

United States Department of the Interior Bureau of Land Management

Environmental Assessment for Sediment Fence Installation Throughout the Farmington Field Office Area

DOI-BLM- NM- F010-2011-24 - EA

11/10/2010

Location:

The proposed project would occur within the boundaries of the Farmington Field Office. The planning area, located in the northwestern New Mexico, encompasses over 2,000,000 acres of Bureau of Land Management administered lands within the FFO, and includes lands in all of San Juan County, most of McKinley County, western Rio Arriba County and northwestern Sandoval County.

U.S. Department of the Interior
Bureau of Land Management
Farmington Field Office
1235 La Plata Highway, Suite A
Farmington, NM 87401

Phone: 505-599-8900
FAX: 505-599-8999



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**Sediment Fence Installation Environmental Assessment
Farmington Field Office
DOI-BLM- NM- F010-2011-24-EA**

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1.0 INTRODUCTION

Heavy precipitation in the Farmington Field Office (FFO) area occasionally results in bank erosion along waterways and ephemeral washes. In some areas, bank erosion has caused exposure of buried pipelines and other underground well equipment, which is considered a public safety hazard. "Sediment fences" can be used to stabilize ephemeral wash banks, thereby reducing the threat of erosion to well pads, roads and pipelines.

Throughout the past ten years, the FFO has constructed sediment fences in ephemeral washes to protect vulnerable banks and promote establishment of riparian vegetation. The fence structures are built by installing 15 foot lengths of 4 inch steel pipe ten feet in the wash bottom at 10 foot intervals. Heavy gauge woven wire is attached to the pipe and held in place with steel cables, woven between the fence and the pipe. The completed structures slow water as it flows through the fencing, causing sediment to fall out of solution. This newly deposited sediment layer acts as a seed bed for new riparian vegetation to germinate, facilitating the creation of a naturalized floodplain that can withstand high water flows, thereby reducing the threat of erosion. (See Appendix A for sediment fence specifications.)

This Environmental Assessment (EA) has been prepared to analyze the environmental consequences of constructing and installing sediment fences (as needed) in ephemeral washes throughout the BLM-FFO administrative area (see map, Fig. 1).

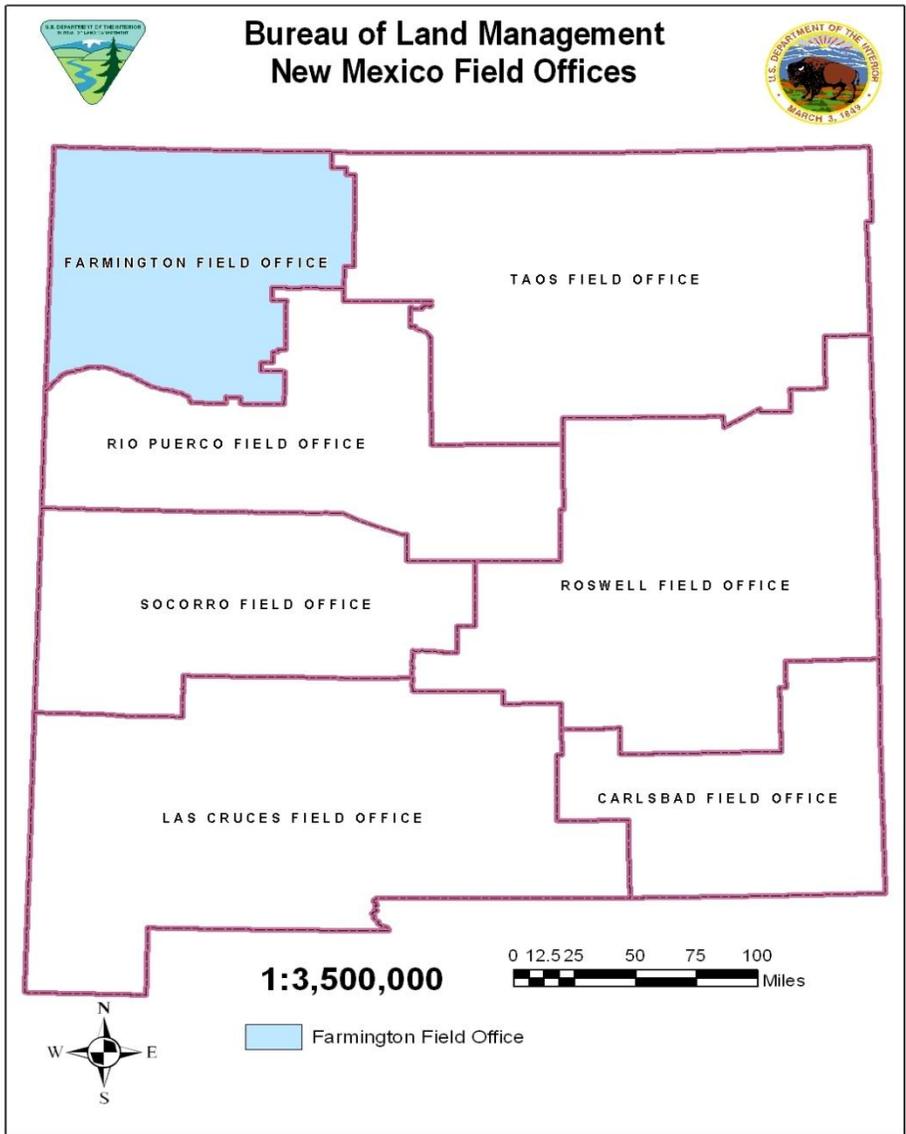


Figure 1. Location map of the Bureau of Land Management Field Offices in New Mexico. Only the Farmington Field Office is covered by this EA.

1.1 Purpose and Need for the Proposed Action

The purpose of the proposed project is to protect vulnerable banks from erosion by installing sediment fences (as needed) in ephemeral washes. The need arises from historic placement of roads, wells, pipelines, etc. near the banks of ephemeral systems in the FFO. Since the original placement of many of these facilities, channels have moved and banks have eroded, threatening roads and exposing pipelines, wells and associated equipment.

1.2 Conformance with BLM Land Use Plan(s), Statutes and Regulations

The proposed action is in conformance with, and within the constraints of, the December 2003 Farmington Resource Management Plan (RMP) (BLM 2003). Goals of the RMP are to promote healthy sustainable ecosystems; accelerate restoration and improvement of public lands to properly functioning condition; promote the orderly use, improvement, and development of the public lands; and protect and enhance the vegetation resources on public land in the FFO administrative area. The proposed action is also in compliance with the following legislation:

- The National Environmental Policy Act (NEPA) requires that the action agency use a public disclosure process to determine whether or not there are any environmental impacts associated with proposed Federal actions. This document will determine what, if any, significant environmental impacts may result from this project. If there are none, a Finding of No Significant Impact (FONSI) can be signed to complete the NEPA compliance.
- The Endangered Species Act (ESA) requires all Federal agencies ensure that their actions do not jeopardize the continued existence of listed species, destroy, or adversely modify their critical habitat. As part of the ESA's Section 7 process, an agency must request information from the USFWS and the National Marine Fisheries Service (NOAA Fisheries Service) on whether any threatened and endangered species occur within or near the action area. The agency then must evaluate impacts to those species. If the action may affect any listed species, the agency must consult with the USFWS or NOAA Fisheries Service.
- The Colorado Salinity Control Act of 1974 (as amended in 1984 and 1995) directing the Secretary of Interior to undertake research and development of salinity control projects for minimizing salt contributions to the Colorado River from Bureau-administered land.
- The Clean Water Act of 1977 establishes a number of programs designed to restore and protect the quality of our nation's waters by eliminating the discharge of pollutants into surface waters. Programs established include the National Pollutant Discharge Elimination System (NPDES), permit program, the dredge and fill permit program, land municipal wastewater treatment programs.
- The National Historic Preservation Act (NHPA) of 1966, as amended, requires that Federal agencies consider the effects that their projects have on properties eligible for or on the National Register of Historic Places. The 36 CFR 800 regulations provide procedures that Federal agencies must follow to comply with the NHPA. For any undertaking, Federal agencies must determine if there are properties of National Register quality in the project area, the effects of the project on

those properties, and the appropriate mitigation for adverse effects. In making these determinations, Federal agencies are required to consult with the State Historic Preservation Office (SHPO), Native American tribes with a traditional or culturally-significant religious interest in the study area, the interested public, and in certain cases, the Advisory Council on Historic Preservation.

