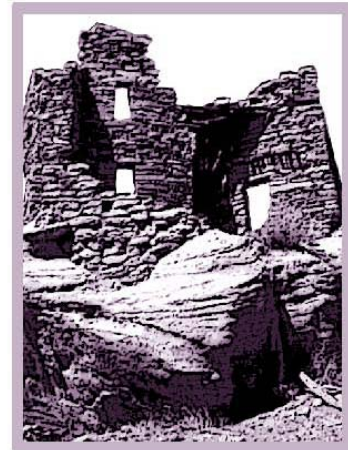
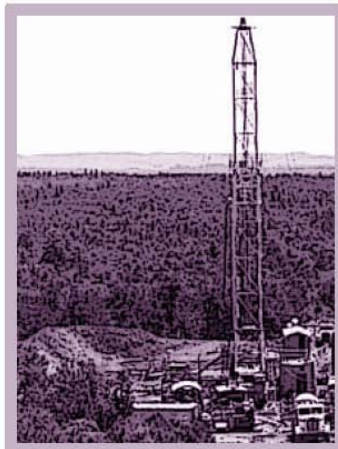
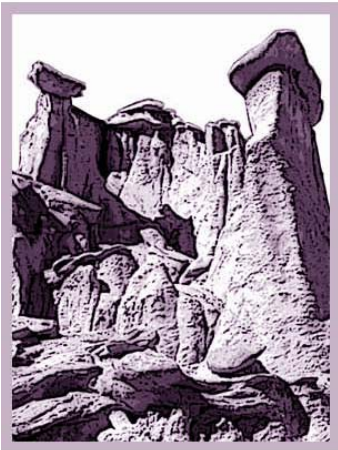


Farmington Resource Management Plan with Record of Decision

December 2003



U.S. Department of the Interior
Bureau of Land Management

Farmington Field Office
Farmington, New Mexico





United States Department of the Interior
BUREAU OF LAND MANAGEMENT

Farmington Field Office
1235 La Plata Highway, Suite A
Farmington, New Mexico 87401



IN REPLY REFER TO: 1610 (07200)

Dear Reader:

Enclosed is the Farmington Resource Management Plan (RMP). This document is the culmination of a planning process which began in September 2000.

A Draft RMP and associated Draft Environmental Impact Statement were prepared and made available for public review and comment from June 28, 2002 to September 26, 2002. Based on the comments received, revisions were made and the Proposed RMP and Final Environmental Impact Statement was released on April 4, 2003. The Record of Decision was signed by the New Mexico State Director on September 29, 2003 and has been reprinted in this document for your reference just ahead of the RMP.

The RMP presents the text of the selected alternative described in the Record of Decision. During preparation of this document several editorial errors were noted in the ROD. These editorial inconsistencies make no changes to the decisions as described in the ROD. Corrections are presented on the attached Errata Sheet and appropriate changes will be made to the RMP as part of plan maintenance in accordance with 43 CFR part 1610.5-4.

Ground disturbing activities associated with decisions made in this RMP are still subject to environmental and administrative reviews according to applicable federal regulations. The Farmington Field Office will use this RMP as the framework for pursuing collaborative management of natural resources on public lands in the San Juan Basin. If you have any questions regarding this document, please contact Jim Ramakka, RMP Project Manager, at 505-599-6307.

Sincerely,

Steve Henke
Field Manager

ERRATA SHEET

Changes in ROD to be included as Plan Maintenance in the RMP

Page 8:

In ROD

One coal tract, identified as Lee Ranch, by Peabody Natural Resources Inc., and two coal tracts identified as Twin Peaks and East Piñon by Broken Hill Proprietary Company, Limited are designated as available for leasing. Portions of the Twin Peaks coal tract that underlie the Piñon Mesa Fossil Area and Piñon Mesa Recreation Area would not be available for leasing and coal development. These lands are in Township 30 North, Range 14 West and are described as follows: all of Sections 10, 14 and 15, NE¹/₄NE¹/₄ of Section 22, E¹/₂, N¹/₂NW¹/₄ of Section 23, and the NE¹/₄, N¹/₂SE¹/₄ of Section 26. Within this area approximately 320 acres of identified potentially leasable coal would be affected. The remainder of the land in Sections 22, 23 and 26 would be available for underground coal mining with stipulations that ensure the trail corridors would remain open to public access and paleontological resources are protected. Paleontological surveys prior to underground mining and periodic monitoring of subsidence during mining may be required.

Corrected paragraph:

One coal tract, identified as Lee Ranch, by Peabody Natural Resources Inc., and two coal tracts identified as Twin Peaks and East Piñon by Broken Hill Proprietary Company, Limited are designated as available for leasing. Portions of the Twin Peaks coal tract that underlies the Piñon Mesa Fossil Area and Piñon Mesa Recreation Area would not be available for leasing and coal development. These lands are identified as Sections 10, 14, and 15 in Township 30 North, Range 14 West. The lands in NE¹/₄NE¹/₄ of Section 22, E¹/₂, N¹/₂NW¹/₄ of Section 23 and the NE¹/₄, N¹/₂SE¹/₄ of Section 26 would be available for underground coal mining with stipulations that ensure the trail corridors would remain open to public access and paleontological resources are protected. Paleontological surveys prior to underground mining and periodic monitoring to check on subsidence during mining may be required.

Page A-2:

Angel Peak Scenic Area—The table lists constraints on New Leases as CSU. The correct constraint, as stated in management prescription number 2 on page N-102 of the PRMP, is No Surface Occupancy (NSO) for new oil and gas leasing.

Page A-3:

Greenlee Ruin Chaco Culture Archaeological Site corrected to Greenlee Ruin Chaco Culture Archaeological *Protection* Site to match the title as listed in Table 2-5 of the PRMP.

Page A-4:

Head Canyon Motocross Track SMA corrected to Head Canyon Motocross Track to match the title as listed on page N-111 of the PRMP.

Kin Yazhi (Little House)—removed the parenthetical part of the name so it is called Kin Yazhi ACEC.

Kutz Canyon Paleontological Area changed to Kutz Canyon Fossil Area to match the title as listed on page N-92.

Lake Valley Chaco Culture Archaeological Site corrected to Lake Valley Chaco Culture Archaeological Protection Site to match the title listed in Table 2-5 of the PRMP.

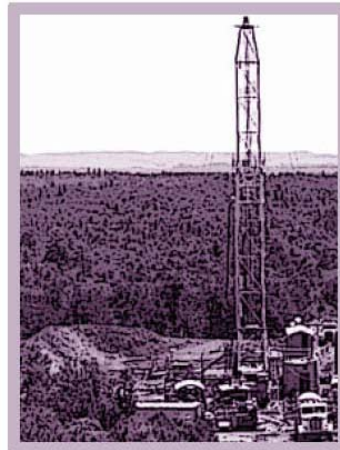
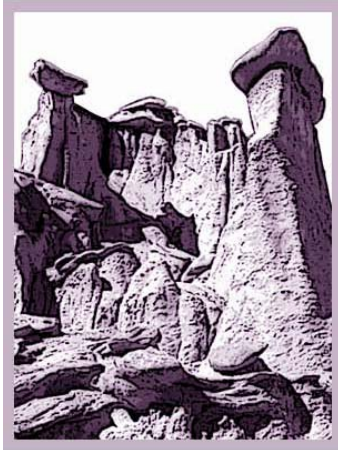
Page A-5:

Simon Canyon Recreation Area corrected to Simon Canyon ACEC to conform with the intent for special designation listed on page 2-245 and in Table 2-5 of the PRMP.

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Record of Decision

Farmington Proposed Resource Management Plan
and
Final Environmental Impact Statement



September 2003



U.S. Department of the Interior
Bureau of Land Management

Farmington Field Office
Farmington, New Mexico



MISSION STATEMENT

It is the mission of the Bureau of Land Management to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Farmington Field Office 1235 La Plata Highway, Suite A
Farmington, New Mexico 87401

IN REPLY REFER TO:
1610 (07200)

Dear Reader:

This Record of Decision (ROD) approves the proposed revision to the Farmington Resource Management Plan. The proposed plan revision was described as the preferred alternative in the Farmington Proposed Resource Management Plan (PRMP) and Final Environmental Impact Statement (FEIS). The plan provides guidance for managing approximately 1,415,300 acres of public land and 3,020,693 acres of federal minerals in San Juan, McKinley, Rio Arriba and Sandoval Counties. The overall planning area encompasses 8,274,100 acres.

This plan was prepared under the regulations implementing the Federal Land Policy and Management Act of 1976 (43 CFR 1600). An environmental impact statement was prepared for this Plan in compliance with the National Environmental Policy Act (NEPA) of 1969.

The ROD approves new decisions concerning oil and gas leasing and development, Off Highway Vehicle (OHV) designations, land ownership adjustments, management of Specially Designated Areas and coal leasing suitability. These decisions are intended to replace goals, objectives, management actions and conditions of use described in the 1988 Farmington RMP and subsequent amendments related to these matters. No other decisions of the 1988 Farmington RMP and amendments are affected.

The DRMP/DEIS was made available for public review and comment from June 28, 2002, to September 26, 2002. The PRMP/FEIS was released on April 4, 2003.

The Proposed RMP was subject to a 30-day protest period that ended May 5, 2003. The protests were reviewed by the BLM Assistant Director, Renewable Resources and Planning, in Washington, DC. This ROD includes information about the protests and BLM's findings. No significant changes to the proposed plan were made as a result of the protests.

The regulations in 43 CFR 1610.5-2 do not provide for any additional administrative review of this decision. However, actions taken to implement this plan, such as approval of application for permit to drill (APD), other land use permits, leases, or lands disposal or exchange actions, may be administratively reviewed in accordance with applicable regulations at that time such action is taken.

Thank you for your interest and participation in the development of the plan. If you have any questions about the ROD, please contact, James M. Ramakka, RMP Project Manager, at 505-599-6307.

Sincerely,

Steve Henke
Field Manager

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Record of Decision

Farmington Proposed Resource Management Plan
and Final Environmental Impact Statement

September 2003

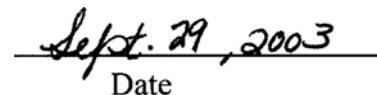
U.S. Department of the Interior
Bureau of Land Management

Farmington Field Office
Farmington, New Mexico

Approving Official:



Linda S.C. Rundell
New Mexico State Director



Date

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- Appendix B Oil and Gas Leasing Stipulations Applied to New Leases in Planning Area
- Appendix C Potential R&PP Locations

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A. Introduction

This Record of Decision (ROD) approves for immediate adoption the Farmington Resource Management Plan. The approved plan consists of Alternative D in its entirety, except that it incorporates that portion of Alternative B allowing oil and gas leasing with No Surface Occupancy in the Negro Canyon Specially Designated Area as analyzed in the Farmington Proposed Resource Management Plan and Final Environmental Impact Statement (PRMP/FEIS)(BLM, March 2003). The RMP provides guidance for the management of public lands and resources on approximately 1.4 million acres of public surface and 3 million acres of subsurface minerals in all of San Juan County, most of McKinley County, western Rio Arriba County and northwestern Sandoval County, New Mexico.

The planning area encompasses the New Mexico portion of the San Juan Basin. This basin is one of the largest natural gas fields in the nation and has been under development for more than 50 years. It supports approximately 18,000 active oil and gas wells and there are more than 2,400 existing oil and gas leases in the planning area. Virtually all of the area with high potential for oil and gas development has already been leased. For those portions of the planning area that fall outside the administrative boundaries of the Farmington Field Office (FFO), planning analysis only addressed oil and gas development.

