative A to Native American tribes and ITBC. If bison are kept at the ranch and cultural uses can be continued there would be minor positive effects at the local scale from this alternative. In the event that cultural, archaeological, or historic resources were identified on properties acquired by the Service, these resources would be managed and protected in accordance with federal and state laws, regulations

and policy. Overall, this alternative would be likely to result in minor to moderate positive effects on the resources within the Mora River watershed.

Educational/Recreational Opportunities

Alternative A:

Educational and recreational opportunities associated with current programs run by the Wind River Ranch and Denver Zoo would most likely be discontinued when the ranch is sold. The coordinated network of educational opportunities developed with other entities in the nearby area would not be utilized to the same level. Recreational opportunities at the Wind River Ranch would be lost. This would be likely to result in moderate negative effects.

Alternative B:

Under this alternative educational and recreational opportunities associated with current programs run by the Wind River Ranch and Denver Zoo could continue. Habitat restoration areas could serve as demonstration sites for the benefit of other landowners interested in improving habitats on their lands. There could be continued opportunities for wildlife-dependent recreational uses, including environmental education, interpretation, wildlife observation, hunting, and photography at the proposed Rio Mora NWR resulting in moderate positive effects. Educational and recreational opportunities within the Mora River watershed would remain near current levels. Overall this alternative would be likely to result in negligible effects within the Mora River watershed.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as those in Alternative B. Under this alternative, education and recreation opportunities would be expanded to lands the Service acquires, or through agreements with partners in the watershed. Overall this alternative would be expected to have minor to moderate positive effects within the Mora River watershed.

Public Access

Alternative A:

Public access opportunities would remain at current levels on existing public lands, but access to the Wind River Ranch would likely be discontinued. This could result in minor negative effects. Heavy commercial mining truck usage of Highway 161 near the Wind River Ranch would continue resulting in greater road maintenance needs.

Alternative B:

Public access would likely increase at the proposed Rio Mora NWR resulting in minor positive effects. Within the Mora River watershed, increased awareness of the proposed Rio Mora NWR would be expected to result in a small increase in public use on other nearby lands. This would be expected to result in negligible positive effects within the Mora River watershed. Heavy commercial mining truck usage on Highway 161 near the Wind River Ranch would continue, and an increase in visitor traffic may contribute to greater road maintenance needs.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as Alternative B. Under this alternative it is likely that public access opportunities and awareness would be increased within the Mora River watershed. This would be expected to result in moderate positive effects. Heavy commercial mining truck usage on Highway 161 near the Wind River Ranch would continue, and an increase in visitor traffic may contribute to greater road maintenance needs.

Tax Revenues and Property Values

Alternative A:

Current tax revenues and property values would be expected to fluctuate as they have in the recent past. No effect would be likely from this alternative.

Alternative B:

Under this alternative private land would be acquired by the U.S. Government. While land owned by the U.S. Government is not taxable by state or local authorities, the federal government has a program to compensate local governments for loss of tax revenues. This alternative would have negligible effects locally. With expected increases in visitation as a result of the establishment of the proposed Rio Mora NWR, sales tax revenues would be likely to increase in local communities. With development of a visitor use program on the proposed Rio Mora NWR, there could be opportunities for benefits and diversification of the local economy. Enhancing the nature tourism economic sector may provide additional employment opportunities and generate additional monetary benefits to the local economy. This would be expected to result in minor to moderate positive effects within the watershed.

Alternative C (Preferred Alternative):

This alternative would be expected to have effects similar to Alternative B, though if additional acquisitions take place in the Mora River watershed, visitation would be expected to increase to greater levels than those in Alternative B. This would likely result in moderate benefits to the local community.

Land Use

Alternative A:

Land use patterns and changes would be expected to remain similar to current trends. Some agricultural land would likely change to residential use, natural vegetation cover would be converted through cultivation or development, and extractive industrial uses would be expected to degrade some natural lands. This would be expected to result in moderate negative effects in the long-term.

Alternative B:

Protection of the proposed Rio Mora NWR would result in moderate positive effects. At the scale of the Mora River watershed effects would be similar to Alternative A.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be the same as Alternative B. This alternative would provide landowners in the Mora River watershed with viable alternatives to other actions that negatively impact wildlife and other natural resources (such as development or resource extraction). This would be expected to result in moderate positive effects.

Quality of Life**Alternative A:**

Quality of life values would be expected to change in several ways. The values of the education programs in place at the Wind River Ranch would be lost. As land uses change, the quality of life values of the area may decline. These changes could bring economic benefits to the area but might also bring undesirable social changes. Overall, this would be expected to result in minor to moderate negative effects.

Alternative B:

Effects from this alternative would be similar to Alternative A, except the values proved by education program and maintaining protection of the proposed Rio Mora NWR would be maintained resulting in minor positive effects. Within the Mora River watershed land use changes would be expected to have effect similar to Alternative A.

Alternative C (Preferred Alternative):

As land use changes the area, the number of places to enjoy wildlife viewing and natural habitats will continue to diminish for the general public. Refuge lands may become even more important to local citizens in this regard. The presence of national wildlife refuge lands would allow citizens to experience outdoor recreational activities, as well as increased environmental learning opportunities and could enhance the overall quality of life within the Mora River watershed. It could also provide employment opportunities and generate additional monetary benefits to the local economy both directly and indirectly. Overall this would be expected to have moderate positive effects.