- Executive Order 11988 (Floodplain Management) requires federal agencies to consider and evaluate potential effects that a proposed action may have on floodplains. Where applicable, actions should reduce the risk of flood loss, minimize the impact of floods on human safety and restore and preserve the natural and beneficial values served by floodplains.
- Executive Order 11990 (Protection of Wetlands) directs federal agencies to “provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency’s responsibilities.”

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A – No Action:

Under the No Action alternative, the construction of sediment fences would not be authorized on BLM administered lands. Bank erosion along the waterways and ephemeral washes would have the potential to creating a greater safety hazard. The threat of erosion to well pads, roads and pipelines would continue within the FFO.

2.2 Alternative B – Proposed Action:

The proposed action is to install sediment fences in ephemeral washes within the FFO administrative boundary as deemed beneficial. The completed structures will slow water as it flows through the fencing and cause sediment to fall out of solution. This sediment layer will act as a seed bed for new riparian vegetation to germinate, facilitating the creation of a naturalized floodplain to help reduce erosion. The exact layout and design of each fence structure would depend on the location and the targeted protection area, however certain design features will follow specifications (see appendix A) and the final design will be approved by the FFO. See appendix B for pictures of a fence installation project.

Fence Construction

In general, the fence structures would be built by installing (pushing) 15-foot lengths of four inch steel pipe ten feet into the wash bottom at ten foot intervals. Heavy gauge woven wire will be attached to the pipe and held in place with steel cable, woven between the fence and the pipe. The length of each fence within the array will typically be 100 feet, however may be adjusted as necessary. To provide sufficient protection to a targeted area, it will be required to overlap multiple fences, typically between 15 and 25.

Equipment

The pipe installation requires pushing the pipe into the sandy wash bottom with a heavy-duty construction vehicle (i.e., track-hoe). A smaller machine (skid steer) is typically used to pull the fence tight while the cables are secured to the pipe. Access to each project site would be determined prior to the start of the project, flagged and surveyed for cultural resources, paleontological and special status species.

2.3 Alternatives Considered But Eliminated From Detailed Analysis

This EA is limited to projects that can be addressed with sediment fence installation only. Major bank stabilization projects (i.e., installation of pilings, mat barriers, rock weirs, rip rap, fill dirt, etc.) that would require surface disturbance, dirt relocation, dredging/filling or any type of formal engineering are beyond the scope of this EA, therefore are not analyzed.

3.0 AFFECTED ENVIRONMENT

General Setting

The landscape of northwest New Mexico, in the area administered by the Farmington Field Office, occupies a transitional zone between the Rocky Mountains of southwest Colorado and the Colorado Plateau of New Mexico. The transitional nature gives the area its unique character and diversity as evidenced by the richness of archaeological, mineral, biological, and recreational resources.

Topographically, the area is characterized by fractured sandstone and shale uplifts varying in elevation from 5,000 to 8,000 feet with annual precipitation ranging from 8 to 14 inches. The soils are more clayey than would be anticipated, which, in combination with climatic tendencies that swing from drought to saturation, create difficult growing conditions in upland areas. Spring snow melt and summer thunder showers provide the majority of growing season moisture. Vegetative succession tends toward domination by woody species when natural disturbances (fire) are restricted. As the density of a shrub/tree canopy increases, the herbaceous understory tends to decrease causing the soil surface to become exposed. This exposure facilitates the invasion of noxious weeds in many areas.

The public lands managed by the FFO provide for numerous multiple-use opportunities including: oil and gas development, livestock grazing, and recreation. In addition, the natural landscape provides for a variety of non-consumptive uses including habitat for wildlife and an extensive cultural resource history.

The FFO manage lands containing extensive oil and gas reserves, in numerous underground formations which are independently leased. The development of the gas reserves has steadily increased since the 1950's and is expected to continue into the future. This activity impacts the landscape, primarily in the form of surface disturbance during exploration and production.

Recreation on public lands administered by the FFO is diverse. Opportunities exist for a variety of recreation activities including horseback riding, mountain biking, hunting, fishing, camping, off-road vehicle use, rafting, hiking, sightseeing, and photography. The FFO administers several recreation areas, a wilderness area, a wilderness study area and a research natural area.

Critical Elements of the Affected Environment

Certain critical environmental components require analysis under BLM policy. These items are marked with an asterisk (*) below in Table 1. Following the table, only those resources of the environment that have the potential to be affected by the proposed action, or any alternative to the proposed action, are described.

Table 1. Potentially Affected Resources

Resources	Potentially Affected	No Effect	Included in EA Text?	Comment
*Air Quality / Climate	x		Yes	
*Cultural Resources	x		Yes	
Fuels Management		x	No	Fuels would not be affected by the proposed project.

Resources	Potentially Affected	No Effect	Included in EA Text?	Comment	
Invasive, Non-native Plant Species	x		Yes		
Range/Grazing		x	No	Grazing would not be affected by the proposed project.	
*Native American Religious Concerns	x		Yes		
Paleontology	x		Yes		
*T&E Species/Special Status Species/Migratory Birds	x		Yes		
Recreation/Visual Resource Management	x		Yes		
*Socioeconomic/Environmental Justice		x	No	The placement of sediment fences in ephemeral washes would have no effect on any person, or their well being—minority or otherwise.	
Soils	x		Yes		
Vegetation	x		Yes		
*Water Quality/Surface/Ground	x		Yes		
Wildlife	x		Yes		
*Riparian Zone/Wetlands/Floodplains	x		Yes		
<i>Congressional or Administrative Designations</i>	*ACECs	x	Yes		
	*Wilderness		x	No	No sediment fence construction would occur in any designated wilderness area.
	*Wild and Scenic Rivers		x	No	There are no Wild and Scenic River designations within the FFO administrative area
*Hazardous or Solid Waste Materials		x	No	None of the alternatives involve the production/use of hazardous or solid waste.	
*Farmlands, Prime or Unique		x	No	None of the FFO area is considered prime/unique farmland.	

3.1 Air Resources

The proposed project is located in the San Juan Basin in Northwestern New Mexico. Additional general information on air quality in the area is contained in Chapter 3 of the RMP (BLM 2003). In addition to the air quality information in the RMP cited above, new information about greenhouse gases (GHGs), and their effects on national and global climate conditions has emerged since that RMP was prepared. On-going scientific research has identified the potential impacts of GHG emissions such as carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); water vapor; and several trace gases on global climate. Through complex interactions on a global scale, GHG emissions may cause a net warming effect on the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and the burning of fossil fuels have caused GHG concentrations to increase measurably, and may contribute to overall climatic changes, typically referred to as global warming.

The 2003 RMP discussed ozone in the Baseline Air Quality and Impact Assessment sections. The National Ambient Air Quality Standard (NAAQS) at the time was 0.084 ppm. In March of 2008, the

Environmental Protection Agency (EPA) announced a new primary 8-hour standard of 0.075 ppm.

In addition, the Environmental Protection Agency (EPA), on October 17, 2006, issued a final ruling on the lowering of the National Ambient Air Quality Standard (NAAQS) for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM_{2.5}, was lowered to 35 ug/m³ from the previous standard of 65 ug/m³. This revised PM_{2.5} daily NAAQS was promulgated to better protect the public from short-term particle exposure.