Comprehensive land use planning is a requirement of the Federal Land Policy and Management Act of 1976 (FLPMA). The Farmington RMP revises the 1988 RMP and subsequent amendments. The 1988 RMP was amended six times between 1990 and 2000. Decisions from the 1988 RMP and subsequent amendments that are still valid have been carried forward as part of the revision and are listed in Appendix A of the PRMP/FEIS. Changes in land use, particularly urban/suburban expansion and an increase in Off Highway Vehicle (OHV) use, demands to reduce conflicts with oil and gas development and OHV activity from grazing lessees and the public, as well as industry interest in coal leasing outside of areas previously analyzed in earlier plans, precipitated the need for this revision. The primary purpose of the revision is to update management constraints on oil and gas leasing and development and to reevaluate earlier decisions concerning land ownership adjustments, OHV designations, Specially Designated Areas (SDAs), and coal leasing suitability assessment.

The use of public lands and federal mineral estate for the development of reliable domestic sources of energy is consistent with the recommendations of the President's Energy Policy Development Group and Executive Order (EO) 13212 as well as the Federal Land Policy and Management Act (FLPMA). The revised RMP provides for development and transport of oil and gas resources, protection of sensitive areas, regulation of OHV activity, continuation of coal leasing, and land ownership adjustments, while maintaining public health and safety and ensuring compliance with applicable laws and regulations.

BLM initiated the planning process in September 2000 by requesting comments to determine the scope of the issues and the concerns that should be incorporated into the action alternatives and impact analysis. A Core Team of BLM, USBR, and USFS staff formed the interdisciplinary team that guided the identification of the issues and the development of the project description and alternatives.

Formal scoping identified five major issues:

1. Oil and Gas Leasing and Development
2. Land Ownership Adjustments
3. Off-Highway Vehicle Use
4. Specially Designated Areas
5. Coal Leasing Suitability Assessment

A Draft RMP/Draft EIS (DRMP/DEIS) was written and made available for public review and comment on June 28, 2002. In response to comments, the Farmington Field Office met with the New Mexico Environment Department Air Quality Bureau and Environmental Protection Agency (EPA) Region 6 personnel to discuss air quality issues. Additional air quality modeling and analysis was conducted and incorporated into the PRMP/FEIS. BLM joined with other agencies and stakeholders to form the Four Corners Ozone Taskforce in order to seek monitoring and mitigation strategies to avoid significant air quality impacts. Concerns raised in other comments were addressed in comment responses or by adding text to the PRMP/FEIS.

Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service resulted in concurrence with BLM's determination that implementation of Alternative D may affect but would not be likely to adversely affect any listed species or adversely modify critical habitat for listed species. Likewise, after review of the DRMP/DEIS, the New Mexico State Historic Preservation Officer returned a "no comments" response to the BLM.

After reviewing and considering public comments, a revised document was published as the Farmington PRMP/FEIS. A Notice of Availability was published in the Federal Register on April 4, 2003.

B. Decision

The decision is hereby made to approve the Proposed Farmington Resource Management Plan as described in the Preferred Alternative (Alternative D) in the Farmington PRMP/FEIS, published April 4, 2003. In addition that portion of Alternative B regarding oil and gas leasing in the Negro Canyon SDA is approved. This decision is further described below.

The decision does not apply to private or state lands or minerals or to lands or minerals administered by the Bureau of Indian Affairs for the benefit of Native American Tribes or individuals. All of the lands and minerals administered by the Farmington Field Office are included in the decision. Oil and gas related activities on lands administered by the Albuquerque Field Office are also included. BLM will continue to manage subsurface aspects of oil and gas leases under lands administered by the U.S. Bureau of Reclamation and U.S. Forest Service, but surface management will be determined by those agencies' land use planning documents.

C. Goals, Objectives, and Management Actions

The Plan will guide the Farmington Field Office when making decisions regarding oil and gas leasing and development, OHV designations, land ownership adjustments, management of SDAs, and coal leasing suitability. The specific management goals, objectives and management actions that comprise the Plan are contained in the description of the preferred alternative (Alternative D) and that portion of Alternative B regarding oil and gas leasing in the Negro Canyon SDA. Refer to Chapter 2 of the PRMP/FEIS. Highlights of the major decisions include:

Oil and Gas Leasing and Development

A total of 2,597,193 acres of BLM managed lands will remain open for oil and gas leasing and development under Standard Terms and Conditions. Lands subject to oil and gas leasing restrictions are listed in Appendix A. Nondiscretionary closures (those required by existed laws and regulations) will continue on 111,148 acres. These areas are contained in designated Wilderness, Wilderness Study Areas, and SDAs. Approximately 79,000 acres, primarily contained within SDAs, will be closed to new leasing. Total acreage presented in Appendix A is greater than the sum of the acreages listed above due to overlapping designations in certain areas. The majority of lands listed as closed to new leasing is subject to existing leases, thus a discretionary closure would apply only to new leases or if existing leases were allowed to expire. Approved lease stipulations specific to the FFO and AFO are listed in Appendix B.

The following former Farmington Field Office Lease Stipulations are no longer considered applicable:

Stipulation F-2 applied a controlled surface stipulation to the Farmington Lake Watershed SMA. Due to mixed land status and limited amount of public land, this SMA designation has been dropped. Constraints to protect water quality in the area will continue but are more appropriately addressed by a Lease Notice rather than a stipulation.

Stipulations F-5, 6, 7, 8, 10, 11, 12, 17, 18, 20, and 24 were contradictory in that they closed areas to leasing and, thus, there would be no leases on which to attach the stipulations. The areas of concern have been designated as SDAs with management prescriptions closing the areas to new oil and gas leasing.

Stipulation F-16 required No Surface Occupancy on new leases in the Aztec Gilia ACEC. The Plan drops this ACEC designation because inventories conducted since designation of the ACEC revealed that this plant is more widespread than previously thought. This species will continue to receive adequate protection through application of site-specific conditions of approval. Likewise Stipulation F-15 is dropped as it applied to the Rights-of Way Window Special Management Area, a designation that is replaced by Rights-of Way corridors in the Plan. Constraints within the corridors are more appropriately addressed by a Lease Notice rather than a stipulation. The restrictions listed in Appendix A and B also apply to geophysical exploration activities.

Cumulative impacts of the potential development of 9,942 new oil and gas wells were analyzed in the PRMP/FEIS. Up to 60 percent of new completions may be commingled wells, thus reducing surface impacts. The Plan does not approve any individual wells. Each well will require

site-specific analysis and approval before permitting. Development must be conducted in a manner that minimizes adverse impacts to other resources and other land uses and complies with existing laws and regulations according to the provisions of the PRMP now approved. Companies applying for permits to drill may be required to evaluate the use of new technology such as directional drilling from existing pads and other techniques in order to reduce surface disturbance with its consequent impacts on soil, water, vegetation, and air resources.

Standardized drilling window offsets will be employed to reduce the number of drill sites needed. The New Mexico Oil and Gas Commission establishes, with BLM concurrence, drilling windows for each gas formation. By standardizing one window for multiple formations the opportunity for dual completion of wells (one well hole draining more than one formation) is increased. Dual completion, re-completion and commingling (both downhole and at the surface) will be encouraged and permitted in order to reduce the number of new well pads and consequent surface disturbance. This in turn, will reduce impacts to soils and vegetation, reduce air impacts caused by fugitive dust, reduce habitat fragmentation and offer less opportunity for the spread of noxious weeds.

Voluntary off site mitigation funds will continue to be used to develop adaptive management strategies, implement management prescriptions in SDAs, fund research related to mitigation and reclamation, and to enhance other resource conditions off-site. Voluntary contributions in the amount of one thousand dollars per acre of land, which cannot be reclaimed for the life of the well, are deposited in an account maintained by the BLM National Business Center. Contributions are strictly voluntary and made at the discretion of oil and gas operators after a permit to drill is issued. A working group consisting of affected grazing permittees and oil and gas industry representatives evaluates proposals for distribution of funds. Priority is given to projects in areas most affected by oil and gas development and 70 percent of the funds are to be used for projects to improve Public land health. Ultimate authority for expenditure of funds rests with the BLM.

A compliance plan for new well pads and rights-of-way will be developed by December 1, 2003. The plan will integrate existing initiatives and prioritize areas with outstanding problems. A timeline for correcting problem areas will be included, as will a strategy for assigning adequate personnel to address the issue of compliance and reclamation.

Pipelines will follow existing roads where possible in order to minimize surface disturbance and consequent potential impacts to soils, vegetation, and habitats. This will also serve to reduce potential for spread of noxious weeds.

Oil and gas development will be restricted in areas that have special topographic (steep or broken terrain and/or on benches) and soil concerns in order to reduce impacts caused by soil erosion and habitat disturbance. Development in these areas will be considered on a case-by-case basis and will contain site-specific mitigation designed to prevent increased sediment from being transported into drainages and to prevent fragmentation of areas determined to provide important wildlife habitat.

Operators are encouraged to unitize in areas of dense development to increase management efficiency and facilitate operations in sensitive areas. Unitization is the process by which

multiple leaseholders in a geographic area share facilities so as to reduce surface disturbance caused by multiple duplicate facilities such as pipelines and compressor stations.

Electronic transmission of well data and piping of produced water will be required, where feasible, to reduce the number of vehicle visits to wells in order to reduce disturbance to wildlife and direct mortality as a result of road kills. It will also reduce the amount of dust, potential increased sedimentation, disruption of livestock operations and recreational uses.

Seasonal Timing Limitations will be employed on 483,807 acres as presented on Map 2-11 of the Proposed RMP/FEIS. The FFO will work in collaboration with industry, the New Mexico Department of Game and Fish and other interested parties, to develop structured exception criteria. Any exceptions will be based on these criteria. The FFO will assist operators in designing plans of development to minimize impacts to oil and gas operations while still meeting wildlife goals.

The Draft Noise policy described in Appendix E (Alternative D) of the PRMP/FEIS will be issued as final Notice to Lessee (NTL) and attached as a condition of approval to Applications for Permits to Drill, and as a stipulation to Rights of Way grants and Sundry Notices in order to reduce impacts from noise generated from oil and gas sites on recreational and residential land uses. The NTL specifies a noise standard but allows companies the flexibility of choosing which equipment or method(s) they will use to reach the standard. Variances will be allowed on a case-by-case basis following procedures as listed on pages E-8 and E-9 of Appendix E of the PRMP/FEIS.

Land Ownership Adjustments

Approximately 340,118 acres of public land will be available for disposal (Maps 2-2 and 2-5 of the PRMP/FEIS) while 178,237 acres are identified for acquisition within and surrounding SDAs. Parcels identified in the previous RMP and amendments are incorporated into the lands available for disposal or acquisition.

Lands on Crouch Mesa and lands along and less than 1 mile east of U.S. Highway 550 between Aztec and Bloomfield will receive priority for disposal to assist the cities in meeting their long term planning goals for urban development. Lands presently identified as potential Recreation and Public Purpose (R&PP) sites by various government entities and non-profit organizations are listed in Appendix C. This list is not exclusive and may change with future proposals. Included in the list is an additional parcel of approximately 220 acres that was identified by San Juan College but inadvertently omitted from Appendix H of the PRMP/FEIS. The additional parcel encompasses the facilities site of the La Plata mine and falls within the scope of the analysis for land use adjustments included in the PRMP/FEIS. Any proposal for an R&PP lease will undergo detailed site-specific environmental analysis, appropriate consultation, and public review. All such leases must meet the criteria specified in BLM Manual 2740.