Residents on the Proposed NWR**Alternative A:**

If the property is sold the current residents would likely be forced to relocate. One family and a maintenance person would be negatively affected.

Alternative B:

In the short-term the current residents would most likely be allowed to remain on the proposed Rio Mora NWR to help maintain a security presence and for general oversight of day to day operations. In the long-term the residents would most likely be forced to relocate. The Service will assess the eligibility for relocation assistance for tenants on the property under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646). The Service is required to assist eligible displaced tenants with finding comparable safe and sanitary housing. Effects from this would be limited to the one family and a maintenance person. Effects within the Mora River Watershed would be negligible.

Alternative C (Preferred Alternative):

Effects from this would be limited to the one family and the maintenance person at the proposed Rio Mora NWR. If other properties are acquired in the future, the Service will assess the eligibility for relocation assistance for tenants on those properties under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646). The Service is required to assist eligible displaced tenants with finding comparable safe and sanitary housing. Since only land from willing sellers would be acquired, effects within the watershed would be expected to be negligible.

Aesthetics and Scenery

Alternative A:

In the short-term there would be no changes to aesthetics and scenery. If land use changes continue as they have in the recent past, the aesthetics and scenery could be changed to a more industrial, commercial, or residential character within the Mora River watershed. Moderate negative effects would be expected at this scale in the long-term.

Alternative B:

Scenery would be preserved at the proposed Rio Mora NWR resulting in moderate positive effects. Effects within the Mora River watershed would be expected to be similar to Alternative A.

Alternative C (Preferred Alternative):

Effects at the proposed Rio Mora NWR would be expected to be similar to Alternative B. This alternative would be likely to maintain current uses in the watershed to some degree, so the values of aesthetics and scenery would be protected as well. Overall this would be expected to have minor to moderate positive effects within the Mora River watershed.

Summary of Environmental Consequences by Alternative

Table 1. Summary of Environmental Consequences by Alternative

Resource	Alternative A: No action	Alternative B:	Alternative C: (Preferred Alternative)
Climate Change/Air Quality	Negligible effects local and watershed	Negligible effects local; minor effects watershed	Negligible effects local; minor effects watershed
Topography	Minor to moderate negative effects local and watershed	Moderate positive effects local; minor to moderate negative effects watershed	Moderate positive effects local; minor to moderate positive effects watershed
Surface and Ground Water Quality/Quantity	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed
Flooding	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed

Mineral and Energy Resources	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed
Vegetation	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed
Wildlife Species Diversity/Abundance	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed
Wildlife	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed
Non-native Species	Minor negative effects local and watershed	Moderate positive effects local; negligible to minor positive effects watershed	Moderate positive effects local; moderate positive effects watershed
Cultural/Archeological/Historic Resources	Minor negative effects local and watershed	Minor positive or negative effects local; minor negative effects watershed	Minor positive or negative effects local; minor to moderate positive effects watershed
Education/Recreational Opportunities	Moderate negative effects local and watershed	Moderate positive effects local; negligible negative effects watershed	Moderate positive effects local; minor to moderate positive effects watershed
Public Access	Minor negative effects local and watershed	Minor positive effects local; negligible positive effects watershed	Minor positive effects local; moderate positive effects watershed
Taxes and Property Values	No effect	Negligible effect local; minor to moderate positive effect watershed	Negligible effects local; moderate positive effects watershed
Land Use	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; moderate positive effects watershed
Quality of Life	Minor to moderate negative effects local and watershed	Minor positive effects local; minor to moderate negative effects watershed	Minor positive effects local; moderate positive effects watershed
Residents on the Proposed Rio Mora NWR	Negative effects on current residents local	Negative effects on current residents local; negligible effects watershed	Negative effects on current residents local; negligible effects watershed
Aesthetics and Scenery	Moderate negative effects local and watershed	Moderate positive effects local; moderate negative effects watershed	Moderate positive effects local; minor to moderate positive effects watershed

Assessment of Cumulative Effects by Alternative

The proposed refuge and conservation area are located in rural area of northeastern New Mexico. Populations are relatively small and there is limited urban influence. Current land uses in the area include ranching, agriculture, mining, residential development, etc. The impacts of past and present actions that have taken place on the proposed Rio Mora NWR and Mora River watershed are reflected in the current resource conditions (affected environment).

The impacts of the proposed action (and other alternatives) are discussed in earlier parts of this EA. The Service considered past, present, and future planned actions on other State, Federal and private lands surrounding the proposed refuge and conservation area. The Related Efforts and Resources section earlier in this document details other State, Federal, and private conservation efforts that are currently occurring in the Mora River watershed.

Alternative A:

Under this alternative, within the Mora River watershed, the Service or the National Wildlife Refuge System would not achieve its mandates and missions related to conserving fish, wildlife, and plants and their habitats and strategically managing those habitats; providing and enhancing opportunities to participate in compatible wildlife-dependent recreation; or fostering understanding and appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats. No action would likely result in negative effects to the physical, natural, and socioeconomic resources in the Mora River watershed. There would likely be negative cumulative impacts to air, water, habitat, and wildlife without the establishment of the Rio Mora NWR and Conservation Area. The long-term conservation benefits to habitat, wildlife, and the public would not be realized under Alternative A.