Air quality and climate are the components of air resources, which include applications, activities, and management of the air resource. Therefore, the BLM must consider and analyze the potential effects of BLM and BLM-authorized activities on air resources as part of the planning and decision making process.

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states of which New Mexico is one. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility. Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. Greenhouse gases and the potential effects of GHG emissions on climate are not regulated by the EPA, however climate has the potential to influence renewable and non-renewable resource management.

3.1.1 Air Quality

The area of the proposed action is considered a Class II air quality area (NMED AQB 2005). A Class II area allows moderate amounts air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment.

Air quality in the area near the proposed project is generally good and is not located in any of the areas designated by the Environmental Protection Agency as “non-attainment areas” for any listed pollutants regulated by the Clean Air Act. During the summers of 2000 through 2002, ozone levels in San Juan County were approaching non-attainment. Additional modeling and monitoring was conducted by Alpine Geophysics, LLC and Environ International Corporations, Inc., in 2003 and 2004. Results of the modeling suggest the episodes recorded in 2000 through 2002 were attributable to regional transport and high natural biogenic source emissions. The model also predicted that the region will not violate the ozone NAAQS through 2007 and that the trends in the 8-hr ozone values in the region will be declining in the future. At the present time, the San Juan County is classified as in attainment with the revised federal ozone standard of 0.075 ppm. Rio Arriba County is unclassified because of there are no ozone monitors sited in Rio Arriba County.

Greenhouse gases, including carbon dioxide (CO₂) and methane (CH₄), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA’s Inventory of US Greenhouse Gas Emissions and Sinks found that in 2007, total U.S. GHG emissions were over 7 billion metric tons and that total U.S. GHG emissions have increased by 17% from 1990 to 2007. Emissions increased from 2006 to 2007 by 1.4 percent (99.0 Tg CO₂ Eq.). The following factors were primary contributors to this increase: (1) cooler winter and warmer summer conditions in 2007 than in 2006 increased the demand for heating fuels and contributed to the increase in the demand for electricity, (2)

increased consumption of fossil fuels to generate electricity and (3) a significant decrease (14.2 percent) in hydropower generation used to meet this demand (EPA 2009).

The levels of these GHGs are expected to continue increasing. The rate of increase is expected to slow as greater awareness of the potential environmental and economic costs associated with increased levels of GHG's result in behavioral and industrial adaptations.

3.1.2 Climate

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (GISS 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Without additional meteorological monitoring and modeling systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions; what is known is that increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) predicted a warming of about 0.2°C per decade for the next two decades, and then a further warming of about 0.1°C per decade. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature would not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures are more likely than increases in daily maximum temperatures.

A 2007 US Government Accountability Office (GAO) Report on Climate Change found that, "federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others: 1) physical effects such as droughts, floods, glacial melting, and sea level rise; 2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and 3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses." It is not, however, possible to predict with any certainty regional or site specific effects on climate relative to the proposed action and subsequent actions (US Government Accountability Office 2007).

3.2 Cultural Resources

The project is located within the archaeologically rich San Juan Basin of northwestern New Mexico. In general, the prehistory of the San Juan Basin can be divided into five major periods: PaleoIndian (ca. 10000 B.C. to 5500 B.C.), Archaic (ca. 5500 B.C. to A.D. 400), Basketmaker II-III and Pueblo I-IV periods (A.D. 1-1540), and the Historic (A.D. 1540 to present), which includes Native American as well as later Hispanic and -American settlers. Detailed description of these various periods and select phases within each period, as well information regarding the BLM cultural resources program is provided in the 2003 RMP and will not be reiterated here. Additional cultural resources information is also included in an associated document, Cultural Resources Technical Report (CRTR) (SAIC 2002).

The CRTR is a comprehensive analysis and summary of cultural resources by watersheds. At the time the CRTR was prepared, over 37,000 cultural resource sites were on record within the FFO. As of March 2009, there were approximately 43,000 sites on record, and of those approximately 12,100 (28%) are located on public lands. The highest number of sites occurs in the Chaco watershed, but this is in part because the watershed is so large and has seen some of the most extensive archaeological research over the years.

Following Chaco are the Navajo Reservoir, Upper Puerco, Upper and Middle San Juan, and Largo watersheds, which combined with Chaco, contain over 70% of the recorded sites in the area.

These sites represent everything from simple artifact scatters of the PaleoIndian and Archaic cultures to complex and large prehistoric architectural sites of the Basketmaker/ Pueblo culture. Rock art sites are also particularly common in the area, representing thousands of years of history. Also found in the area are the greatest concentrations of early Navajo sites in the American Southwest, dating from the 15th– 18th centuries. Historic non-Native American sites include early settlement by Hispanic and Anglo homesteaders/ranchers, as well as early trails of exploration and commerce, such as the Old Spanish Trail. The area is also populated by landscapes that are of traditional significance to Native Americans, such as Huerfano Mesa.

The FFO requires site-specific surveys in advance of ground-disturbing activities. In some cases, existing inventory data can be used in evaluating potential effects to cultural resources. Seldom will existing surveys be sufficient to completely negate the need for field inspections. Compliance with Section 106 of the National Historic Preservation Act is adhered to by following the BLM New Mexico State Historic Preservation Office (SHPO) protocol agreement, which is authorized by the “National Programmatic Agreement between the BLM, the Advisory Council on Historic Preservation, and the National Conference of Council of State Historic Preservation Officers.”

3.3 Invasive / Non-native Species

Management of invasive and non-native species is mandated under the Lacey Act, as amended; the Federal Noxious Weed Act of 1974, as amended; and Executive Order 13112, Invasive Species (February 3, 1999). Invasive plants are found in the San Juan Basin, particularly in areas disturbed by surface activities. These plants displace native plant communities and degrade wildlife habitat.

Invasive, non-native species are a major concern within the boundaries of the FFO. Noxious species of concern include cheatgrass, Russian knapweed, spotted knapweed, leafy spurge, yellow toadflax, camelthorn, hoary cress, yellowstar thistle, musk thistle, Canada thistle, scotch thistle, black henbane, Russian olive, salt cedar, jointed goatgrass, downy brome, and halogeton. Other species of concern which are non-native, but naturalized, are Russian thistle and kochia. All of these species are invasive and pose a concern any time there is surface disturbance. Activities that create bare ground, even temporarily, are potential host sites for one or several of the above listed species. Although they can be found outside of riparian areas, Russian olive and salt cedar are woody exotic species that inhabit much of the riparian habitat in the FFO.

3.4 Native American Religious Concerns

“Traditional Cultural Prosperities” (TCPs) is a term that has emerged in historic preservation management and the consideration of Native American religious concerns. TCPs are places that have cultural values that transcend, for instance, the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites. The National Park Service (Parker and King 1998:1) has defined TCPs as follows:

A traditional cultural property can be defined generally as one (a property) that is eligible for the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in

maintaining the continuing cultural identity of the community. (National Register Bulletin 38, available at <http://www.nps.gov/nr/publications/bulletins/nrb38/>)

Native Americans are the “communities” most likely to identify TCPs, although TCPs are not restricted to these groups. Some TCPs are well known, while others may only be known to a small group of traditional practitioners, or otherwise vaguely known.

There are several pieces of legislation or Executive Orders that should be considered when evaluating Native American religious concerns. These govern access to and use of sacred sites, possession of sacred items, protection and treatment of human remains, and the protection of archaeological resources ascribed with religious or historic importance. These include the following:

- The American Indian Religious Freedom Act of 1978 (AIRFA; 42 USC 1996, P.L. 95-431 Stat. 469).
- Executive Order 13007 (24 May 1996).
- The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA; 25 USC 3001, P.L. 101-601).
- The Archaeological Resources Protection Act of 1979 (ARPA; 16 USC 470, Public Law 96-95).