Inholdings within SDAs will receive priority for acquisition. Additional riparian areas will also receive priority for acquisition. Many SDAs have a management prescription to retain the public lands within the SDA. Disposal of parcels within SDAs may be considered, in rare instances, if the Authorized Officer determines, after site-specific environmental analysis, appropriate

consultation, and public review, that such a disposal would not have an adverse effect on the management goal of the SDA and would be of overall benefit to the public.

Right-of-Way (ROW) corridors identified by the 2002 Western Utility Group revision of the 1992 Western Regional Corridor Study are designated for powerline and pipeline use. Specific proposals will require site-specific environmental analysis and compliance with established permitting processes. Activities that would generally be excluded from ROW corridors include mineral material sales, range and wildlife habitat improvements involving surface disturbance and facility construction, campgrounds and public recreational facilities, and other facilities that would attract public use. New oil and gas wells would be sited outside ROW corridors.

Off-Highway Vehicle (OHV) Use

A total of 4,616 acres of public land are designated as Open for OHV use, 1,353,301 acres are designated as Limited to maintained roads, designated trails, routes and areas except where conditions are determined to be suitable for cross-country travel. Criteria for determining suitability are listed on page 2-223 of the PRMP/FEIS. Another 57,369 acres are designated as Closed to OHV travel. Maps indicating these areas will be available at the Farmington Field Office. Closed areas are described in Appendix N of the PRMP/FEIS. Thirteen new OHV Management Units (Map 2-6 of the PRMP/FEIS) are created to replace the 13 units identified in the 1995 RMP Amendment for Off-Highway Vehicle Use. Each SDA has individual OHV designations (listed in Table 2-5 of the PRMP/FEIS) that may be different from and take precedence over the designations in the surrounding OHV Management Unit. Additional routes, trails, and areas may be identified within the OHV Management Units when OHV Activity Plans are completed for each unit. Unit planning may also change the size or location of areas subject to closure. Within the next 6 months, the FFO will complete a prioritized list of areas for site-specific planning in close coordination with the public. The priority of completion will be based on criteria identified in Appendix I of the PRMP/FEIS. All plans will be completed within 15 years.

The overall goal of the OHV management units is to provide a range of recreational opportunities for the different recreational user groups, while ensuring resource protection and reducing conflicts between other public land users and permit holders. Specific management objectives for each unit will likely vary depending upon site-specific resource conditions and public needs and concerns.

The OHV Designation for the Bisti/De-Na-Zin Wilderness Area is clarified to indicate that BLM authorized access to inholdings in the northern portion of the De-Na-Zin may be permitted using the route to the former life estate located in T. 24 N., R. 11 W., Section 7 (map available at BLM FFO). Authorization would require the inholder to secure all necessary permits and leases, and would require appropriate environmental analysis and implementation of all mitigation measures necessary to minimize impacts to the wilderness area.

To address issues of unnecessary roads and road maintenance as well as problems with reclamation of abandoned roads, the Albuquerque Field Office will establish a road management unit in the Lindrith/Cuba area similar to those established in the Farmington Field Office. This

will help the BLM, the county, and industry to coordinate efforts to maintain roads and reduce road related impacts to watersheds.

The following clarification is added to the Exceptions for OHV Cross-Country Travel presented in Table 2-3 of the PRMP/FEIS: “Cross-country travel for camping is allowed within 300 feet of roads by the most direct route, after site selection by non-motorized means.”

Specially Designated Areas

The existing Lost Pine, Log Jam, Badlands, and Aztec Gilia Areas of Critical Environmental Concern (ACEC) designations are removed. The areas were designated in prior planning efforts and will no longer be managed as ACECs. Four other areas (Coal Belt, Right-of-Way Windows, Farmington Lake Watershed, and Tanner Lake Battlefield) will no longer be managed as Special Management Areas (SMA). Rationale for these changes is presented on page 2-243 of the PRMP/FEIS.

All of the areas (649,901 acres) with special administrative designation listed in Alternative D of the Proposed RMP are carried forward as part of the approved plan. This includes 79 cultural resource ACECs, one ACEC for Geology, one Recreation ACEC, and four ACECs for Threatened or Endangered Species. Also included are two Research Natural Areas, one Wilderness Study Area (also designated as an ACEC), one Wilderness Area, and 30 other areas designated for special management considerations. These areas will be managed according to the management prescriptions listed in Appendix N of the PRMP/FEIS.

Based on a review of the analysis presented in the PRMP/FEIS, new leasing for oil and gas can be allowed in the Negro Canyon SDA with the lease stipulation of No Surface Occupancy. This option, affecting approximately 1,922 acres of public land, was analyzed under Alternative B in the PRMP/FEIS. The No Surface Occupancy constraint means that development of fluid minerals would require the use of directional drilling with well pads located outside of the boundary of the SDA. This would provide for development of significant energy resources while still maintaining the management goal of the SDA.

Where two specially designated areas overlap, the specific management prescriptions for each SDA remain in effect and the more restrictive prescriptions will apply. For example, even though the management prescriptions for a cultural resource ACEC do not contain a seasonal restriction, if the ACEC overlaps an area with seasonal wildlife restrictions, the seasonal restriction will apply to both areas.

Additionally, many SDAs have a management prescription that does not allow vegetation manipulation. This could limit the ability of BLM to control noxious weeds or conduct other activities, which may be necessary to improve Public land health. Exceptions to this prescription will be allowed when site-specific environmental analysis indicates such treatments are necessary to maintain or improve Public land health or control noxious weeds and when it can be demonstrated such treatments will not adversely impact the resources for which the SDA was created.

Internal reviews of the PRMP/FEIS encountered apparent discrepancies between GIS data maintained at the BLM New Mexico State Office (NMSO) and Farmington Field Office records

for the amount of federal mineral and surface estate within various SDAs. The differences noted had no effect on the outcome of the analyses presented in the PRMP/FEIS or decisions based on the approved plan. The FFO is coordinating with the NMSO to reconcile the differences and the results will be published as part of the annual plan monitoring report. The legal boundaries of the SDAs are maintained on title plats at the FFO.

Coal Leasing Suitability Assessment

Fourteen Preference Right Leasing Applications (PRLAs), containing 28,708 acres of Federal coal, as listed in Table 2-7 of the PRMP/FEIS, are brought forward. The unsuitability criteria that limited several PRLAs are still in effect. Those PRLAs that are affected by Congressional designation of the Bisti/De-Na-Zin Wilderness Area and the Fossil Forest Research Natural Area may, under public law, be exchanged for coal leases in New Mexico if it is in the public interest. Unsuitability criteria will be reapplied, if necessary, when the PRLAs are processed.

Seventeen competitive coal leasing tracts, covering 48,661 acres of Federal coal, will be available for leasing (see Table 2-8 of the PRMP/FEIS). Companies interested in mining coal from these tracts will be required to submit a lease application and the 20 unsuitability criteria (listed in 43 CFR 3461 and Appendix C of the PRMP/FEIS) would be reapplied during the leasing process. A total of 378,285 acres shown on Map 2-9 of the PRMP/FEIS will be considered for future leasing and development.

BLM management of existing domestic coal licenses on public lands will continue. New domestic coal license applications will be considered on a case-by-case basis.

One coal tract, identified as Lee Ranch, by Peabody Natural Resources Inc., and two coal tracts identified as Twin Peaks and East Piñon by Broken Hill Proprietary Company, Limited are designated as available for leasing. Portions of the Twin Peaks coal tract that underlie the Piñon Mesa Fossil Area and Piñon Mesa Recreation Area would not be available for leasing and coal development. These lands are in Township 30 North, Range 14 West and are described as follows: all of Sections 10, 14 and 15, NE¹/₄NE¹/₄ of Section 22, E¹/₂, N¹/₂NW¹/₄ of Section 23, and the NE¹/₄, N¹/₂SE¹/₄ of Section 26. Within this area approximately 320 acres of identified potentially leasable coal would be affected. The remainder of the land in Sections 22, 23 and 26 would be available for underground coal mining with stipulations that ensure the trail corridors would remain open to public access and paleontological resources are protected. Paleontological surveys prior to underground mining and periodic monitoring of subsidence during mining may be required.

Tribal Consultation

Tribal consultation letters were sent to 77 recipients representing 19 Pueblos, 29 Navajo Chapters, the Navajo Nation, the Jicarilla Apache, Southern Ute, and Ute Mountain Ute Tribes. During the planning process, BLM staff met with Navajo Nation agency staff, several Navajo Chapters and Eastern Navajo Land Board to seek input to the draft plan. Early in the planning process a sociological consulting firm was contracted by the BLM to conduct interviews with residents of the local communities, including rural Navajo residents to obtain information on potential RMP issues. Copies of the DRMP/DEIS and PRMP/FEIS were sent to all tribal entities

that requested copies. Due to an oversight, the Navajo Nation Division of Natural Resources and the pueblos of Laguna and San Juan were not mailed copies. As soon as the error was discovered, copies were mailed and BLM staff met with the Navajo Nation Division of Natural Resources to brief staff and answer questions. Only the Southern Ute Tribe commented on the DRMP/DEIS.

At the close of the protest period for the PRMP/FEIS, the Navajo Nation transmitted a letter to the New Mexico State Director expressing concerns about the PRMP/FEIS. Specific concerns with the government-to-government relationship between the Navajo Nation and BLM are being addressed outside of the ROD. The FFO has a long history of consultation with the Navajo Nation on projects and issues that might affect its people or interests. Consultation has, in the past, included site-specific consultation on projects such as APDs and pipelines in areas of concern to the Navajo Nation. Two sacred areas of particular concern (Cho'li'i' and Dzil'na'oodlii) have received special management emphasis since the 1988 RMP. The 1998 RMP amendment enlarged Cho'li'i' and designated the area as an ACEC. This ROD designates Dzil'na'oodlii as an ACEC as well. In both ACECs requirements to reduce noise from oil and gas equipment will be required. All minerals in these areas were leased for development in 1948. If leases expire, the BLM will not issue new leases near the ACECs, or other areas considered Traditional Cultural Properties (TCPs), until completing consultation with the Navajo Nation.

During the planning process, 24 Native American Tribes and 27 Navajo Chapters were contacted in an attempt to identify TCPs. Pages 3-86 to 3-88 in the PRMP/FEIS provide further details on how the 73 known and potential TCPs were identified and the rationale as to why the location of many are not published. BLM will work cooperatively with the Navajo Nation to ensure that any other areas of interest are identified so site-specific consultations can be targeted.

D. Alternatives Including the Proposed Action

Four alternatives were analyzed in the development of the approved plan. An additional seven alternatives (including two proposed during the public comment period on the DRMP/DEIS) were considered but eliminated from detailed analysis.

Alternative A proposed continuation of current management (No Action). Oil and gas development would continue to be authorized under the level of development analyzed in the 1991 Albuquerque District RMP Amendment for Oil and Gas Leasing and Development. When the upper limit of development (4,421 new oil and gas wells) is reached, a new plan amendment and environmental analysis would be required to assess cumulative impacts. Land ownership adjustments would focus on those identified in the previous RMP and amendments. OHV designations would remain the same and no additional Specially Designated Areas (SDA) would be designated. A total of 131 SDAs designated in prior planning efforts would be carried forward. The majority of the planning area would remain open to OHV use. Coal leasing would be restricted to those areas contained within the Coal Belt Special Management Area.