Alternative B:

Under this alternative, within the Mora River watershed, the Service or the National Wildlife Refuge System would not fully achieve its mandates and missions. Alternative B would protect approximately 4,600 acres, which would provide a very small incremental benefit; however, there would be minimal protection to the larger watershed. Over time there would likely be many negative effects to the physical, natural, and socioeconomic resources in the Mora River watershed.

Alternative C:

This alternative offers the Service the best opportunity to achieve its mandates and mission in a strategic manner and would result in greater levels of protection and compatible management at the watershed scale. The benefits to long-term ecosystem health and wildlife conservation that this project could accomplish in the watershed are substantial. The effects of the proposed action on physical, natural, and socioeconomic resources would be positive. If, and when the refuge is established, future activities may include public uses related to wildlife observation, environmental education and interpretation, photography, and hunting. These activities may result in short-term minor site specific impacts on vegetation, erosion, and wildlife populations (as analyzed in the Interim Compatibility Determinations in the Land Protection Plan). However, with the actions proposed in this alternative, overall impacts to the physical, natural, and socioeconomic resources in the Mora River watershed are expected to be beneficial.

Based on this analysis, the Service has concluded that neither of the action alternatives (Alternatives B or C), when added to other past, present, or future proposed actions, would result in significant cumulative impacts.

Environmental Justice

None of the alternatives described in this EA will disproportionately place any adverse environmental, economic, social, or health impacts on minority and low income populations.

Implementation of the proposed action is anticipated to benefit the environment and people in the surrounding communities.

Indian Trust Assets

No Indian Trust Assets are known from the area. There are no reservations or ceded lands present. The Service has contacted the Jicarilla Apache tribe regarding the potential acquisition of the Wind River Ranch. The Service's staff person in charge of cultural resources and historic preservation has been consulted and will conduct further investigations if the project is approved.

Unavoidable Adverse Effects

No known unavoidable adverse effects have been identified with the preferred alternative.

Irreversible and Irretrievable Commitment of Resources

The preferred alternative would result in commitment of Service staff for perpetuity. However, proactively addressing wildlife and natural resource issues before they become substantially degraded or altered would be more efficient, and would be expected to require fewer resources in the long-term.

5. CONSULTATION, COORDINATION, & DOCUMENT PREPARATION

Documents were prepared by the Division of Planning, with input and review from the Refuges Realty and Visitor Services Programs and from the staff at the Las Vegas and Maxwell National Wildlife Refuges. Input was also provided by the Migratory Bird, Fisheries, and Ecological Services Programs, Southwest Region, U.S. Fish and Wildlife Service, Albuquerque, NM. Copies of this document or the Land Protection Plan can be downloaded from the Southwest Region website (<http://www.fws.gov/southwest/>), or requested by contacting the Division of Planning – National Wildlife Refuge System, 500 Gold Ave. SW, Albuquerque, NM 87102.

Agencies and Organizations Contacted or Consulted

Albuquerque Wildlife Federation
Bureau of Land Management
City of Las Vegas, NM
Colfax County Commissioners
Denver Zoological Foundation
Drilling Mora County
Environmental Education Association of NM
Friends of the Las Vegas NWR
InterTribal Buffalo Council
Jicarilla Apache Cultural Affairs Committee and Natural Resources Division
Las Vegas Optic
Luna Community College
Mora County Commissioners
Mora-Wagon Mound Soil and Water Conservation District
National Audubon Society
New Mexico State University
NM Audubon
NM Cattle Growers
NM Department of Game and Fish
NM Department of Transportation
NM Energy, Minerals and Natural Resource Department
NM Environmental Department
NM House of Representatives and Senate
NM Highlands University
NM Land Conservancy
NM State Archeologist
NM State Land Office
NM State Parks
NM State Senate
NM Wildlife Federation
Playa Lakes Joint Venture
Pritzlaff Ranch
Quivira Coalition
Rocky Mountain Elk Foundation
San Miguel County Commission
School and School Districts

The Nature Conservancy
Tierra y Montes Soil and Water Conservation District
U.S. Congressional and Senate Representatives
U.S. Department of Agriculture - Natural Resources Conservation Service
U.S. Department of Agriculture – National Forest Service
U.S. National Park Service – Fort Union National Monument
Wild Turkey Federation

6. GLOSSARY OF TERMS AND ABBREVIATIONS USED

Alternatives: Different sets of objectives and strategies or means of achieving refuge purposes and goals, helping fulfill the Service and Refuge System missions and mandates, and resolving issues. A reasonable way to fix an identified problem or satisfy a stated need [40 CFR 1500.2 (cf. “management alternative”)].

Anadromous fish: fish species that ascend rivers from the sea for breeding, such as Chinook salmon.

Biological or Ecological Integrity: Biotic composition, structure and functioning at genetic, organism and community levels comparable with historic conditions, including the natural biological processes that shape genomes, organisms and communities.

Candidate species/Candidate for listing: Species for which there is sufficient information available about their biological vulnerability and threats to propose listing them as threatened or endangered.