TCPs or other places of significance are identified primarily by literature review and Tribal consultation. There is a vast body of existing information for the FFO area, both published and un-published “gray literature” that addresses this subject. Some literature is extensive and covers large areas while others are very project-specific in the areas examined. Consultation, both written and verbal, is used to identify places that are of concern. Some TCPs have no material evidence and would not normally be identifiable by archaeologists, so consultation with knowledgeable Native people is often necessary. These consultations can take place at the executive tribal levels or at the local levels, such as with Navajo chapters or individual land users, such as grazing allottees.

TCPs may include but not be limited to the following kinds of places: medicinal plant gathering areas, graves, archaeological sites, prayer offering locations, springs, landscape elements associated with important events, antelope traps, ceremonial grounds, mineral collecting areas, and so forth.

3.5 Paleontology

The proposed San Juan Basin of northern New Mexico is paleontologically rich. The BLM uses the Potential Fossil Yield Classification (PFYC) system to identify areas with a high potential to produce significant fossil resources (IM 2008-009). This system has designated all lands within the FFO management area as Class 5. Class 5 designations are described as being Very High Potential paleontological resource areas, thus requiring an assessment at the project level (IM 2008-011).

Site-specific treatments would be assessed individually based on BLM’s PFYC system, known paleontological locality information, existing reports and data for the area. If preliminary analysis indicates that the proposed treatment has a high probability of impacting paleontological resources, additional surveys, reporting and stipulations would be required.

3.6 Recreation/Visual Resource Management

BLM lands within the FFO are popular for recreational use in a variety of forms, including hunting, hiking, ATV use, mountain bike riding, and horseback riding. Wildlife viewing and photography are also popular pastimes engaged in on BLM lands. The FFO administers several recreation areas, a wilderness area, a wilderness study area, and a research natural area.

The BLM has developed a Visual Resource Management (VRM) classification designed to maintain or enhance visual qualities and describe the different degrees of modification to the landscape. BLM Manual 8431 (Visual Resource Contrast Rating) describes the VRM class objectives:

Class I Objective. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective. The objective to this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV Objectives. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

3.7 Threatened and Endangered Species / Special Status Species / Migratory Birds

There are 16 federally listed threatened, endangered, proposed or candidate for listing species that are known to, or have the potential to, occur within San Juan, Rio Arriba, Sandoval and McKinley Counties. Federally listed and proposed species that have the potential to occur within the area but have not been specifically identified include the black-footed ferret, the least tern, the New Mexico jumping mouse, and the Zuni fleabane.

Any treatment activity will be analyzed for the potential to affect federally-listed species. Any effect on federally-listed species will be analyzed before any treatments are conducted. Mitigation measures (i.e. timing stipulations) may be applied to avoid any impacts to federally-listed species during the breeding season. No federally-listed species habitat is expected to be removed. Any action that could impact

federally listed species and their habitat will be subject to consultation under Section 7 of the Endangered Species Act.

In accordance with BLM Manual 6840, the FFO of the Bureau of Land Management (FFO) has prepared a list of special management species to focus species management efforts toward maintaining habitats under a multiple use mandate, called FFO Special Management Species (SMS). The BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. The authority for this policy and guidance is established by the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; and Department of Interior Manual 235.1.1A.

Any treatment activity will be analyzed prior to construction to insure that project activities will not impact any SMS and their habitat. Appropriate mitigation measures will be applied in accordance to the BLM/FFO SMS Policy.

3.7.1 Migratory Birds of Conservation Concern

Executive Order 13186 calls for increased efforts in implementing the Migratory Bird Treaty Act of 1918. With this, the BLM/FFO has consulted with the Partners in Flight Bird Conservation Plan for the State of New Mexico and the US Fish & Wildlife's list of Birds of Conservation Concern. In 2010 a Memorandum of Understanding (MOU) was entered into between the Bureau of Land Management and the U.S. Fish and Wildlife Service promoting the conservation of migratory bird populations. Pursuant to Executive Order 13186, 66 Federal Register 3853, (January 17, 2001), *Responsibilities of Federal Agencies to Protect Migratory Birds*, this MOU outlines a collaborative approach to promote the conservation of migratory bird populations. The MOU is intended to strengthen migratory bird conservation efforts by identifying and implementing strategies to promote conservation and reduce or eliminate adverse impacts on migratory birds through enhanced collaboration between the BLM and the FWS, in coordination with State, tribal, and local governments.

In 2010, the BLM/FFO developed a Migratory Bird Policy to establish a consistent approach for addressing migratory bird populations and habitats when making project level implementation decisions. This policy applies Best Management Practices (BMPs) to avoid or minimize the possibility of the unintentional take of migratory birds, as instructed in the MOU. Best Management Practices are applied to provide long-term benefits and improved vegetation community condition.

3.8 Soils

The soils in the San Juan Basin fall into the general soil order called Aridisols. These soils are found in arid regions and are associated with dry or semi-dry climates and with desert vegetation types. It is not uncommon to find Entisols inclusions associated with Aridisol regions. These soils are well oxidized, low in organic matter and lack free iron oxide movement. The most observed feature with this soil order is a layer of carbonate accumulation commonly referred to as caliche. These carbonate layers are formed when calcium bicarbonate (CaCO₃) moves down the soil profile and is precipitated when the percolation of moisture stops and moisture is lost through transpiration. Another common feature is salic horizons (salt accumulations) and nitric (sodium-affected) horizons. Their formation is favored by periodic accumulations of water, as in or near broad seasonal lakes called playas or locally in areas of seepage similar to springs

sites. Aridisols are commonly low in nitrogen but often contain larger amounts of fertility elements such as potash derived from feldspars and mica. Supplies of micronutrients are usually abundant but are generally not available because of the high pH associated with this soil order.

Soils in the San Juan Basin were formed primarily from two kinds of parent material: alluvial sediment and sedimentary rock. The alluvial sediment is material that was deposited in river valleys and on mesas, plateaus, and ancient river terraces. The material has been mixed and sorted in transport and has a wide range of mineralogy and particle size. Sedimentary parent material consists mainly of sandstone and shale bedrock. These shale and resistant sandstone beds form prominent structural benches, buttes and mesas bounded by cliffs.

The proposed project area consists of two general soil mapping units; Torriorthent/Torrifluent groups and Torriorthent/Ustorthent groups. The Torriorthent/Torrifluent groups are derived from sandstone, shale, siltstone and mudstone. The majority of the soils are alkaline with depths ranging from 20 to 60 inches. These soils extend over gently sloping valley floodplains, benches, mesas and steep foothills. The Torriorthent/Ustorthent groups are derived from sandstone and shale. This map unit contains a significant proportion of shallow soils (less than 20 inches thick) that are alkaline with light colored surface layers. The unit is present in canyonlands, mountain slopes, valleys, rock outcrops and shale badlands.

The soil maps and a description of each of the soil units can be found in the Soil Survey of McKinley County and Parts of Cibola and San Juan Counties (2005), and San Juan County, Eastern Part (1980), Parts of Rio Arriba and Sandoval Counties (2008) (USDA Natural Resources Conservation Service http://soils.usda.gov/survey/online_surveys/new_mexico/).