Alternative B emphasized maximum oil and gas development, within constraints of existing laws and regulations. Access and land use limitations would be minimized consistent with continuing management guidance. This alternative provided for the development of 13,275 new wells. No new mitigation measures or lease terms or conditions were proposed. In addition to lands

identified in the previous RMP and amendments, public lands within 3 miles of the city limits of Aztec, Bloomfield, and Farmington would be available for disposal. OHV use would be managed by establishing 13 new OHV management units. OHV use would be limited to maintained roads, designated trails, routes and specific areas on public lands except where conditions were determined as suitable for cross-country travel. There would be 135 areas managed as SDAs. Coal development would become the primary resource use in Preference Right Lease Areas and competitive coal tracts. Two additional areas proposed by industry for leasing would be considered.

Alternative C emphasized conservation, protection, and enhancement of natural and cultural resources through management measures to limit surface disturbing activities. This alternative would result in the development of approximately 9,836 wells. Land disposal emphasis would be placed on isolated tracts south and west of U.S. Highway 550 and public lands on Crouch Mesa. OHV use would be similar to Alternative B. A total of 141 areas would be managed as SDAs. A boundary-based noise policy would apply to all or a portion of 101 SDAs. Competitive coal tracts would not be brought forward and would be unavailable for leasing.

Alternative D was the preferred alternative analyzed in the PRMP/FEIS. Alternative D focused on full field subsurface development while minimizing surface disturbance to the extent possible. It included aspects of the other three alternatives with the goal of balancing extraction of the mineral resource, multiple uses of public lands, and protection of natural and cultural resources. This alternative provides for development of 9,942 new oil and gas wells. All of the lands identified for disposal under Alternative A would be available as well as lands on Crouch Mesa and lands along and less than 1 mile east of U.S. Highway 550 between Aztec and Bloomfield. OHV management would be similar to Alternative B. A largely receptor-focused noise policy would apply to 62 SDAs. A total of 137 areas would be managed as SDAs. Coal PRLAs would be carried forward as would competitive coal tracts. Two additional areas proposed by industry for leasing would be considered.

Of the four alternatives analyzed in detail, Alternative A was identified as the environmentally preferred alternative. It would have resulted in the lowest amount of surface disturbance by providing an upper limit of development of 4,421 new oil and gas wells (the level of development analyzed in the 1991 Albuquerque District RMP Amendment for Oil and Gas Leasing and Development). Potential air quality emissions would be approximately one-half to one-third of those projected for other alternatives. Impacts to soils and native vegetation would be equivalently less.

E. Management Considerations

The vast majority of the planning area was leased for oil and gas development in the 1950s and 1960s. Existing leases are held by production and the leaseholders have a contractual right to develop the oil and gas resources. With appropriate mitigation measures, the level of development proposed in all alternatives would remain within the bounds of existing law and regulation. However, implementation of Alternative A would not accomplish the objectives of the National Energy Policy and would not meet the purpose and need as well as Alternative D.

Alternative A does not provide for the orderly development of important energy resources as directed by the Energy Policy and Conservation Act (EPCA) and EO 13212. Development would continue on private and state lands resulting in financial loss to the public due to drainage of adjacent federal resources. Alternative A does not fully address the issues raised in scoping. A continuation of existing management would not address the need for OHV management to reduce resource conflicts, increased need for land ownership adjustments to assist cities in urban development, the need to designate new SDAs to protect sensitive resources, and the need to assess coal leasing suitability based on new information and industry needs. The analysis conducted during the planning process shows that higher levels of oil and gas development than those analyzed in the 1991 planning amendment can occur consistent with existing laws and regulations and, with the mitigation measures specified in the PRMP/FEIS, will be in compliance with standards established by law for air and water quality.

Alternative B was not selected as the approved plan as it proposed a 33 to 35 percent greater amount of long term surface disturbance when compared with Alternatives C and D with a less than 2 percent increase in estimated future oil and gas production. This alternative would have had the greatest potential adverse impact on wildlife habitats and cultural resources. The analysis indicates that, while development under Alternative B would meet legal requirements, it would not best balance the need for energy resources with the public concerns that environmental impacts be minimized.

Alternative C was not selected as the approved plan primarily because the level of surface restrictions proposed in the alternative could have unduly restricted access to energy resources (oil, gas, and coal). This would not be in compliance with the direction contained in EPCA and EO 13212. The seasonal limitations proposed in this alternative would restrict winter activities on more than 600,000 acres. Surface stipulations would eliminate access to 134 wells. Expansion of the San Juan mine lease area would not be pursued and competitive coal tracts would not be available for development. Only lands on Crouch Mesa would be available for disposal, thus limiting opportunities for land exchanges and reducing opportunities for urban development. Analysis shows that higher levels of development can occur consistent with laws and regulations. Appropriate mitigation can ensure compliance with standards to protect air and water quality while more fully complying with energy policy and providing for the orderly development of important energy resources.

Alternative D, with the inclusion of that part of Alternative B concerning leasing in the Negro Canyon SDA, was selected as the approved plan because it supports the development of oil and gas resources while providing a framework which encourages use of new technology and use of mitigation measures to minimize or avoid impacts to resources or land uses from oil and gas activities and prevent unnecessary or undue degradation. Primarily due to an emphasis on commingling of wells drilled to different formations, projected estimated future oil and gas production is 98.6 percent of that estimated for Alternative B. Existing lease stipulations combined with site-specific conditions of approval provide for the protection of critical resource values. By allowing leasing with a No Surface Occupancy stipulation in the Negro Canyon SDA, energy resources are made available for companies willing to employ offsite drilling technology. Analysis using estimates taken from spacing hearings for the major formations in the area indicates that potential recoverable resources under the SDA are estimated at more than 50 billion cubic feet of natural gas. At present gas prices, estimated royalty payments to the

federal government could exceed 29 million dollars. Extraction of these significant energy resources without construction of roads or well pads within the SDA would not adversely affect the SDA management goal of maintaining the area for semi-primitive, non-motorized types of recreation. Under this approved plan other protective measures to mitigate site-specific impacts may be required based on site-specific environmental analysis conducted at the Application for Permit to Drill stage.

The decision to approve the Farmington RMP takes into account statutory, legal and national policy considerations. The analyses in the DRMP/DEIS and PRMP/FEIS were based on evaluation of the planning area for oil and gas development, potential urban expansion, a perceived increase in OHV use, changing potentials for coal development, identifying sensitive natural and cultural resources, evaluating the effects of surface disturbance on these resources and identifying successful protection measures. The constraints placed on oil and gas development, land ownership adjustments, OHV use, and potential for coal leasing were reviewed in light of resource protection. Where possible, major resource conflicts were resolved to provide a balance between protection of sensitive resources and sound practice for development of other resources. The decision was also based on input received from the public, industry, and other federal and state agencies. Various methods to reduce environmental harm were incorporated into the approved plan.

Impacts identified for the approved plan are acceptable for the following reasons: 1) as the nation's largest land manager, the Department of Interior, through the BLM, plays a major role in implementing the National Energy Policy; 2) the National Energy Policy promotes the production of reliable, affordable and environmentally clean energy; 3) among the Nation's most pressing concerns is to reduce our reliance on foreign oil and gas while protecting the environment; 4) BLM-administered lands in the San Juan Basin contain world-class energy and mineral resources vital to the National interest; 5) the energy and mineral resources under BLM jurisdiction place the agency in the key role of ensuring an adequate supply of energy to support the health, safety, and economy of the Nation; 6) the San Juan Basin is a mature, developed oil and gas field with an extensive existing infrastructure to support the development and transport of energy resources; 7) natural gas and oil are available on public lands and BLM has a multiple use mission under FLPMA; 8) the approved plan is an environmentally sound alternative; and 9) the approved alternative complies with existing laws and regulations.

Based on the amount of public interest in air quality issues, particularly ozone levels, the following management considerations were additional factors in the decision to adopt the air quality mitigating measures shown below.

In the PRMP/FEIS, potential air quality impacts using an extremely conservative analysis under Alternative D were: 1) potential violation of the 24-hour nitrogen dioxide New Mexico Ambient Air Quality Standard; 2) potential exceedance of the nitrogen dioxide PSD Class II Increment; 3) potential exceedance of the California short-term (chronic) Hazardous Air Pollutant Reference Exposure Level for acrolein; 4) assumed violation of the 8-hour ozone National Ambient Air Quality Standard; 5) assumed exceedance of the nitrogen dioxide PSD Class I Increment within Mesa Verde National Park, Weminuche Wilderness Area, and San Pedro Parks Wilderness Area mandatory federal PSD Class I areas; and 6) assumed significant visibility impacts within Mesa

Verde National Park, Weminuche Wilderness Area, and San Pedro Parks Wilderness Area mandatory federal PSD Class I areas.

Monitoring conducted by the New Mexico Environment Department Air Quality Bureau (NMAQB) indicates that ozone levels in the San Juan River Valley have approached Clean Air Act non-attainment levels for ozone. However, insufficient scientific data is available to separate local versus regional sources of the precursors that form ozone. A Four Corners Ozone Task Force has been formed to develop strategies to further analyze and address the problem. The BLM is a member of the Task Force steering committee and has submitted a funding request to support additional air quality monitoring and modeling. The NMAQB has contracted for additional monitoring studies beginning this summer. Based on the results of monitoring and additional modeling, the BLM may require mitigation to reduce oil- and gas-related impacts to air quality. Local governments in San Juan County and the New Mexico Environment Department have entered into an Early Action Compact (EAC) with the Environmental Protection Agency. The EAC group will identify emission control measures to reduce ozone precursors and finalize an emissions reduction process in a Clean Air Action Plan (CAAP) that they propose to submit to the EPA for review by March 31, 2004. The BLM will use the proposed control measures as the basis for air quality mitigation.

With the additional mitigation, BLM expects that significant impacts to air quality will be avoided and that oil and gas operations will meet all applicable air quality standards.

F. Mitigation Measures

Oil and Gas

Land use plan decisions focus on oil and gas leasing. Mitigation at the leasing stage is through the application of lease stipulations. Lease stipulations are listed in Appendix B.

Site-specific mitigation measures for oil- and gas-related activities are implemented at the permitting stage during site-specific environmental analysis and are most frequently implemented as Conditions of Approval for activities related to and occurring on oil and gas leases and as stipulations attached to rights-of-way grants. Conditions of Approval commonly used as site-specific mitigation appeared as Appendix G in the PRMP/FEIS. Additional mitigating measures, not listed in Appendix G, may be developed during permitting to address site-specific resource concerns. All conditions of approval will be consistent with valid existing rights.