Carbon sequestration: The removal and storage of carbon from the atmosphere in carbon sinks (such as oceans, forests or soils) through physical or biological processes, such as photosynthesis.

Compatible Use: A wildlife-dependent recreational use, or any other proposed or existing use on a refuge that will not materially interfere with or detract from the purposes of the refuge or the National Wildlife Refuge System mission.

Compatibility Determination: A document that assesses whether or not a use is compatible with the refuge purposes.

Comprehensive Conservation Plan: A document that describes the desired future conditions of a refuge or planning unit and provides long-range guidance and management direction to achieve the purposes of the refuge; helps fulfill the mission of the Refuge System; maintains and, where appropriate, restores the ecological integrity of each refuge and the Refuge System; helps achieve the goals of the National Wilderness Preservation System; and meets other mandates.

Conceptual Management Plan: An overview of how the land will be managed until a Comprehensive Conservation Plan (CCP) for the refuge is completed. It does not provide extensive detail related to management or show exactly where public use facilities would be located.

Conservation: Managing natural resources to prevent loss or waste, management actions may include preservation, restoration, and enhancement.

Conservation Area: The proposed Conservation Area designation for this project encompasses the Mora River Watershed (approximately 952,000) and delineates the boundary within which

the Service would have authority to work with partners and willing landowners to acquire fee interest or easements of up to the 300,000 acres. The designation of a Conservation Area would not convey authority to establish rules and regulations throughout that area.

Conservation easement: A non-possessory interest in real property owned by another imposing limitations or affirmative obligations with the purpose of returning or protecting the property's conservation values.

Cooperative agreement: A legal instrument reflecting a relationship between the Federal Government and a recipient when the principle purpose is to fund a project to support or stimulate activities that are not for the direct benefit or use of the Federal government but instead for a public purpose that the government participates substantially in.

Corridor: Areas in the landscape that contain and connect natural areas, open spaces and scenic or other resources. They often lie along streams, rivers or other natural features.

Cultural Resources: The collective evidence of the past activities and accomplishments of people such as the remains of sites, structures, or objects used by people in the past; typically greater than 50 years old.

Designated critical habitat: A specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection.

Endangered Species: A plant or animal species listed under the Endangered Species Act that is in danger of extinction throughout all or a significant portion of its range.

Enhance: increasing the level or values provided by the action.

Environmental Assessment: A systematic analysis to determine if proposed Federal actions would result in a "significant effect on the quality of the human environment" thereby requiring either the preparation of an environmental impact statement (EIS) or a determination of a "Finding of No Significant Impact."

Environmental education: Curriculum-based education aimed at producing a citizenry that is knowledgeable about the environment and its associated problems, aware of how to help solve those problems, and motivated to work toward solving them.

Federal land: Public land owned by the Federal Government, including national forests, national parks, and national wildlife refuges.

Fee-title interest: The acquisition of most or all of the rights to a tract of land; a total transfer of property rights with the formal conveyance of a title. While a fee-title acquisition involves most rights to a property, certain rights may be reserved or not purchased, including water rights, mineral rights, or use reservation (e.g., the ability to continue using the land for a specified time period, such as the remainder of the owner's life).

Finding of No Significant Impact (FONSI): Supported by an environmental assessment, a document that briefly presents why a Federal action will have no significant effect on the human environment, and for which an environmental impact statement, therefore, will not be prepared [40 CFR 1508.13].

Genetic drift: Random fluctuations in the frequency of the appearance of a gene in a small isolated population, presumably owing to chance rather than natural selection.

Groundwater: Water located beneath the ground surface in soil pore spaces and in the fractures of rock formations.

Heterogeneity: Composed of parts of different kinds; having widely dissimilar elements or constituents.

Interpretation: A process that aims to reveal meanings and relationships through the use of original objects by firsthand experience of illustrative media rather than simply to communicate factual information. It typically involves visitor observation of on-site presentations by expert guides about biological, ecological, or cultural topics pertinent to the site or the Refuge System in general.

Invasive Plant Species: A non-native plant to the ecosystem that lacks natural controls and tends to aggressively dominate the plant community, often forming extensive mono-cultures

Keystone species: A species whose presence and role within an ecosystem has a disproportionate effect on other organisms within the system.

Land Protection Plan (LPP): A document that identifies and prioritizes lands for potential Service acquisition from willing landowners, and describes other methods of providing protection.

Metapopulation: A group of spatially separated populations of the same species which interact at some level.

National Environmental Policy Act of 1969 (NEPA): Requires all Federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in planning and implementing environmental actions

National Wildlife Refuge: A designated area of land or water or an interest in land or water within the Refuge System, such as refuges, wildlife management areas, waterfowl production areas and other areas under Service jurisdiction for the protection and conservation of fish and wildlife and plant resources.

National Wildlife Refuge System: All lands, waters and interests therein administered by the U.S. Fish and Wildlife Service as wildlife refuges, wildlife ranges, wildlife management areas, waterfowl production areas and other areas for the protection and conservation of fish, wildlife and plant resources.

Native plant: A plant that has grown in the region since the last glaciation, and occurred here before European settlement.

Neo-tropical migratory bird: A bird that breeds in Canada and the United States during our summer and spends our winter in Mexico, Central America, South America or the Caribbean islands

Non-native species: A plant or animal species not native to the area and introduced intentionally or unintentionally.