3.9 Vegetation

As described in the Soil Survey Manuals, the soil types in the proposed project area feature a wide range of native plant species. These include Indian ricegrass (*Spartina anglica*) blue grama (*Bouteloua gracilis*), galleta (*Hilaria jamesii*), needle-and-thread (*Stipa comata*), alkali sacaton (*Sporobolus airoides*), western wheatgrass (*Pascopyrum smithii*), sand dropseed (*Sporobolus cryptandrus*), fourwing saltbush (*Atriplex canescens*), winterfat (*Eurotia lanata*), globemallow (*Sphaeralcea munroana*), greasewood (*Sarcobatus vermiculatus*), and big sagebrush (*Artemisia tridentata*). As the potential plant community deteriorates, the proportion of preferred forage plants (grasses) decreases and the proportion of less desirable plant species (sagebrush, rabbitbrush [*Chrysothamnus nauseosus*] and cheatgrass) increases. Areas where woodlands occur are generally in shallower soils and are less conducive to growing perennial or annual grasses. The potential plant community on shallow soils sites is generally Pinyon-juniper, Mountain mahogany (*Cercocarpus ledifolius*), antelope bitterbrush (*Purshia tridentata*), Prairie Junegrass (*Koeleria macrantha*), and various forbs.

Common native riparian vegetation found in ephemeral washes and river tracts include: coyote willow (*Salix exigua*), peach leaf willow (*Salix amygdaloides*), baltic rush (*Juncus balticus*), American rush (*Scirpus americanus*), cloaked bulrush (*Bolbus choenus*), three-square bulrush (*Scirpus pungens*), cattail (*Typha latifolia*), reed canary grass (*Phalaris australis*), boxelder (*Acer negundo*), and cottonwood (*Populus spp.*)

3.10 Water Quality

Surface waters are mainly tributary to the San Juan River. Perennial flows occur in the San Juan and Animas Rivers. Ephemeral flows occur in a number of major drainages, including the La Plata, Chaco, Largo, and Gobernador. The numerous washes and arroyos usually flow only during spring snow melt and after summer thunderstorms. Summer thunderstorms can be very intense but usually highly localized. They can create increased stream flows in the wash channels with flash flooding.

The soil and vegetation type and amount have a major effect on the amount of precipitation that becomes surface runoff. Storms and annual surface runoff vary with the amount of bare soil and amount of vegetation liter. Surface runoff increases as vegetation and litter decreases. Increased runoff causes higher velocities and initiates more erosion and more water that transports sediment.

Topographic features and soil conditions that result in the formation and continual development of canyons, arroyos, and gullies are contributing to the production of very poor water quality from many ephemeral flows. Key components that influence water quality are highly erosive and saline soils, sparse vegetative cover, and rapid runoff. Surface runoff usually consists of greater than 10,000 ppm of suspended sediment and more than 1,000 ppm of total dissolved solids (TDS). Limited salinity data indicates that moderately saline water (1,000 to 2,000 ppm TDS) are predominate for lands under the jurisdiction FFO.

The major aquifers associated with the FFO are Quaternary gravels, the San Jose, Nacimiento, Ojo Alamo, Gallup, Morrison, Entrada, and San Andreas formations. Recharge into the ground water aquifers is slight to moderate, depending on the porosity and permeability of each aquifer, amount of rainfall, snow melt, etc. Conductivities of the ground water aquifers are variable and can be both laterally and vertically discontinuous, depending on geology.

3.11 Wildlife

Wildlife habitat within the FFO area is dominated for the most part by the pinyon pine (*Pinus edulis*)/Utah juniper (*Juniperous osteosperma*) and Wyoming big sagebrush (*Artemisia tridentata wyomingensis*)/perennial grass habitat types with lesser interspersions of ponderosa pine (*Pinus ponderosa*)/Gambel's oak (*Quercus gambellii*) and riparian areas. Overall, the area is considered to be part of the Colorado Plateau high desert and is probably best characterized as a mesic environment. The land supports a broad spectrum of plant and animal species. Large mammals endemic to the area include mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), and pronghorn antelope (*Antilocapra americana*). Because of variations in habitat type and quality these species are not uniformly distributed within the field office area. Resident mule deer and elk typically occur in greatest numbers in the pinyon/juniper/sage areas of the Largo, Carrizo and Rattlesnake Canyon watersheds. These populations are temporarily augmented each winter as animals from the surrounding higher elevation areas migrate to avoid the snow and cold temperatures. In addition, the Thomas Canyon, Carracas Mesa and Rosa Mesa SDAs also receive a large influx of migratory winter deer, primarily from southern Colorado.

There are also a number of mammalian carnivores that fill important niches within the San Juan Basin ecosystem. Included in these are the black bear (*Ursus americanus*), mountain lion (*Felis concolor*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*) and bobcat (*Lynx rufus*). Each of these species affects a somewhat different trophic level. Mountain lions are considered a keystone species as they play a significant role in keeping the deer and elk populations in check. Black bears (which also

consume large quantities of vegetation, nuts, berries and insects) and coyotes, to a lesser degree, also affect this trophic level by preying upon fawns and calves. The smaller carnivores (gray fox and bobcat) impact smaller mammals such as mice (*Peromyscus spp.*), desert cottontail rabbits (*Sylvilagus auduboni*), black-tail jackrabbits (*Lepus californicus*), ground squirrels, such as rock squirrels (*Citellus variegatus*), spotted ground squirrels (*Citellus spilosoma*) and antelope squirrels (*Ammospermophilus leucurus*), Gunnison's prairie dog (*Cynomys gunnisoni*) and birds such as Merriam's turkeys (*Meleagris gallopavo merriami*).

Reptiles commonly observed in the field office area include the collared lizard (*Crotaphytus collaris*), short-horned lizard (*Phrynosoma douglassii*), western prairie rattlesnake (*Crotalus viridis viridis*) and gopher snake (*Pituophis melanoleucus*). Habitat for amphibians, while less abundant, does exist in the form of earthen tanks, sumps, ephemeral streams and perennial rivers such as the San Juan and Animas. Representative species include Woodhouse's toad (*Bufo woodhousii woodhousii*), bullfrog (*Rana catesbeiana*) and tiger salamander (*Ambystoma tigrinum nebulosum*).

A search of the New Mexico Department of Game and Fish's BISON-M database revealed 271 extant avian species in San Juan County. This group includes species found in both aquatic and upland habitat types. A representative sample of these was listed previously, under Migratory Birds of Conservation Concern.

3.12 Wetlands / Riparian Zones / Floodplains

The BLM defines a riparian area as "a form of wetland transition between permanently saturated wetlands and upland areas. The areas exhibit vegetation or physical characteristics that reflect the influence of permanent water sources or subsurface water" (BLM 1992). To protect these rare and important areas, the 2003 FFO-RMP designated approximately 7,500 acres of riparian habitat in the Ephemeral Wash Riparian Area SDA (Specially Designated Area). One of the management prescriptions for the SDA states: "vegetation management must benefit the values for which the SDA was established" (BLM 2003).

An additional 2,150 acres was designated in the 2003 FFO-RMP as the River Tract ACEC's to maintain, restore, improve, protect and expand riverine habitat so that it is in proper functioning condition for their productivity, biological diversity and sustainability.

Executive Order 11988 requires federal agencies to consider and evaluate potential effects that a proposed action may have on floodplains. Where applicable, actions should reduce the risk of flood loss, minimize the impact of floods on human safety and restore and preserve the natural and beneficial values served by floodplains. The best available floodplain information for the Farmington Field Office resource area is the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). These maps define zones according to varying levels of flood risk; the zones reflect the severity or type of flooding in the area. The FEMA maps display high risk areas and 100-year floodplains, generally describing them as areas with a 1% or greater chance of annual flooding, either in the form of ponding, sheet flooding, or overbank flooding (FEMA 2009). There are approximately 190,000 acres delineated in the FFO administrative area.

3.13 ACECs

The 2003 FFO-RMP designated 150 Areas of Critical Environmental Concern (ACECs) throughout the FFO administrative area. ACEC's are a special designation for areas that meet certain relevance and

important criteria, which calls for specific management to protect and prevent irreparable damage to important natural resources and processes. Table 3 summarizes the target resource that is protected by the ACEC designation.