Air Quality

Potential air quality impacts will require special mitigation. All air pollutant emissions from future federally conducted or approved activities under the Farmington RMP shall comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans. The air quality analysis produced for the Farmington Proposed RMP/FEIS updates the amended 1988 Farmington RMP air quality analysis on a cumulative basis for the region. Unless ongoing monitoring and additional modeling indicate otherwise, the following mitigation measures are required:

1. **Emissions Control (Construction)** – The PRMP/FEIS determined that significant air quality impacts would not occur during construction based on a detailed analysis performed for the “Southern Ute Indian Tribe (SUIT) Coal Bed Methane Gas Field Expansion Project EIS” (BLM 2002). However, the SUIT analysis assumed that no more than four wells would be constructed concurrently, each within one-half mile proximity to another. Since the Farmington RMP allows for more dense well development (i.e.; one-quarter mile proximity), construction shall be limited to only four wells concurrently in any given square mile, with each well no closer than one-half mile to another. This measure is necessary to assure construction impacts will comply with applicable air quality regulations.
2. **Emissions Control (Wellhead/Field Compressors)** – If appropriate control measures that can be applied as mitigation measures have not been recommended through the Clean Air Action Plan process by July 1, 2004, interim mitigation will be instituted. New and replacement wellhead compressors will be required to limit their NO_x emissions to less than 10 grams per horsepower-hour. This requirement would apply to all new and replacement compressor engines, unless the proponent can demonstrate (using air pollutant dispersion modeling) that a specific higher emission rate would not cause or contribute to an exceedance of any ambient air quality standard. This measure is intended to substantially reduce the level and extent of project emissions to form ozone throughout the project region. Implementation of this measure would also eliminate the predicted significant near-field 24-hour nitrogen dioxide impacts (to the 24-hour nitrogen dioxide New Mexico Ambient Air Quality Standard and annual nitrogen dioxide PSD Class II Increment, as well as the assumed 8-hour ozone National Ambient Air Quality Standard, PSD Class I increment and visibility impacts in downwind mandatory federal PSD Class I Areas) estimated to occur from project emission sources, as presented in the Proposed RMP/FEIS.
3. **Emissions Control (Sales/Pipeline Compressors)** – If appropriate control measures that can be applied as mitigation measures have not been recommended through the Clean Air Action Plan process by July 1, 2004, interim mitigation will be instituted requiring that each sales (pipeline) compressor station added to the planning area shall limit its total nitrogen oxides emissions to less than 1.5 grams per horsepower-hour. This requirement applies to all new and replacement compressor engines, unless the proponent can demonstrate (using air pollutant dispersion modeling) that a specific higher emission rate would not cause or contribute to an exceedance of applicable air quality regulations. Again this measure would reduce the potential for significant impacts to air quality.
4. **Participation on the Four Corners Regional Ozone Task Force** – The BLM shall continue to participate in the Four Corners Regional Ozone Task Force, in order to continue its support of the San Juan County Early Action Compact (EAC) with local governments in San Juan County, the New Mexico Environmental Department, and the Environmental Protection Agency. The EAC process will study ozone formation processes in the region and determine the effects that future growth will have in order to ensure that the area continues to comply with the national 1- and 8-hour ozone standard in San Juan County. It is anticipated that the EAC group will finalize the emissions reduction process in a Clean Air Action Plan (CAAP) that they propose to submit to the

EPA for their review by March 31, 2004. Therefore, project emission sources may be subject to future CAAP emission control measures that are more stringent than the nitrogen oxides emission mitigation limits identified above. Additionally, as the Ozone Task Force makes specific recommendations, the BLM will incorporate those recommendations within its legal authority as mitigation measures under 43 CFR 3162.1. Finally, BLM shall assist the NMAQB and EPA to monitor actual ozone conditions throughout the EAC process. Implementation of this measure is intended to prevent assumed future violations of the 8-hour ozone National Ambient Air Quality Standard, as presented in the PRMP/FEIS.

5. **Expanded Regional Cumulative Air Quality Impact Assessment** – BLM shall perform a regional cumulative far-field analysis of potential PSD Class I increment, atmospheric deposition, and visibility impacts as part of the planned “Northern San Juan Basin Coalbed Methane Development EIS” air quality impact assessment. Implementation of this measure is intended to further define potential regional cumulative air quality impacts at down-wind mandatory federal PSD Class I Areas based on assumed development patterns under the Farmington PRMP/FEIS. Based on the outcome of the regional analysis, additional mitigation may be required.

G. Plan Monitoring

This section describes the monitoring that will be conducted during implementation of the approved RMP.

Land Use Plan Monitoring

BLM will monitor the plan to track implementation of land use decisions and to document progress toward accomplishment of decisions. An annual report will be prepared by the FFO that will review plan decisions to determine compliance and the effectiveness and validity of decisions.

Resource Condition Monitoring

Specific resource monitoring programs for wildlife, water, riparian habitat, noxious weeds, and soils as described in the PRMP/FEIS (pages 4-135 and 4-136) will be conducted. Other resource monitoring programs may be developed to address specific issues that may occur as plan implementation continues. In addition, BLM will assist the NM Air Quality Bureau in conducting air quality monitoring by providing funds and access to public lands for monitoring sites. The ongoing air quality monitoring program is described in detail on the New Mexico Environment Department web site: www.nmenv.state.nm.us/ozonetf/. In addition, the FFO, the San Juan Public Lands Center and appropriate state and federal agencies will work cooperatively to monitor potential impacts to PSD Class I areas.

H. Public Involvement

The public was provided with three specific opportunities for involvement in the analytical and decision-making process. These opportunities included scoping for the NEPA analysis, review of the DRMP/DEIS, and protesting of the PRMP/FEIS.

Scoping

Informal coordination with the public has taken place throughout the planning process through personal contacts, phone calls, and attendance at meetings since the planning process began in September of 2000. A Notice of Intent announcing the intent to prepare a revised RMP appeared in the Federal Register on August 30, 2000 (pages 52781 and 52782). Formal public scoping meetings were held in Farmington, Crownpoint, and Cuba, New Mexico in the period from September 26 to October 8, 2000. Public interviews were conducted in local communities from December 2000 to April 2001. Letters were sent to state, local, county and tribal governments asking their input on issues. Based on the results of these initial scoping efforts a newsletter describing the most frequently mentioned issues was prepared and mailed to almost 1,600 individuals, agencies, tribes, and organizations. The newsletter contained a coupon for interested people to request a copy of the DRMP/DEIS or to ask to remain on the mailing list. Approximately 140 requests were received.

Review of the DRMP/DEIS

The Federal Register Notice announcing the availability of the DRMP/DEIS was published on June 28, 2002. The 90-day public comment period ended September 26, 2002. Four public hearings, each preceded by an informational workshop, were held in Farmington, Crownpoint, and Cuba, New Mexico and Durango, Colorado in the period from August 26 through August 29, 2002. The DRMP/DEIS was mailed to individuals who had requested copies. The document was also made available electronically on the BLM FFO webpage.

The BLM received a total of 174 written and 46 oral comments from 196 individuals either representing the general public, industry, environmental organizations, or state or federal agencies. In addition, 12,000 form letters from at least 3 different organizations were submitted by e-mail, facsimile, or mail. Analysis of these documents resulted in more than 1,500 comments. When more than one person made similar comments, a summarized response was prepared. Concerns about effects of continued oil and gas development on air quality received by far the largest amount of comments. Other key issues receiving comments included noise, surface disturbance, reclamation of disturbed areas, habitat fragmentation, a perceived lack of difference between alternatives, and specially designated areas. Comments ranged from industry opposition to noise restrictions and increased acreage in specially designated areas to environmental groups demanding more ACECs and further restrictions on oil and gas development.

In response to public and agency comments, on September 16, 2002, BLM staff met with New Mexico Environment Department Air Quality Bureau and Environmental Protection Agency staff to discuss air quality issues. As a result, additional air quality modeling was conducted to address PSD Increment Analysis, Visibility Analysis, and Ozone Impact Assessment. Additional

text to describe potential air quality impacts was added to the Proposed RMP/FEIS. In response to other comments, five appendices were also added to provide additional information to support statements made in the Draft. In addition, a separate monitoring and mitigation section was added to Chapter 4 to emphasize measures used to reduce impacts by more clearly linking mitigation to Conditions of Approval.

Copies of the PRMP/FEIS were mailed to individuals who submitted original letters or provided oral comments at public hearings, as well as appropriate state and federal agencies and local and tribal governments. The PRMP/FEIS was also posted on the FFO web page.

Protest Period

Any person who participated in the planning process and had an interest that may be adversely affected could protest. A protest could only raise those issues that were submitted for the record during the planning process. The protest had to be filed in the office of the Director within 30 days of the date that the EPA published the notice of the receipt of the PRMP/FEIS. The protest period began on April 4, 2003, and ended on May 5, 2003.

Issue Summary/Main Issues

The following is a summary of the protest issues raised in the protest letters received by the Director:

Document inadequate: Protestors felt the document was inadequate because the range of alternatives was too narrow; the Reasonable Foreseeable Development scenario was flawed (depending on the protestor the RFD was described as projecting either too much development or too little); alternatives proposed during the comment period were not analyzed in detail; BLM failed to take a “hard look” at mitigation; and BLM did not comply with the nine planning criteria specified by FLPMA.

Impacts not properly assessed: Protestors contended that BLM failed to adequately analyze the magnitude and intensity of impacts from past and future mineral development on air quality, water resources, cultural resources, soils and wildlife habitat; and (again, depending on the protestor) that socio-economic impacts were either over-estimated or under-estimated.

Impact assessment methodology flawed: Protestors cited the following elements as assessment methodology flaws: faulty assumptions, impact analysis deferred to APD stage, failure to consider phased development or use of new technology and directional drilling, lack of scientific information to justify expanding SDAs, failure to expand SDAs, and analysis failed to consider impacts to wildlife and cultural resources outside of SDAs.

Inadequate consultation: A protestor stated that the BLM failed to consult properly with the U.S. Fish and Wildlife Service and did not disclose comments from Native American Tribes.

Other: Other issues raised included lack of baseline information and data for various resources, failure to indicate compliance with Clean Water Act, Clean Air Act, and Migratory Bird Treaty Act, inadequate information to support the Noise Policy and Noise Protocol, the Noise Policy

would result in severe economic consequences to industry, lack of exception criteria for seasonal closure areas, and seasonal closures in excess of 60 days would violate lease rights.

Protest Resolution

The resolution of protests is the responsibility of the BLM Assistant Director for Renewable Resources whose decision is the final decision of the Department of the Interior. The Assistant Director received a total of 26 protest letters. Three of the protestors did not demonstrate standing by which to protest and one protest was withdrawn. Three letters expressed disagreement with the proposed decision but presented no defined issues.

Letters from protestors whom BLM determined to have standing were reviewed and protest issues and comments were identified. Each protest issue was responded to in return letters sent to each protestor. Individuals without standing were also sent return letters. Letters that identified comments rather than protest issues will also be sent a letter of response after the issuance of this ROD.

The Assistant Director has determined that approval of the proposed plan amendment is consistent with the BLM's policy guidance, is based upon valid and complete information and complies with applicable laws, regulations, policies, and planning procedures.

U.S. Fish and Wildlife Service Consultation

As required by Section 7 of the Endangered Species Act (ESA) of 1973, the BLM submitted a Biological Assessment (BA) to the U.S. Fish and Wildlife Service. This assessment described potential impacts on threatened and endangered species as a result of management actions presented in the Farmington DRMP/DEIS. A letter dated October 2, 2002, from the U.S. Fish and Wildlife Service states:

“The U.S. Fish and Wildlife Service (Service) concurs with the BLM's determination in the BA of “may affect, not likely to adversely affect” Knowlton cactus, Mesa Verde cactus, Mancos milkvetch, Colorado pikeminnow and its critical habitat, razorback sucker, bald eagle, mountain plover, Mexican spotted owl and its critical habitat, and the southwestern willow flycatcher.”

A copy of the letter is included in the PRMP/FEIS section titled “Agency Comment Letters on the DRMP/DEIS.”

Agency Coordination

BLM coordinated with various State and Federal agencies during the development of the RMP. The list of agencies contacted is included in Table 5-2 of the Proposed RMP/FEIS. Agencies with which the BLM conducted additional coordination include the Environmental Protection Agency, the New Mexico Department of Energy, Minerals, and Natural Resources, New Mexico Game and Fish Department, and the New Mexico Environment Department.