Non-priority public use: Any use other than a compatible wildlife-dependent recreational use.

Partnership: A contract or agreement among two or more individuals, groups of individuals, organizations, or agencies, in which each agrees to furnish capital or some service in kind (e.g., labor) for a mutually beneficial enterprise.

Priority Public Use: Wildlife-dependent recreational uses involving hunting, fishing wildlife observation and photography, and environmental education and interpretation which receive priority consideration in refuge planning and management.

Public involvement: Offering an opportunity to interested individuals and organizations potentially affected by actions or policies to become informed and provide input. Public input is thoroughly studied and given thoughtful consideration in shaping decisions about managing refuges.

Purposes of the Refuge: “The purposes specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit.” (601 FW 1)

Refuge Revenue Sharing: Compensation to local governments for foregone tax revenues from land acquired by the Service. The amount of the annual payment depends on the value of the land and the final Congressional budget appropriations for the Service for that year.

Restoration: recreating environmental conditions similar those when there was less human influence on the landscape.

Riparian: Of or relating to land lying immediately adjacent to a water body and having specific characteristics of that area, such as vegetation influenced by that water body.

Scoping: A process for identifying the “scope of issues” to be addressed in planning refuge activities.

Species of special concern: A species or population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat

modification, environmental alteration, human disturbance, or substantial human exploration which, in the foreseeable future, may result in its becoming threatened.

Surface water: Water collecting on the ground or in a stream, river, lake, wetland or ocean.

Trust species or resources: Species that the Service has specific legal mandates to protect and conserve. These included endangered and threatened species, migratory birds, anadromous fish and others.

Water table: The level at which the subsurface materials that are saturated with groundwater in a given vicinity.

Wetland: Areas such as lakes, marshes, ponds, swamps, or streams that are inundated by surface or groundwater long enough to support plants and animals that require saturated or seasonally saturated soils.

Wildfire: Unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires.

Wildlife-dependent Recreational Use: “A use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation.” (605 FW 1). These are the six priority public uses of the Refuge System Administration Act, as amended. Wildlife-dependent recreational uses, other than the six priority public uses, are those that depend on the presence of wildlife.

Abbreviations Used

EA:	Environmental Assessment
FWS:	U.S. Fish & Wildlife Service
ITBC:	InterTribal Buffalo Council
LCC:	Landscape Conservation Cooperative
NEPA:	National Environmental Policy Act
NMDGF:	NM Department of Game and Fish
NWR:	National Wildlife Refuge
NRCS:	Natural Resources Conservation Service
Service:	U.S. Fish & Wildlife Service
System:	National Wildlife Refuge System
TNC:	The Nature Conservancy
USFWS:	U.S. Fish & Wildlife Service

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240



In Reply Refer To:
FWS/NWRS/051697

JUL 10 2012

Memorandum

To: Regional Director, Region 2

From: Director *L. M. Ashe*

Subject: Approval to Proceed with Publication and Distribution of the Final Planning Documents for the Authorization of the Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, and San Miguel Counties, New Mexico

I approve your request dated June 13, 2012, to authorize the Rio Mora National Wildlife Refuge (NWR) and Rio Mora Conservation Area in northeast New Mexico. The Decision Package you submitted for my consideration demonstrates the application of Strategic Habitat Conservation and uses spatially explicit decision support tools for targeting conservation delivery. It also contains an Environmental Assessment, Finding of No Significant Impact, and other related documents indicative of detailed planning. These documents comply with the requirements of the Director's land acquisition planning procedures memo dated August 11, 2000.

The lands targeted for protection include the 4,600-acre Wind River Ranch, which will be donated to the U.S. Fish and Wildlife Service (Service) to be managed as the Rio Mora National Wildlife Refuge. In addition, the Service will pursue significant conservation actions throughout the 952,000-acre Rio Mora Conservation Area, facilitating partnerships to provide protection and management for a number of priority species and ecosystems within the Mora River watershed.

Attachments



United States Department of the Interior

FISH AND WILDLIFE SERVICE
P.O. Box 1306
Albuquerque, New Mexico 87103




In Reply Refer To:
FWS/R2/NWRS-PLAN/051697

JUN 13 2012

Memorandum

To: Director

From: Regional Director, Region 2 

Subject: Transmittal of Decision Document – Establishing the Rio Mora National Wildlife Refuge and Rio Mora Conservation Area

The Decision Document to establish the Rio Mora National Wildlife Refuge (NWR) and Rio Mora Conservation Area in northeast New Mexico has been signed. With your approval of this project, the U.S. Fish and Wildlife Service (Service) may accept the donation of the 4,600-acre Wind River Ranch and pursue significant conservation actions throughout the 952,000-acre Mora River watershed. The goal for the project is to protect and restore habitats in cooperation with our partners to support species recovery plans, state and regional conservation plans, major bird conservation plans, and to maintain native species and sustainable ecosystems.

The proposed Rio Mora NWR would serve as a core area for protection of native species and natural processes, and facilitate research, outreach, interpretation, and environmental education to help the Service catalyze further conservation efforts and advance partnerships working toward shared conservation goals within the Mora River watershed.