Table 3: ACEC Designations

Number of ACECs designated to protect a particular resource type.

<i>Resource</i>	<i>Anasazi Communities (Non-Chacoan)</i>	<i>Chacoan Outlier</i>	<i>Chacoan Road</i>	<i>Early Navajo Defensive Site</i>	<i>Historic Site</i>	<i>Petroglyph and Pictograph Site</i>	<i>Traditional Use and Sacred Area</i>	<i>Geologic Formation</i>	<i>Special Recreation Value</i>	<i>Bald Eagle</i>	<i>Riverine Habitat</i>	<i>Vegetation</i>	<i>Critical Habitat</i>
Cultural	5	18	3	30	9	12	3						
Geology								1					
Recreation									1				
River Tracts											30		
T&E Species										36		1	1

Cultural

The cultural ACECs ensure the long-term protection of important cultural resources for future generations of researchers, public enjoyment, and for preservation of Native American sacred sites. There are 17 cultural ACECs with ephemeral washes that could be chosen as a project location. Of these 17, two have VRM designations of class I and would be excluded from any sediment fence project (See Appendix C for complete list).

Geology

The geology ACEC provides protection and preservation of a unique geologic feature (it appears as the shape of an angel with one uplifted wing) and associated scenic values. There are no ephemeral washes near the Angel Peak Geologic ACEC.

Recreation

The Recreation ACEC contains 3,928 acres which are managed to provide opportunities for the public to enjoy a variety of semi-primitive recreational activities and challenges, including fishing, hiking, backpacking, wildlife viewing, camping and cultural interpretation. Simon Canyon Recreation Area ACEC contains the Simon Canyon wash, a narrow ephemeral system that supports a small flow of water during the spring and early summer.

T&E

The T&E ACEC protects 10,367 acres for plants that are rare or endemic to New Mexico; 2,758 acres of designated critical habitat for the Mexican Spotted Owl; and 4,141 acres of important bald eagle wintering habitat. The River Tract ACEC protects 2,150 acres of riparian and wetland habitat, which supports potential habitat for endangered and sensitive species.

4.0 ENVIRONMENTAL IMPACTS

Alternative A – No Action

Under the No Action Alternative, the proposed action would not occur. This alternative may result in additional loss of roads, well pads, and important riparian habitat features.

Alternative B – Proposed Action

Under Alternative B (the proposed action), sediment fences to promote bank stabilization may be constructed in locations that would benefit from their presence. For a complete description of the proposed action see Section 2.2, Alternative B – Proposed Action.

Effects or impacts can either be long term (permanent or residual) or short term (incidental or temporary). Short-term impacts affect the environment for only a limited period of time; the environment reverts to pre-action conditions (usually within one to three years). Long-term effects are substantial and permanent alterations to the pre-existing environmental condition; the effects last longer than three years. Disturbance resulting from the proposed project consists primarily of vehicles and equipment temporarily staged in the immediate project area for the short-term.

4.1 Air Resources

No Action Alternative

This alternative would not result in any change to air resources.

Proposed Action Alternative

Vehicle traffic emissions and construction activities for the proposed project may increase the levels of dust. An air quality permit is not required at this time. Given the application of best management practices, the proposed project is anticipated to have a low effect to local air quality for the short and long term.

Mitigation Measures

Suspended dust from construction may be reduced through sprinkling disturbed areas and heavy vehicle traffic areas with fresh water as necessary. This would also maintain good visibility and maximize public and worker health and safety.

4.2. Cultural Resources

No Action Alternative

This alternative would not result in any change to cultural resources.

Proposed Action Alternative

Direct effects normally include alterations to the physical integrity of the cultural resources. If a cultural resource is significant for other than its scientific information, direct effects may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site.

Because the proposed action will take place within the confines of active floodplains, the fence construction would have no potential to affect cultural resources. Access routes may

be temporarily impacted (above ground disturbance) by vehicles entering/exiting the project area.

Mitigation Measures

Prior to any project an in-house archaeological survey determination will be completed to determine whether a culture resource survey will be required. If access to the specific project location follows existing roads or other disturbed areas, archaeological survey will not normally be required.

If any cultural resources sites should be encountered during construction, the project would immediately stop until a BLM-FFO cultural resource specialist evaluates the site. Should a site be evaluated as eligible for inclusion on the National Register of Historic Places, it would be treated in the proper manner to mitigate any effects of construction, according to the guidelines set by the BLM-FFO.

4.3 Invasive / Non-native Species

No Action Alternative

Under the No Action Alternative, there would be no direct or indirect effects on invasive species.

Proposed Action Alternative

Under the proposed action, indirect effects of increased human traffic in the area, especially any interstate traffic, may result in establishment of invasive/noxious weeds. Areas of newly deposited sediment behind the fences will be susceptible to invasive weeds. Invasive/noxious plants generally out-compete native species where bare ground is created. Given successful mitigation measures, effects from invasive, non-native species are expected to be low for both the short and long term for the proposed action area.

Mitigation Measures

Any equipment entering a proposed project site would be cleaned to reduce the potential for invasive species introduction.

Project areas will be monitored for the establishment of invasive species and, if necessary, included in the BLM-FFO noxious weed management program.

4.4 Native American Religious Concerns

No Action Alternative

This alternative would not result in any change to Native American Religious Concerns.

Proposed Action Alternative

The proposed action is not known to physically threaten any TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies and rituals pursuant to AIRFA or EO 13007. There are currently no known remains that fall within the purview of NAGPRA or ARPA.

Mitigation Measures

No site-specific mitigation measures for Native American Religious Concerns are recommended at this time.

4.5 Paleontology

No Action Alternative

This alternative would not result in any change to paleontology resources.

Proposed Action Alternative

The proposed project would be assessed individually based on the BLM's PFYC system, known paleontological locality information, existing reports, and data for the area. If preliminary analysis indicates that the proposed project falls within a Paleontology SDA or has a high probability of impacting paleontological resources, additional surveys, reporting, and stipulations would be required.

Direct impacts from the proposed project to fossil localities could result from ground-disturbing activities or the disturbance of the stratigraphic context in which they are located. This project could also create indirect impacts to areas by changing erosion patterns. Additionally, there could be an increase in off-road vehicular access from the project area for recreational activities. An increase in human activity in the area could increase the possibility of unauthorized removal or other alterations to paleontological resources in the area. Potential impacts to paleontological resources as a result of the proposed action would be low and long term.

Mitigation Measures

Prior to any project an in-house paleontology survey form will be completed to determine proper mitigation requirements for the project location. All BLM-FFO paleontological resources stipulations will be followed as indicated. These stipulations may include, but are not limited to, temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, project area reduction and/or specific construction avoidance zones, and employee education.

If previously undocumented paleontological sites are encountered during construction, all activities shall stop in the vicinity of the discovery and the BLM will be immediately notified. The site will then be evaluated. Mitigation measures such as data recovery may be required by the BLM to prevent impacts to newly identified paleontological resources.

4.6 Recreation / Visual Resource Management (VRM)

No Action Alternative

This alternative would not result in impacts to recreation or VRM.

Proposed Action Alternative

An increase in human activity during construction may increase the possibility of attracting unauthorized off road vehicle use.

The final fence array will temporarily change the landscape character until vegetation become established and provides camouflage. The proposed project would not go against the objectives of the VRM class designations.

Mitigation Measures

Access route selection will be based on the least conspicuous route, and following project completion, access routes will be rehabilitated (if necessary) or otherwise masked to deter unauthorized off road travel.

4.7 Threatened and Endangered Species/Special Status Species/Migratory Birds

No Action Alternative

Under the No Action alternative, there would be no direct or indirect effects on T&E species, special status species, or migratory birds.