In particular, because of the public concern over air quality issues, the BLM met with air quality specialists from the New Mexico Air Quality Bureau and the EPA to discuss these issues and

strategies for resolving the issues. Air quality portions of the ROD were also coordinated with the San Juan Basin Public Lands Office in Durango, Colorado.

Consistency with Applicable Policies, Plans, and Programs

BLM planning regulations require that the RMP be “consistent with officially approved or adopted resource related plans, and the policies and programs contained therein, of other federal agencies, state, local, and tribal governments so long as the guidance and resource management plans are also consistent with the purposes, policies, and programs of federal law, and regulations applicable to public lands...” (43 CFR 1610.3-2).

The Governor’s 60-day review indicated no inconsistencies with state plans. The Governor’s office expressed concern that adequate consultation be conducted with the Navajo Nation. The continuing meetings described above are intended to address this concern. The City of Farmington was concerned that portions of the RMP might be inconsistent with the city master plan, which was approved in March 2003. The FFO and the City have established a schedule to meet on a regular basis to ensure consistency as both plans are implemented.

I. Errata Sheet

The following editorial errors were discovered in the PRMP/FEIS and will be corrected as appropriate in the Final RMP.

Table 2-5, page 2-44, Andrews Ranch, prescription under Alternative D, OHV Designation should read: “Implement Closed Designation.”

Table 2-5, page 2-54, Cagle’s Site, prescription under Alternative D, Noise should read: “Same as Alternative A.”

Table 2-5, page 2-68, Crow Canyon, Livestock Grazing, Alternative D, should read: “Same as Alternative A.”

Table 2-5, pg. 2-162, Angel Peak, OHV, Alternative D. Add text: “ACEC closed to OHV use.”

Table 2-5, Pg. 2-168, Glade Run, Livestock grazing, Alternative D, add text: “If permit is relinquished or terminated it would not be renewed.”

Table 2-5, pg. 2-171, Head Canyon, correct column headings to read: “B: 140.”

Table 2-5, pg. 2-180, Rock Garden, correct column headings for Alternatives C and D to read: “T: 10,857 B: 9,632.”

Table 2-5: Correct Livestock Grazing prescription to read: “Continue current grazing” under Alternative D for the following SDAs: Albert Mesa, Cottonwood Divide, Star Rock, Truby’s Tower, Crow Canyon, Hummingbird Canyon, La Jara, Cedar Hill, Haynes Trading Post, Pork Chop Pass, String House.

Pages 2-99 and N-16. Jacques Chacoan Community consists of 40 acres of private surface with underlying Federal minerals (coal). The acreage to expand or acquire should have been listed as 200 acres to encompass 26 acres of additional acreage listed under Chaco Protection Site legislation in 1995 (P.L. 104-11) and the outlying community sites.

Table 3-6, the title of the last column should read: “Ephemeral/Perennial (miles)¹.”

Table 5-4, Delete Elizabeth Allison.

Table 5-5, Delete Peggy Gaudy.

Appendix H, additional lands were identified for Potential R&PP Location. The following lands are added based on a request from San Juan College during development of the PRMP/FEIS: T.32 N., R. 13 W. Sec. 24, Lots 2 and 3 and portions of Sec. 23.

Appendix N, page N-10, add the following sentence after the first sentence of the Site Description for Andrews Ranch: “When and if acquired add an additional 310 acres of State and Private land included in the enlarged Protection Site described in P.L. 104-11.”

Appendix N, for Cedar Hill, Chacra Mesa, East Side Rincon, Farmers Arroyo, La Jara: Add to Management Prescriptions: “Land ownership not available for disposal.”

East Side Rincon: Add to Management Prescriptions: “Continue current grazing.” Remove grazing from Management Prescription 9.

Farmers Arroyo: Management Prescription 5, change “Designate” to “Implement.”

La Jara and Cedar Hill: Add to Management Prescriptions: “Continue current grazing.”

Chacoan Outliers: Add to all Management Prescriptions: “Land ownership not available for disposal.”

Twin Angels: Add Management Prescription to read: “Close to new oil and gas leasing.”

Chaco Roads: Add to all Management Prescriptions: “Land ownership not available for disposal.”

Crownpoint Steps and Herradura: Add Management Prescription to read: “Continue current grazing.”

Cagle’s Site: Delete Management Prescription 18.

Christmas Tree Ruin: Acreage is 40, not 122.

Crow Canyon: Management Prescription 1 should read: “Coordinate with existing oil and gas leaseholders-operators on siting of development to minimize resource damage to UR (60 acres), NM (60 acres), and portions of CC (4,006 acres; Ridge Top, Boulder Fortress, Gould pass, Crow Canyon drainage.) Apply Controlled Surface Use management to additional acreage.”

Devil’s Spring Mesa: Management Prescription 1 should read: “Coordinate with existing oil and gas leaseholders-operators on siting of development to minimize resource damage to the original 40 acres at both CMD and YIR and apply Controlled Surface Use constraint to the remaining acreage.”

Kin Yazhi: Delete Management Prescription 15. The site is already listed on the National Register.

Munoz Canyon: Change both Management Prescriptions 6 & 7 to read: “Designate,” not “Implement.”

Superior Mesa: Revise Management Prescription 2 to read: “Attach No Surface Occupancy stipulations on new oil and gas leasing to CS, F & O, H & L, CC, 40 acres around Millennium Pueblito, and 75 acres north of CC. Apply Controlled Surface Use constraint on rest of acreage.”

Albert Mesa: Grazing should be continued, not closed as in Management Prescription 9.

Rock House-Nestor Martin Homestead: Correct Prescription 6 to state: “Limited OHV designation,” not “Closed.”

Dzil'na'oodlii: Change Management Prescription 6 from “Designate...” to “Implement...”

Blanco Star Panel, Encierro Canyon, Four Yei, Largo Canyon Star Ceiling, Pregnant Basketmaker, Shield Bearer: Change Management Prescription 6 from “Designate...” to “Implement...”

Delgadita/Pueblo Canyons: Change Management Prescription 8 from “Implement” to “Designate...”

Star Spring-Jesus Canyon: Revise Management Prescription 11 to read: “Close bottom of canyon to grazing.”

Rosa Mesa: Correct Prescription 12 to state: “Portions or all of the grazing may be retired to meet management goal.”

Head Canyon Motocross Track: Correct first sentence to read: “There are a total of 140 acres within the boundary of the Head Canyon Motocross Track all of which are public land overlying federal minerals.”

Rock Garden: Correct first sentence to read: “There are approximately 10,857 acres within the boundary of the Rock Garden Recreation Area, of which 9,632 acres are public land (BLM) and 8,560 acres contain federal minerals.

Appendix N contains additional editorial errors, primarily redundant or unclear prescriptions, none of which affect the decisions presented in the ROD. These errors will be corrected in the text of SDA descriptions in the Final RMP.

Appendix P, page P-164, response to W. James Judge, the last sentence should read: “They were designated based on the 37,431 recorded historic and prehistoric sites and specialists’ knowledge of how to protect different types of sites.

Appendix P, page P-165, the first sentence of the second response to W. James Judge should read: “Designation of the new cultural ACECs was based on the expertise of the BLM’s cultural resource specialists and the current knowledge of the 37,341 recorded sites and 54,000 components in the planning area.”

APPENDIX A

CONSTRAINTS ON OIL AND GAS LEASING

Area Name	Total Acres	Public Land Acres	Fed Mineral Acres	Admin. Office ¹	Constraints New Leases ²
1870s Wagon Trail	Unk.	Unk.	Unk.	AFO	CSU
Azabache Station	81	0	81	AFO	NSO
Cuba Airport	176	92	176	AFO	NSO
Headcut Prehistoric Community	2,276	933	2,276	AFO	CSU
Historic Homestead	33	33	33	AFO	CSU
Jones Canyon	651	415	651	AFO	DC
Cabezon	1,817	1,803	1,803	AFO	NDC
Cabezon Peak	1,764	1,187	1,197	AFO	DC
Canon Jarido	1,801	1,800	1,801	AFO	CSU/TL
Chamisa WSA	12,394	12,391	12,394	AFO	NDC
Continental Divide Trail	39	39	39	AFO	NSO
Juana Lopez	38	38	38	AFO	DC
Elk Springs	10,300	6,390	9,996	AFO	CSU/TL
Empedrado	8,934	8,869	8,897	AFO	NDC
Empedrado Watershed Study Area	630	317	78	AFO	NDC
Ignacio Chavez Rec.	42,827	42,650	42,768	AFO	NDC
Ignacio Chavez WSA	32,245	32,238	32,240	AFO	NDC
Pelon Watershed	848	848	848	AFO	DC
La Lena	10,175	10,128	10,163	AFO	NDC
San Luis Cliffs Window	9,810	8,283	9,806	AFO	CSU/TL
San Luis Mesa Raptor	9,279	7,773	7,802	AFO	CSU
Torreon Fossil Fauna	6,499	6,497	6,084	AFO	CSU
Ah-shi-sle-pah	6,592	6,516	6,552	FFO	NDC
Ah-shi-sle-pah Road	663	663	663	FFO	NSO
Alien Run	3,334	3,137	3,334	FFO	CSU
Adams Canyon	122	120	122	FFO	NSO
Albert Mesa	177	0	0	FFO	NSO
Bald Eagle	4,141	3,880	3,950	FFO	CSU/TL/NSO

Area Name	Total Acres	Public Land Acres	Fed Mineral Acres	Admin. Office¹	Constraints New Leases²
Andrews Ranch	640	640	640	FFO	DC
Angel Peak ACEC	248	248	248	FFO	NSO
Angel Peak Scenic Area	10,226	8,946	9,592	FFO	CSU
Ashii Na'a' a' (Salt Point)	640	640	640	FFO	NSO
Bee Burrow	480	480		FFO	DC
Bettonie Tsosie	11,849	7,267	7,267	FFO	CSU
Bisti/De-Na-Zin Wilderness	44,807	38,381	39,062	FFO	NDC
Beechatuda Tongue	100	100	100	FFO	DC
Bi Yaazh	61	61	61	FFO	NSO
Bis sa'ani	188	188	0	FFO	DC
Bohanon Canyon Complex	13,834	12,380	12,468	FFO	CSU
Carracas Mesa	8,616	7,943	3,201	FFO	DC
Carson Fossil	968	968	968	FFO	CSU
Casa del Rio Chaco Culture Archaeological Protection Site	42	0	10	FFO	DC
Blanco Mesa	730	728	730	FFO	NSO
Blanco Star Panel	20	20	20	FFO	NSO
Cedar Hill	1,886	1,886	1,886	FFO	CSU
Cagle's Site	44	44	44	FFO	NSO
Canyon View	40	40	40	FFO	NSO
Church Rock Outlier	160	0	160	FFO	NSO
Casamero Community	153	153	153	FFO	DC
Cereza Canyon Wildlife Area	45,266	17,912	27,868	FFO	CSU/TL
Chacra Mesa Complex	22,065	8,629	13,476	FFO	DC
Crow Canyon	7,795	7,149	7,146	FFO	NSO/CSU
Crow Mesa	38,252	34,189	34,264	FFO	CSU/TL
Cho'li'i (Gobernador Knob)	360	360	360	FFO	NSO
Christmas Tree Ruin	40	40	40	FFO	NSO