Actions outlined within this proposal are intended to 1) protect and restore part of one of the great grassland landscapes of North America, 2) protect and restore riparian areas in the Mora River watershed, 3) reduce threats to species from habitat fragmentation and degradation, altered ecological processes, invasive species, and impacts from global climate change, and 4) build on existing partnerships to restore wildlife populations and productivity to degraded ecosystems. This will contribute to maintaining the biological integrity and sustainable human uses of the area, maintaining both rare and common species, and supporting the ecological function and resiliency within the larger landscape.

Through establishment of the Rio Mora NWR and Rio Mora Conservation Area, multiple Service and Department of the Interior objectives will be supported. The partnership potential

to America's natural heritage. The approach is similar to a number of successful landscape level conservation projects where private citizens take an active role in determining future outcomes.

Attached are the following documents, in accordance with land acquisition planning requirements, submitted for the Director's approval.

1. Environmental Assessment
2. Finding of No Significant Impact
3. Environmental Compliance Certificate
4. Environmental Action Statement
5. Land Protection Plan
6. Conceptual Management Plan and Interim Compatibility Determinations

APPROVE _____ DISAPPROVE _____

Date _____ Date _____

**United States Fish and Wildlife Service
Environmental Action Statement**

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA), and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and determined that the action of: establishment of the Rio Mora National Wildlife Refuge and Rio Mora Conservation Area in Colfax, Mora, and San Miguel Counties, New Mexico.

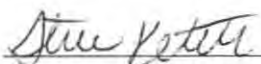
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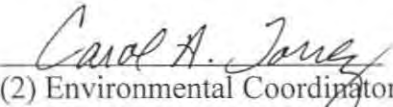
- is a categorical exclusion as provided by 516 DM Chapter 8. No further NEPA documentation will therefore be made.
- is found not to have significant environmental effects as determined by the attached environmental assessment and finding of no significant impact.
- is found to have significant effects and, therefore, further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.
- is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.
- is an emergency action within the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents: (attached)

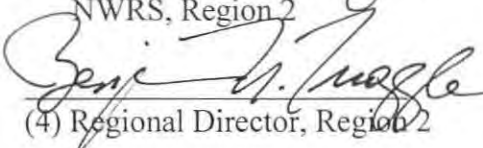
- Finding of No Significant Impact
- U.S. Fish and Wildlife Service. 2012. *Environmental Assessment for the Proposed Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, San Miguel Counties, New Mexico.* Prepared by the Southwest Region – Division of Planning, Albuquerque, NM. June 1, 2012.
- U.S. Fish and Wildlife Service. 2012. *Land Protection Plan for the Proposed Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, San Miguel Counties, New Mexico.* Prepared by the Southwest Region – Division of Planning, Albuquerque, NM. June 1, 2012.
- Intra-service Section 7 consultation completed May 16, 2012.

Signature Approval:

 6-5-2012
(1) Originator Date

 6-5-2012
(2) Environmental Coordinator, Date
NWRS, Region 2

 6/12/2012
(3) Refuge Chief, Date
NWRS, Region 2

 6/13/2012
(4) Regional Director, Region 2 Date

FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT

RIO MORA NATIONAL WILDLIFE REFUGE AND CONSERVATION AREA LAND PROTECTION PLAN, COLFAX, MORA, AND SAN MIGUEL COUNTIES, NM U.S. FISH AND WILDLIFE SERVICE

The U.S. Fish and Wildlife Service (Service) has proposed to acquire the 4,600-acre Wind River Ranch in Mora County, New Mexico to establish the Rio Mora NWR, and to designate the Mora River watershed in Colfax, Mora, and San Miguel Counties as the Rio Mora Conservation Area with an acquisition limit of 300,000 acres. The Service has developed a Land Protection Plan (Plan) and Environmental Assessment (EA) for the proposed national wildlife refuge and conservation area. The Plan describes the recommended acquisition of the Wind River Ranch through donation and establishment as a national wildlife refuge, and designation of a conservation area to facilitate protection and restoration of wildlife habitats; conserve “trust resources” such as migratory birds and threatened and endangered species; and enhance compatible outdoor education, interpretation, photography, and wildlife observation opportunities in the Mora River watershed.

An EA was completed to fulfill the requirements of the National Environmental Policy Act (NEPA) of 1969 and to inform the public of the possible environmental consequences of implementing the Plan. The EA was prepared to provide a decision-making framework that explores a reasonable range of alternatives to meet project objectives and evaluates potential issues and impacts on resources and the human environment.

ALTERNATIVES CONSIDERED AND ANALYZED

Alternative A: No Action

Under the No Action Alternative, the Service would not acquire the Wind River Ranch to establish the Rio Mora NWR, nor would it establish the Rio Mora Conservation Area. If a conservation outcome cannot be accomplished, the owners have indicated they would likely sell the Wind River Ranch on the open market and the conservation outcomes would not likely be supported in the future. The conservation benefits and environmental education and interpretation opportunities fundamental to the Service’s mission would not be realized. The likely scenario with no action would be continued levels of fragmentation, ecological degradation, unnatural levels of erosions and sedimentation, and a continued loss of, or negative effects to declining wildlife species and ecosystems in the Mora River Watershed. The Service’s mission and mandates would not be supported in the watershed.