Proposed Action Alternative

Peregrine falcons, prairie falcons, bald eagles, and golden eagles are located within the BLM-FFO administrative area, and could potentially utilize the proposed action areas for foraging, although this is unlikely. Prey from the immediate area may be displaced during construction due to impacts from the proposed action (changes in habitat composition and a temporary increased human intrusion into the area with associated increased noise, dust, and vehicles.

Prior to any project, an in-house Request for Threatened and Endangered/Special Status Species Proposal Evaluation will be completed to determine proper mitigation requirements for the project location. All stipulations will be followed as indicated.

All project activities will conform to the BLM/FFO Migratory Bird Policy.

Mitigation Measures

All stipulations will be followed as indicated on the Species Proposal Evaluation. Construction activities would be confined to the permitted construction area. Should any threatened, endangered, or sensitive species be identified during the construction and operation of the proposed project, the BLM-FFO T&E biologist will be contacted.

Any project activity that disturbs over 4.0 acres between May 15 – July 31 will require a migratory bird nest survey prior to construction.

4.8 Soils

No Action Alternative

This alternative would not result in any change to soils.

Proposed Action Alternative

Soils would be compacted along travel routes by vehicles. Soils that would be disturbed during the installation of support poles would be structurally mixed, displaced, and exposed to the elements of wind and water erosion.

Once disturbed, soils can be subject to increased erosion, dependent upon storm events of water and/or wind. Disturbed areas would be susceptible to wind and water erosion until natural re-vegetation has been achieved. The heaviest amounts of sediment (silt-loading) would occur for the short term, primarily during construction activity. The heaviest amounts of wind and water erosion would be moderate for the short term as well. Following project completion, long-term effects to soils would be low. The proposed project is designed to stabilize and secure the banks of certain ephemeral washes, preventing further erosion and incising. The project is designed to promote the re-establishment of riparian vegetation and natural stabilization structures. The proposed action would result in moderate short-term soil impacts. Given best management practices, long-term impacts to soils would be low.

Mitigation Measures

Following construction, vehicular activity would be restricted to occasional maintenance, if necessary. The utilization of BMPs prior to and during construction would lessen wind and water soil erosion impacts.

4.9 Vegetation

No Action Alternative

No change from status quo.

Proposed Action Alternative

Vegetation along identified access routes may be crushed by equipment entering/exiting the project area. There would be no need to remove vegetation or cause any surface disturbance other than that which occurs above ground. Construction of the proposed project would not result in the removal of any vegetation.

It is likely that sediment deposited behind the fences will create seed beds for new vegetation to be established. In the long term, native riparian vegetation (willows, cottonwoods, reed grass, sedges, etc.) may increase in project areas.

Mitigation Measures

No mitigation measures are necessary for vegetation management.

4.10 Water Quality

No Action Alternative

Under the No Action Alternative, the current rates of erosion would continue, and potentially increase. This would negatively affect the turbidity and salt loading of downstream waters.

Proposed Action Alternative

The proposed project may temporarily affect surface hydrology. Disruption of area soils would occur at the location of support poles during installation and throughout the permit area from vehicle and foot travel. The quality and quantity of this surface sedimentation increase would be dependent upon wind and water events in relation to soil disturbance.

Short-term impacts to the surface hydrology quality and quantity would be low. Overall, the proposed project is designed to stabilize and secure ephemeral wash banks and prevent any further erosion or incising of the banks. Reducing erosion of the bank should reduce sedimentation during episodic flow events.

Mitigation Measures

Any temporary access roads must be restored to pre-project condition.

Areas that are disturbed because of the project may be replanted with native vegetation and protected until the area is no longer subject to erosion into surface water. The native plant species must be appropriate for the moisture conditions of the affected area, whether it be wetland, riparian or upland.

All heavy equipment used in the project area must be cleaned before the start of the project and inspected daily for leaks. Equipment must be steam cleaned before working in any water. Leaking equipment must not be used in or near any watercourse, and must be parked outside of the channel when not in use.

Fuel, oil, hydraulic fluid or substances of this nature must not be stored within the normal floodplain, and must have secondary containment systems to prevent spills if the primary storage container leaks. Refuel equipment at least 100 feet from surface water.

Prior to any project, BLM-FFO would submit a jurisdictional determination request to the US Army Corp of Engineers, and BLM would apply any additional mitigation requirements that may result from this process.

4.11 Wildlife

No Action Alternative

Under the No Action Alternative, there would be no change in wildlife resources.

Proposed Action Alternative

Impacts to terrestrial wildlife species would be minimal, although some temporary displacement of small and large mammals may occur.

Long term effects would occur only if vegetation outside of the work area is destroyed. The proposed action would not remove any critical habitat and is designed to help restore riparian habitat along the banks of ephemeral washes. The proposed fence array would not alter the terrain or vegetation significantly enough to alter the movement of big game species, however may provide an increase in habitat for birds, reptiles, amphibians and smaller mammals

With implementation of proposed mitigation measures, direct and indirect wildlife effects are anticipated to be low for both the short term and long term under the proposed action.

Mitigation Measures

To minimize impacts to wildlife, all work will be conducted during daylight hours (0800-1700), and vehicles and equipment will be restricted to the ephemeral wash channel and identified access routes.

4.12 Wetlands / Riparian Zones / Floodplains

No Action Alternative

No action may result in an increase in erosion, loss of riparian vegetation and reduced functionality of the floodplain.

Proposed Action Alternative

In areas where these sediment fences have been previously utilized, the fences have slowed the flow of water and have allowed suspended sediments to settle out. This is the expected outcome of the proposed project, which should result in a reduction in the force of the water reaching the eroding bank. The fences may also result in an improvement and/or expansion of the riparian zone if the fences allow the bank to stabilize and subsequently re-vegetate.

The proposed project may also result in an increase in riparian vegetation, facilitate bank stabilization, and may increase the number of designated riparian reaches that attain a Proper Functioning Condition rating.

Riparian vegetation may be temporarily impacted by vehicles or equipment, however it is expected the vegetation will recover quickly.

Mitigation Measures

Access routes will be laid out to avoid as much riparian vegetation as possible. Vehicles and equipment will follow approved access routes, and will not create ruts or other unnecessary impacts.

4.13 ACECs

No Action Alternative

There would be no change from the status quo to any ACEC.

Proposed Action Alternative

Cultural

Of the 17 cultural ACECs that contain ephemeral washes that could be included in a sediment fencing project, two have VRM designations of Class I, thus would be excluded from any sediment fence project. One has management prescriptions that preclude it from being a project location (activity in canyon bottom is restricted). See Appendix C for a complete list.

There are no restrictions for the remaining 14 ACECs that would preclude sediment fence construction. Management prescriptions for cultural ACECs call for any surface disturbance to be confined to previously disturbed area. The floodplains in which fences would be placed are, by their nature, previously disturbed areas.

Potential effects would be similar to those described in the Cultural Resources section above (sec. 4.2). Direct effects normally include alterations to the physical integrity of the cultural resources. If a cultural resource is significant for other than its scientific information, direct effects may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site. Because the proposed action will take place within the confines of active floodplains, the fence construction would have no potential to affect cultural resources. Access routes may be temporarily impacted (above ground disturbance) by vehicles entering/exiting the project area.

Geology

There would be no effect to any Geologic ACEC.

Recreation

There would be no effect to any Recreation ACEC. Simon Canyon is very narrow, and the active channel even narrower. Although some type of sediment retention project could occur in Simon Canyon, the scale of the sediment fences described in the proposed action is too large for this location.

T&E

The perennial nature of the Animas and San Juan Rivers would preclude the River Tracts located along their banks. The La Plata River flows ephemerally and could potentially be included in a sediment fencing project. There are eleven river tracts of along the La Plata River, designated to protect potential Southwest Willow Flycatcher habitat. There are no ACEC management prescriptions that would preclude the La Plata River Tracts from being a potential project location.