Area Name	Total Acres	Public Land Acres	Fed Mineral Acres	Admin. Office¹	Constraints New Leases²
Cottonwood Divide	60	0	0	FFO	NSO
Deer House	361	361	361	FFO	NSO
Dunes Vehicle Recreation	825	805	825	FFO	NSO
Delgadita-Pueblo Canyons	361	329	329	FFO	NSO
East La Plata Wildlife	7,159	5,895	5,874	FFO	DC
Devil's Spring Mesa	660	660	660	FFO	NSO
Dogie Canyon School	7	7	7	FFO	NSO
Ensenada Mesa Wildlife	51,280	43,179	45,767	FFO	CSU/TL
Dzil'na'oodlii (Huerfano Mesa)	3,702	3,702	3,702	FFO	CSU/DC (37 acres)
Ephemeral Wash Riparian	7,499	7,331	7,363	FFO	CSU/NSO
East Side Rincon Site	195	75	75	FFO	NSO
Encierro Canyon	80	75	80	FFO	NSO
Fossil Forest	2,797	2,797	2,797	FFO	NDC
Encinada Mesa-Carrizo Canyon	3,490	3,117	3,158	FFO	NSO/CSU
Farmer's Arroyo	40	40	40	FFO	NSO
Glade Run	221,544	17,935	118,796	FFO	CSU
Gobernador & Cereza	27,647	13,333	25,643	FFO	CSU
Four Ye'i	40	40	40	FFO	NSO
Frances Mesa	7,657	5,857	5,890	FFO	NSO/CSU
Gonzales Mesa Wildlife Area	7,499	6,076	6,103	FFO	CSU/TL
Greenlee Ruin Chaco Culture Archaeological Site	60	0	0	FFO	DC
Gonzalez Canyon-Senon S. Vigil Homestead	36	36	36	FFO	NSO
Gould Pass Camp	34	34	34	FFO	NSO
Halfway House	40	40	40	FFO	DC
Haynes Trading Post	43	27	27	FFO	NSO

Area Name	Total Acres	Public Land Acres	Fed Mineral Acres	Admin. Office¹	Constraints New Leases²
Head Canyon Motocross Track SMA	140	138	140	FFO	NSO
Hogback	10,367	9,290	9,497	FFO	DC
Holmes Group	95	7	58	FFO	DC
Hummingbird	40	40	40	FFO	NSO
Indian Creek	99	95	95	FFO	DC
Hummingbird Canyon	130	0	33	FFO	NSO
Jacques Chacoan Community	24	0	24	FFO	NSO
Kachina Mask	202	202	202	FFO	NSO
Kin Nizhoni	781	526	776	FFO	DC
Kin Yazhi (Little House)	40	40	40	FFO	NSO
Kiva	103	103	103	FFO	NSO
Kutz Canyon Paleontological Area	48,423	47,098	47,661	FFO	CSU
La Jara	1,769	1,045	1,764	FFO	CSU
Mexican Spotted Owl	2,758	2,618	2,758	FFO	CSU/NSO (90 acres)
Laguna Seca Mesa	9,211	7,463	8,124	FFO	CSU/TL
Lake Valley Chaco Culture Archaeological Site	28	28	28	FFO	NDC
Largo Canyon Star Ceiling	28	28	28	FFO	NSO
Lybrook Fossil Area	25,703	18,268	19,840	FFO	CSU
Margarita Martinez Homestead	10	10	10	FFO	NSO
Martin Apodaca Homestead	92	92	92	FFO	NSO
Martinez Canyon	50	50	50	FFO	NSO
Middle Mesa	46,052	31,390	40,317	FFO	CSU/TL
Morris 41	82	2	82	FFO	DC
Moss Trail	28	28	28	FFO	NSO
Muñoz Canyon	268	268	268	FFO	CSU
Navajo Lake	6,752	5,657	5,951	FFO	CSU

Area Name	Total Acres	Public Land Acres	Fed Mineral Acres	Admin. Office¹	Constraints New Leases²
Negro Canyon	1,992	1,361	1,992	FFO	NSO
North Road	6,177	5,005	5,005	FFO	DC/NSO
Crownpoint Steps and Herradura	588	588	588	FFO	DC
Pierre's Site	440	440	440	FFO	DC
Piñon Mesa	9,454	8,340	8,489	FFO	CSU
Piñon Mesa Fossil Area	19,052	18,197	19,033	FFO	CSU
Pointed Butte	90	90	90	FFO	NSO
Pork Chop Pass	44	0	0	FFO	NSO
Pregnant Basketmaker	8	8	8	FFO	NSO
Pretty Woman	84	84	84	FFO	NSO
Prieta Mesa	31	26	31	FFO	NSO
Rattlesnake Canyon	110,160	89,173	98,276	FFO	CSU/TL
Reese Canyon	2,344	2,299	2,338	FFO	DC
Rincon Largo District	490	490	490	FFO	NSO
Rincon Rockshelter	324	324	324	FFO	NSO
River Tracts	2,796	2,572	2,699	FFO	CSU
Rock Garden	9,641	8,403	8,560	FFO	CSU
Rock House-Nestor Martin Homestead	51	51	0	FFO	NSO
Rosa Mesa Wildlife	69,762	47,375	61,406	FFO	CSU/TL
San Rafael Canyon	5,668	4,234	5,027	FFO	CSU
Santos Peak	128	128	128	FFO	NSO
Shield Bearer	35	35	35	FFO	NSO
Simon Canyon Recreation Area	3,928	3,928	3,685	FFO	DC
Simon Ruin	47	47	47	FFO	NSO
Star Rock	60	24	24	FFO	NSO
Star Spring-Jesus Canyon	393	149	149	FFO	NSO
String House	60	0	0	FFO	NSO
Superior Mesa	6,066	5,007	5,009	FFO	NSO/CSU
Tapacito and Split Rock	302	302	302	FFO	NSO

Area Name	Total Acres	Public Land Acres	Fed Mineral Acres	Admin. Office¹	Constraints New Leases²
Thomas Canyon	15,644	8,156	12,775	FFO	DC
Toh-la-kai	10	0	0	FFO	DC
Truby's Tower	160	80	80	FFO	NSO
Twin Angels	358	358	358	FFO	DC
Upper Kin Klizhin	60	0	60	FFO	DC

Notes:

Acreage figures presented may vary slightly from the legal boundaries mapped on title plats maintained in the field offices.

Areas showing no federal minerals are areas where constraints would be applied if minerals were acquired by the federal government. Leasing stipulations constraints on existing leases do not apply to non-federal leases.

(1) Admin. Office:

AFO = Albuquerque Field Office
 FFO = Farmington Field Office

(2) Constraints:

CSU = Controlled Surface Use
 DC = Discretionary Closure
 NDC = Non Discretionary Closure
 NSO = No Surface Occupancy
 TL = Timing Limitation

Unk. = Unknown

APPENDIX B

**OIL AND GAS LEASING STIPULATIONS APPLIED TO
NEW LEASES IN PLANNING AREA**

The following stipulations are attached to new leases issued in specific areas. Stipulations with the prefix of F are applied in the Farmington Field Office, those with the prefix of RP are applied in the Albuquerque Field Office, and those with the prefix of NM apply across both field office boundaries.

Legal descriptions of lands subject to the stipulation are added at the time parcels are leased. General descriptions of lands where stipulations apply are included in italics.

Oil and gas leasing stipulations are undergoing statewide consistency review with national policy and exception criteria are also being developed for certain classes of stipulation in cooperation with the New Mexico Fish and Game. At least a portion of that review and revision will be completed prior to December 31, 2003. In addition, several of the following existing lease stipulations may be rewritten as Lease Notices rather than stipulations.

**F-1 TIMING LIMITATION STIPULATION-IMPORTANT SEASONAL WILDLIFE
HABITAT-RAPTOR**

No surface use is allowed during the following time period. This stipulation does not apply to operation and maintenance of production facilities.

March 1 through June 30.

On the lands described below:

Raptor nest sites. Location information maintained at FFO.

For the purpose of: Protection of important seasonal wildlife habitat (bird of prey nests).

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-3 TIMING LIMITATION STIPULATION-CRITICAL BALD EAGLE AREAS

No surface use is allowed during the following time period. This stipulation does not apply to operation and maintenance of production facilities.

November 1 through March 31.

On the lands described below:

Bald Eagle ACEC (37 Units totaling 4,141 acres)

For the purpose of: Protection of important seasonal wildlife habitat (buffer zones around bald eagle use areas). Within buffer zones are areas of intensive bald eagle use such as roost sites where any surface disturbing activity is prohibited yearlong. These areas are usually less than 40 acres in size and are shown on maps in the Farmington Resource Area Office.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-4 TIMING LIMITATION STIPULATION-IMPORTANT SEASONAL WILDLIFE HABITAT

No surface use is allowed during the following time period. This stipulation does not apply to operation and maintenance of production facilities.

December 1 through March 31.

On the lands described below:

Cereza Canyon Wildlife Area (27,868 acres)

Crow Mesa Wildlife Area (34,264 acres)

East La Plata Wildlife Area (5,814 acres)

Gonzales Mesa Wildlife Area (6,103 acres)

Middle Mesa Wildlife Area (40,317 acres)

Rattlesnake Canyon (98,276 acres)

Rosa Mesa Wildlife Area (61,406 acres)

For the purpose of: Protection of important seasonal wildlife habitat (big game winter range).

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-9 CONTROLLED SURFACE USE STIPULATION-PALEONTOLOGY

[To be rewritten as a Notice]

Surface occupancy or use is subject to the following special operating constraints:

- Restrict vehicles to existing roads and trails.
- Require a paleontological clearance on surface disturbing activities.

On the lands described below:

Bettonie Tsosie Fossil Area (7,267 acres)
Bohanon Canyon Fossil Complex (12,468 acres)
Carson Fossil Pocket (968 acres)
Gobernador and Cereza Canyon (25,643 acres)
Kutz Canyon Fossil Area (47,661 acres)
Lybrook Fossil Area (19,840 acres)
Piñon Mesa Fossil Area (19,033 acres)

For the purpose of: To protect the area for scientific study.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-19 NO SURFACE OCCUPANCY STIPULATION-SPECIAL CULTURAL VALUES

No surface occupancy or use is allowed on the lands described below:

Specific Cultural Resource ACECs

For the purpose of: Protects cultural resource values.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-21 TIMING LIMITATION STIPULATION-ANTELOPE HABITAT

No surface use is allowed during the following time period. This stipulation does not apply to operation and maintenance of production facilities:

May 1 through July 15

On the lands described below:

Ensenada Mesa Wildlife Area (45,767 acres)

For the purpose of: Protection of important seasonal wildlife habitat (antelope fawning range).

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-22 TIMING LIMITATION STIPULATION-ELK CALVING HABITAT

No surface use is allowed during the following time period. This stipulation does not apply to operation and maintenance of production facilities:

December 1 through July 15

On the lands described below:

Designated elk calving habitat in Rosa Mesa Wildlife Area (2,500 acres)

For the purpose of: Protection of important seasonal wildlife habitat (elk calving).

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-23 NO SURFACE OCCUPANCY STIPULATION-BEECHATUDA TONGUE

No surface occupancy or use is allowed on the lands described below:

Portions of T. 30 N., R. 15 W., Section 5: NW¼ (100 acres)

For the purpose of: The Beechatuda Tongue of the Cliff House Sandstone is a rock stratigraphic unit mapped in, and named for, Beechatuda Draw in T. 30 N., R. 15 W., Section 5: NW¼. This area is the type locality for the unit. As such, it is of interest to scientists and educators as a site for comparison and study of the unit, and for possible further refinement of the stratigraphic nomenclature. It is important that the unit be preserved intact to allow these studies.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-25 NO SURFACE OCCUPANCY STIPULATION-RIVER TRACTS SPECIAL MANAGEMENT AREA

No surface occupancy or use is allowed on the lands described below:

River Tract ACEC, 30 tracts (2,699 acres). Applies within the active floodplain and designated Threatened or Endangered Species habitat.