Alternative B: Rio Mora NWR only alternative

Under Alternative B, the Service would acquire the Wind River Ranch and establish it as the Rio Mora National Wildlife Refuge but would not establish the Rio Mora Conservation Area. Land protection would be limited to approximately 4,600 acres; there would be minimal protection to the larger watershed and over time there would likely be many negative effects to the physical, natural, and socioeconomic resources in the Mora River watershed. The Service’s mission and

mandates would not be supported and beneficial effects at the scale of the Mora River watershed would not be realized.

Alternative C: Acquisition of Rio Mora National Wildlife Refuges and establishment of the Rio Mora Conservation Area (Preferred Alternative)

Under Alternative C, the Service would acquire the 4,600-acre Wind River Ranch property (through donation) to establish it as the Rio Mora National Wildlife Refuge, and establish the Rio Mora Conservation Area encompassing the 952,000-acre Mora River watershed, with a 300,000-acre acquisition limit within the watershed. Establishment of the proposed Rio Mora NWR at the current Wind River Ranch can serve as a core for wildlife conservation and development of partnerships to engage landowners in the watershed in conservation, restoration, and outreach activities designed to benefit a variety of native wildlife species and habitats. This alternative would also add compatible public uses, and enhance educational and outreach programs in northeast New Mexico. This action supports Service and Department of Interior initiatives for developing partnerships for conservation and connecting people to nature to build long-term support for the mission of the Service.

The benefits to long-term ecosystem health and wildlife conservation that this project could accomplish are substantial. The effects of the proposed action on physical, natural, and socioeconomic resources would be positive.

DECISION: THE SELECTED ALTERNATIVE

Alternative C was selected as the Service's proposed action and is the basis for the Land Protection Plan. This alternative offers the Service the best opportunity to achieve its mandates and mission in a strategic manner. The establishment of the Rio Mora National Wildlife Refuge and Conservation Area will result in benefits to long-term ecosystem health and wildlife conservation. The effects of the proposed action on physical, natural, and socioeconomic resources would be positive. Opportunities for wildlife-dependent recreation activities, such as wildlife observation, photography, environmental education, and interpretation will be enhanced. Recommendations in the Land Protection Plan will ensure that refuge management is consistent with the mission of the National Wildlife Refuge System.

SUMMARY OF EFFECTS

Implementation of the Service's decision would be expected to result in environmental, social and economic effects as described in the Plan/EA and summarized here. The Plan/EA describes how acquisition and designation of a national wildlife refuge and conservation area would result in increased protection of threatened and endangered species, enhanced wildlife populations, and improved habitat conditions. The proposed visitor service management activities would result in enhanced wildlife-dependent recreational, education, and interpretation opportunities. Implementation of activities provided by the visitor services program would take place through carefully controlled timing and placement to avoid direct contact with sensitive areas, such as nesting habitat, or wildlife.

The increased opportunities for wildlife dependent recreational opportunities would have beneficial impacts on the local economy through increased visitation and tax revenue.

Partnerships with county, state and federal agencies, private landowners, and conservation groups would enable the refuge to achieve goals and objectives, minimize costs, and strengthen relationships.

Implementing the Service's acquisition alternative is not expected to have any significant adverse effects on wetlands and floodplains, pursuant to Executive Order 11990 and 11988, because there would be no development of Refuge buildings within wetlands or active floodplains. This action is not likely to adversely impact threatened, endangered, proposed or candidate species and/or critical habitat, as documented in the intra-service Section 7 (Endangered Species) Consultation completed with the New Mexico Ecological Services Field Office in Albuquerque, NM and signed on May 16, 2012. In addition, archeological and/or historical resources would not be impacted.

The Service is not aware of any other past, present, or reasonably foreseeable future planned actions that would result in a significant cumulative impact when added to the Refuge's proposed action, as outlined in Alternative C.

PUBLIC OUTREACH, REVIEW AND COMMENT

Public input was solicited and background information regarding the project proposal was presented to the public in a number of different ways. In early 2011, the Service initiated outreach efforts by contacting stakeholders to discuss the proposal. An initial contact list was developed which included mostly agencies, non-governmental organizations, elected officials, as well as the landowners adjacent to the Wind River Ranch. In July of 2011, press releases were circulated in the local communities to present the proposed project and announce public scoping meetings. The meetings were also announced on two local radio stations and by a notice in the local newspaper. The two public scoping meetings were held in the local area on July 25th and July 26th, 2011. Over 118 landowners, citizens, and elected officials (or their representatives) attended the two scoping meetings. Comments were accepted during the public scoping period from July 25 to September 19, 2011. The Service received over 50 written, email, or phone call comments.

The Draft Land Protection Plan (including the Conceptual Management Plan and Interim Compatibility Determinations), and Draft Environmental Assessment were made available for a public review and comment period (March 30-May 1, 2012). Two hearings were held during this period to offer the public the opportunity to provide input on the proposed actions and the draft documents. The public hearings and availability of draft documents for public review were announced through email and regular mail to the contact list developed for the project (at this time approximately 325 contacts), through the Las Vegas Optic newspaper, and through a public notice posted in a number of locations around in the local communities. Over 84 landowners, citizens, and elected officials (or their representatives) attended the two hearings. Eight individuals gave comments at the public hearings and the Service received an additional 8 written or verbal comments. All comments received at the hearings and by other means through the public comment period are addressed in Appendix 3 of the Land Protection Plan.