Mitigation Measures

Prior to any project an in-house archaeological survey determination will be completed to determine whether a culture resource survey will be required.

If any cultural resources sites should be encountered during construction, the project would immediately stop until a BLM-FFO cultural resource specialist evaluates the site. Should a site be evaluated as eligible for inclusion on the National Register of Historic Places, it would be treated in the proper manner to mitigate any effects of construction, according to the guidelines set by the BLM-FFO.

Prior to any project, an in-house Request for Threatened and Endangered/Special Status Species Proposal Evaluation will be completed to determine proper mitigation requirements for the project location. All stipulations will be followed as indicated.

5.0 CUMULATIVE IMPACTS

Cumulative impacts or effects are the direct and indirect effects of all past, present, and reasonably foreseeable actions within the proposed action areas, regardless of the proponent or land status. Although impacts associated with each project may be insignificant, taken together, their cumulative impact(s) may be significant on a given resource or resources. Cumulative impacts are presented in terms of how the proposed action would add to the past, present, and reasonably foreseeable future development of the Farmington Field Office administrative area.

The foremost past, present, and potential future human activity resulting in environmental disturbance in this watershed is oil and gas development. Other human activities include big game hunting, general public recreation, and livestock grazing operations. The proposed project is specifically designed to address erosion within certain ephemeral washes in the BLM-FFO administrative area. Long term benefits may include: stable banks, reduced sediment load to the San Juan River, reduced salinity loads reaching the San Juan River, an increase in riparian vegetation, reduced impacts to oil and gas well pads and existing roads, and improved wildlife habitat. Impacts from these activities on the environment are categorized as low, for the present and future (long term).

Any short-term surface disturbance is designed to restore native riparian vegetation and has the potential to reclaim quickly and naturally. Long-term disturbance from this project is not expected to add to the existing and future disturbance of the region. Any additional impact can be considered low for the long-term cumulative impact to the watershed.

The short-term use of the proposed action area for the proposed action is not expected to adversely impact or limit the long-term productivity of the land, or of nearby lands. There is no irreversible or irretrievable commitment of surface or subsurface resources that would occur from the proposed action.

6.0 CONSULTATION & COORDINATION

6.1 List of Preparers

Name (and Agency, if other than BLM)	Title	Responsible for the Following Section(s) of this Document
Sarah Scott	Natural Resource Specialist	Wetland/Riparian/Floodplains, Vegetation
Barney Wegener	Natural Resource Specialist	Air Resources, Soils, Water Quality
Stan Dykes	Rangeland Management Specialist	Invasive/Non-native Species
John Hansen	Wildlife Biologist	Wildlife
John Kendall	T & E Biologist	T&E/Special Mgmt Species/Migratory Birds
Jim Copeland	Archaeologist	Cultural, Native Am. Religious Concerns
Sherrie Landon	Surface Protection Specialist	Paleontology
Janelle Alleman	Outdoor Recreation Planner	Recreation/VRM
Darlene Horsey	NEPA Coordinator	Overall review

6.2 List of Persons Consulted

Name (and Agency, if other than BLM)
Chris Wrbas, US Army Corps of Engineers, Durango Regulatory Office
Dr. Alan Downer, Director, Navajo Nation Historic Preservation Department

7.0 APPENDICES

Appendix A: Sediment Fence Specifications

FFO Specifications for erosion control fencing 50" high:

4 1/2" o.d. Schedule 40 steel pipe x 15' long; minimum.

"V" mesh wire netting x 50" high (see specifications below)

5/16" dia. steel cable (minimum)

Cable clamps

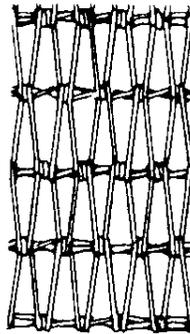
Steel tie wire

- Steel pipes are buried in wash at 10' in depth, leaving 5' exposed, and at 10' apart.
- Holes are cut on both sides of posts at 6" up from wash bottom and 48" up from the bottom hole.
- Cables are strung through (or attached) the top and bottom of steel pipe.
- Cables are woven through "V" mesh netting at two foot intervals at the top and bottom to secure and stabilize the netting.
- Cables are tensioned to adequately support the netting between the posts.
- Tie "V" mesh netting to steel posts at mid-point of posts.
- Bottom of "V" mesh netting should be at wash level, top of netting should be level with top cable for adequate support and strength.

Durable and Protective 2" x 4" Diamond Weave

Features heavy, twisted horizontal cables, each cable consisting of two wires on 4" spacing from ground to top. Vertical wires, securely wrapped around each horizontal cable, run diagonal to make a diamond pattern and thus form the strongest fence construction known.

The wire is galvanized to avoid corrosion.



STYLE NUMBER	Horizontal Wire Gauge	Vertical Wire Gauge	Mesh Spacing	Fence Height	Roll Length	Roll Weight
50" HEIGHT	12 1/2	14	2x4	50"	165'	250

Appendix B: Sediment Fence Photos



Appendix C: Cultural ACEC's

NAME	TYPE	VRM
East Side Rincon Site	ACEC/Anasazi Communities (Non Chacoan)	2
Twin Angels	ACEC/Chacoan Outliers	1
Morris 41	ACEC/Chacoan Outliers	1
North Road	ACEC/Chacoan Roads	2
Encinada Mesa-Carrizo Canyon	ACEC/Early Navajo Defensive Sites and Communities	2
Crow Canyon	ACEC/Early Navajo Defensive Sites and Communities	3
Simon Ruin	ACEC/Early Navajo Defensive Sites and Communities	2
Superior Mesa	ACEC/Early Navajo Defensive Sites and Communities	2
Deer House	ACEC/Early Navajo Defensive Sites and Communities	2
Haynes Trading Post	ACEC/Historic Site	2
Dogie Canyon School	ACEC/Historic Site	2
Martin Apodaco Homestead *	ACEC/Historic Site	2
Martinez Canyon	ACEC/Petroglyph and Pictograph Sites	2
Shield Bearer	ACEC/Petroglyph and Pictograph Sites	2
Pregnant Basketmaker	ACEC/Petroglyph and Pictograph Sites	2
Hummingbird Canyon	ACEC/Petroglyph and Pictograph Sites	2
Ashii Na'a' a' (Salt Point)	ACEC/Traditional Use and Sacred Area	2

**Martin Apodaco Homestead ACEC has management prescriptions precluding it from being included in the potential sites for sediment fence construction.*

Appendix D: INTERDISCIPLINARY TEAM NEPA DOCUMENTATION TRACKING/REVIEW FORM

<i>Sediment Fence Construction EA</i> DOI-BLM-NM-F010-2011-24-EA		November 24, 2010	
Divisions	Specialist Initials	Date Completed	Comments in document: YES/NO
Wildlife John Hansen	JH	12/1/10	No
T&E Plants/Mig. Birds John Kendall	JK	12/7/10	Yes – edits made
Rec./VRM Janelle Alleman	JCA	11/29/10	No
Soil/Air/Water Barney Wegener	BW	12-2-10	No
Cult./Religious Concerns Jim Copeland	jmc	11/29/10	Yes. Need to send the EA to Navajo nation HPD for comment before signing as final.
Wetland/Rip./Floodplain Sarah Scott	sns	11/24/10	No
Inv./Non-Native Plants Stan Dykes	SSD	11/30/10	Yes, see Inv./non-native section (edits made)
Paleo Sherrie Landon	SL	12/6/10	No
Range/Grazing Jeff Tafoya	JT	12/8/10	No
NEPA Coordinator Darlene Horsey	DEH	11/30/10	Yes, very minor. (edits made)

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