The Cumulative Impacts section of the EA was modified to make it consistent with the analysis of public uses in the Interim Compatibility Determinations (available in the Land Protection Plan - Appendix 1). As a result of comments received from the public, the Public Participation, Issue Identification, and External Coordination section of the EA (and the Land Protection Plan) was revised to clarify the process. Other minor editorial changes were made to improve the document. None of these modifications resulted in changes to the finding of no significant impact.

DETERMINATION

Based on the analysis documented in the Environmental Assessment and with due consideration given to comments from the public, it is my determination that the proposed action does not constitute a major Federal action that will have a significant effect on the quality of the human environment under the meaning of Section 102 (2) (C) of the National Environmental Policy Act of 1969 (as amended). As such it is my conclusion that an Environmental Impact Statement is not required for this Plan and the selected alternative may be implemented as soon as practicable. This determination is based on the following factors (40 C.F.R. 1508.27), as addressed in the attached Environmental Assessment.

1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the environment. (EA, section 4).
2. The actions will not have a significant effect on public health and safety. (EA, section 4).
3. The project will not significantly affect any unique characteristics of the geographic area such as proximity to historical or cultural resources, wild and scenic rivers, or ecologically critical areas. (EA, page 34).
4. The effects on the quality of the human environment are not likely to be highly controversial. (EA, section 4).
5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment. (EA, section 4).
6. The actions do not establish a precedent for future actions with significant effects nor do they represent a decision in principle about a future consideration. (EA, section 4).
7. There will be no cumulatively significant impacts on the environment. Cumulative impacts have been analyzed with consideration of other similar activities on adjacent lands, in past action, and in foreseeable future actions. (EA, pages 39-40).
8. The actions will not significantly affect any site listed in, or eligible for listing in, the National Register of Historic Places, nor will they cause loss or destruction of significant scientific, cultural, or historic resources. (EA, page 34).


9. The actions are not likely to adversely affect threatened or endangered species, or their habitats. (EA, page 33, LPP Appendix 2 - Section 7 Consultation).
10. The actions will not lead to a violation of federal, state, or local laws imposed for the protection of the environment. (EA, page 7).

It is the intent of the Service to revisit questions of significant environmental consequences in accordance with NEPA upon consideration of the implementation of site-specific proposals discussed in the final Plan.

The finding of no significant impact, the environmental assessment, and other supporting documents are on file at the U.S. Fish and Wildlife Service, Division of Refuge Planning, 500 Gold Ave., SW, Albuquerque, NM 87102.

SUPPORTING REFERENCES

- U.S. Fish and Wildlife Service. 2012. *Environmental Assessment for the Proposed Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, and San Miguel Counties, New Mexico*. Prepared by the Southwest Region – Division of Planning, Albuquerque, NM. June 1, 2012.
- U.S. Fish and Wildlife Service. 2012. *Land Protection Plan for the Proposed Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, and San Miguel Counties, New Mexico*. Prepared by the Southwest Region – Division of Planning, Albuquerque, NM. June 1, 2012.
- U.S. Fish and Wildlife Service. 2012. *Draft Environmental Assessment for the Proposed Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, and San Miguel Counties, New Mexico*. Prepared by the Southwest Region – Division of Planning, Albuquerque, NM. March 29, 2012.
- U.S. Fish and Wildlife Service. 2012. *Draft Land Protection Plan for the Proposed Rio Mora National Wildlife Refuge and Conservation Area, Colfax, Mora, and San Miguel Counties, New Mexico*. Prepared by the Southwest Region – Division of Planning, Albuquerque, NM. March 29, 2012.

Recommended:	 Aaron Archibeque, Refuge Chief U.S. Fish and Wildlife Service, Region 2	<u>6/12/2012</u> Date
Approved:	 Dr. Benjamin N. Tuggle, Regional Director U.S. Fish and Wildlife Service, Region 2	<u>6/13/2012</u> Date


Land Acquisition Planning
Compliance Certificate

Project: Rio Mora NWR and Rio Mora Conservation Area State: New Mexico

Action: Proposed establishment of the Rio Mora NWR and Rio Mora Conservation Area.

NEPA - Environmental Action Statement..... June 1, 2012
E.O. 12372 Intergovernmental Review of Federal Programs..... June 1, 2012
E.O. 11988 Floodplain ManagementJune 1, 2012
E.O. 11990 Protection of Wetlands June 1, 2012
Preliminary Engineering Report NA
Endangered Species Act, Section 7..... May 16, 2012
Preliminary Contaminants Report..... NA
E.O. 11593 Protection of Historic, Archaeological, and Scientific
Resources June 1, 2012
P.L. 91-646 Uniform Relocation Assistance and Real Property
Acquisition Policies Act (Realty Feasibility Report) NA

I hereby certify that all requirements of laws, rules, and Service policies or regulations applicable to pre-acquisition planning for the above project have been complied with.


Regional Director
Southwest Region
U.S. Fish and Wildlife Service
Albuquerque, NM

6/13/2012
Date

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Rio Mora National Wildlife Refuge / USFWS

July 2012