Animas River tracts: 1, 2, and 8

La Plata River tracts: 1, 2 3, 4, 5, 6, 7, 8, 9, and 10

San Juan River tracts: Archuleta, Blanc, Bloomfield, Bradshaw, Bull Calf, Desert Hills, Gallegos, Jewett Valley, Kutz, La Plata, Santa Rosa, Schneider, Simon Canyon, South Bloomfield, Subdivision, Valdez, and Wheeler

As river properties are acquired through land exchanges, other tracts may be added.

For the purpose of: Protection of riparian habitat, Southwest willow flycatcher potential habitat, bald eagle use areas, and other important values there will be no surface occupancy stipulation on all new oil and gas leases.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

No exceptions are allowed within the active floodplain. Exceptions within threatened or endangered species habitat would only be allowed if the U.S. Fish and Wildlife concurs that there would be no adverse effect on listed species or their habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-28 CONTROLLED SURFACE USE STIPULATION-NAVAJO INDIAN IRRIGATION PROJECT

[To be rewritten as Notice]

Surface occupancy or use is subject to the following special operating constraints on the lands described below:

Lands contained within Navajo Indian Irrigation Project

For the purpose of: No oil or gas facilities will be installed that will unduly interfere with the construction or development of the area for agriculture purposes in connection with the Navajo Indian Irrigation Project. The lessee must clear with the Navajo Indian Irrigation Project

Manager prior to the installation of any oil and gas equipment so that modification or relocation at a later date might be avoided.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

F-30 CONTROLLED SURFACE USE STIPULATION-HUERFANO MESA

[To be rewritten as a Notice]

Surface occupancy or use is subject to the following special operating constraints of the lands described below:

Dzil'na'oodlii ACEC (formerly Huerfano Mesa ACEC)

For the purpose of: Protection of cultural values. Any portion of a lease area that contains these special values will receive special attention to prevent damage to surface resources. Any surface use or occupancy within such areas will be strictly controlled. Use or occupancy will be authorized only when the lessee/operator demonstrates that the area is essential for operations and when the lessee/operator submits a surface use plan of operations, which is satisfactory to the Federal surface management agency, for the protection of these special values and existing or planned uses.

After the federal surface management agency has been advised of the proposed surface use or occupancy of these lands and on request of the lessee/operator the Federal surface management agency will furnish further data on such areas.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NEW STIPULATION

F-[Number to be assigned] NO SURFACE OCCUPANCY/CONTROLLED SURFACE USE STIPULATION-EPHEMERAL WASH RIPARIAN AREA

Surface occupancy or use is subject to the following special operating constraints on the lands described below:

Ephemeral Wash Riparian Area SDA

No surface occupancy allowed on active floodplains. Controlled surface use requiring special mitigation measures to stabilize channels in order to prevent migration of channel on to well sites may be required within the 100-year floodplain.

For the purpose of: Protecting riparian systems and facilitating attainment and maintenance of proper functioning condition.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Farmington Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

RP-1 STIPULATION IMPORTANT SEASONAL WILDLIFE HABITAT

In order to protect important seasonal wildlife habitat, exploration, drilling and other development activity will be allowed only during the period from July 2 to January 31. This limitation does not apply to maintenance and operation of producing wells. If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

On the lands described below:

San Luis Mesa Raptor Area ACEC (5,271 acres)

For the purpose of: Protection of raptor nesting habitat.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

RP-2 STIPULATION IMPORTANT SEASONAL WILDLIFE HABITAT

In order to protect important seasonal wildlife habitat, exploration, drilling and other development activity will be allowed only during the period from May 15 to November 15. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of the Bureau of Land Management.

On the lands described below:

Elk Springs ACEC (9,445 acres)
Ignacio Chaves SDA (4,085 acres)

For the purpose of: Protection of elk and deer winter range, and recreational and scenic values.

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

RP-8 TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

In order to protect important seasonal wildlife habitat, exploration, drilling and other development activity will be allowed only during the period from February 1 to July 1. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the authorized officer of the Bureau of Land Management.

For the purpose of: Protection of recreational, wildlife and cultural values.

On the lands described below:

Canon Jarido SDA (1803 acres)

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820).

RP-10 STIPULATION-NO SURFACE OCCUPANCY

No surface occupancy on the following lands:

Applied when lease area contains a Church or Cemetery.

Location information maintained at:

Albuquerque Field Office
435 Montano Road NE
Albuquerque, NM 87107-4935

(505) 761-8700

If circumstances or relative resource values change or if it can be demonstrated that oil and gas operations can be conducted without causing unacceptable impacts, this stipulation may be waived, excepted, or modified by the BLM Authorized Officer, if such action is consistent with the provisions of the Resource Management Plan, or if not consistent, through a land use plan amendment and associated National Environmental Policy Act analysis document. If the BLM Authorized Officer determines that the waiver, exception, or modification involves an issue of major public concern, the waiver, exception, or modification shall be subject to a 30-day public review period.

NM-4 STIPULATION FOR LEASES SUBJECT TO A HIGHWAY MATERIAL SITE RIGHT-OF-WAY

The lessee/operator shall conduct operations in conformity with the following requirements:

1. The New Mexico State Highway Department will have unrestricted rights of ingress and egress to the right-of way.
2. The lessee/operator will not conflict with the right of the New Mexico State Highway Department to remove any road-building materials from the right-of-way.

3. The New Mexico State Highway Department reserves the right to set up, operate, and maintain such facilities as are reasonable to expedite the removal, production, and use of the materials; and the lessee shall not interfere with the Highway Department's use of the property for such purposes.
4. The lessee/operator will make no excavations and erect no structures on the right-of-way that might be adverse to the use and interest of the land by the New Mexico State Highway Department.

NM-6 CONTINENTAL DIVIDE TRAIL

No occupancy or other surface disturbance will be allowed within 1000 feet of the Continental Divide National Scenic Trail Treadway. This distance may be modified when specifically approved in writing by the Bureau of Land Management at the address shown below:

Address:

Albuquerque Field Office
435 Montano Road NE
Albuquerque, NM 87107-4935

(505) 761-8700

NM-9 NO SURFACE OCCUPANCY-POOLING PURPOSES ONLY

No surface occupancy or use is allowed on the lease. The purpose of this lease is solely for participation in a unit or for pooling purposes.

NM-10 DRAINAGE STIPULATION FOR FEDERAL LANDS

All, or part, of the lands contained in this lease are subject to drainage by well(s) located adjacent to this lease. The lessee shall be required within 6 months of lease issuance to submit to the AO plans for protecting the lease from drainage. Compensatory royalty will be assessed effective the expiration of this 6-month period if no plan is submitted. The plan must include either an Application for Permit to Drill (APD) a protective well, or an application to communitize the lease so that it is allocated production from a protective well off the lease. Either of these options may include obtaining a variance to State-spacing for the area. In lieu of this plan, the lessee shall be required to demonstrate that a protective well would have little or no chance of encountering oil and gas in quantities sufficient to pay in excess the costs of protecting the lease from drainage or an acceptable justification why a protective well would be uneconomical, the lessee shall be obligated to pay compensatory royalty to the Minerals Management Service at a rate to be determined by the AO.

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APPENDIX C

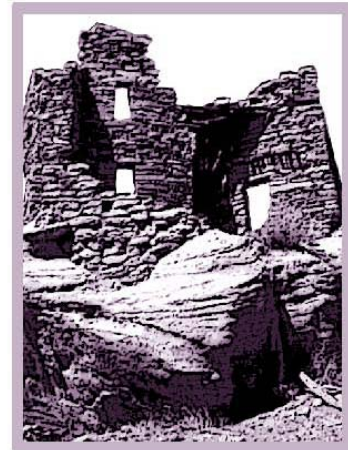
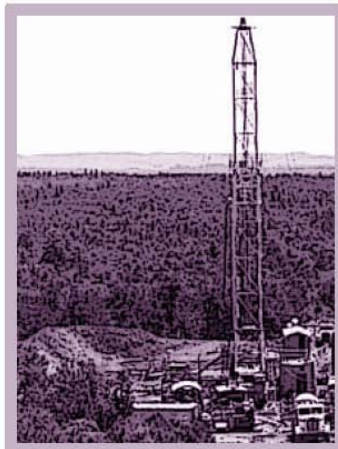
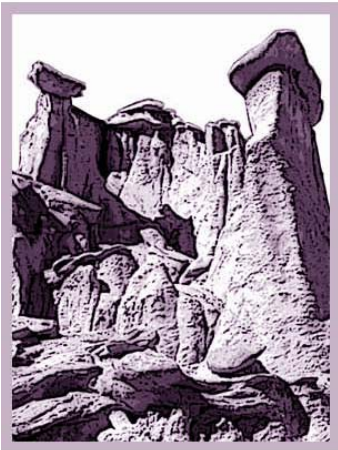
POTENTIAL R&PP LOCATIONS

T. 24 N., R. 9 W. Sec. 25	T. 30 N., R. 13 W. Sec. 26, 27 & 34
T. 25 N., R. 11 W. Sec. 18	T. 30 N., R. 14 W. Sec. 26 & 34
T. 27 N., R. 11 W. Sec. 35	T. 30 N., R. 14 W. Sec. 31
T. 28 N., R. 11 W. Sec. 10 & 15	T. 31 N., R. 8 W. Sec. 3, 4, 9 & 10
T. 29 N., R. 10 W. Sec. 17 & 18	T. 31 N., R. 11 W. Sec. 31, 32, 33 & 34
T. 29 N., R. 11 W. Sec. 3, 10, 29 & 31	T. 31 N., R. 12 W. Sec. 4, 5, 9, 10 & 34
T. 29 N., R. 12 W. Sec. 2, 10, 11, 17, 18, 33 & 34	T. 32 N., R. 6 W. Sec. 7 & 8
T. 30 N., R. 9 W. Sec. 27 & 28	T. 32 N., R. 7 W. Sec. 13
T. 30 N., R. 10 W. Sec. 17 & 18	T. 32 N., R. 8 W. Sec. 33 & 34
T. 30 N., R. 11 W. Sec. 2, 3, 5, 6, 7, 10, 11, 14, 15, 17, 20, 21, 23, 26, 27 & 28	T. 32 N., R. 10 W. Sec. 21
T. 30 N., R. 12 W. Sec. 1, 2, 11, 12 & 20	T. 32 N., R. 13 W. Sec. 10, 15, 22, portions 23 & 24

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Farmington Resource Management Plan with Record of Decision

December 2003



U.S. Department of the Interior
Bureau of Land Management

Farmington Field Office
Farmington, New Mexico



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CHAPTER 1 INTRODUCTION

It is the mission of the Bureau of Land Management (BLM) to sustain the health, diversity and productivity of public lands for the use and enjoyment of present and future generations. To achieve this mission, the BLM strives to manage natural resources for multiple use and long-term value (BLM 2000a).

The Resource Management Plan (RMP) provides a comprehensive framework for managing the public lands and for allocating resources during the next 20 years using these principles of multiple use and sustained yield. This plan was prepared under the regulations implementing the Federal Land Policy and Management Act of 1976 (43 CFR 1600) with guidance by BLM Handbook H-1600-1 (Land Use Planning) and H-1624-1 (Planning for Fluid Mineral Resources). An environmental impact statement (EIS) was prepared to evaluate the effects of implementing this plan, in compliance with the National Environmental Policy Act (NEPA) of 1969.

This RMP provides guidance for the management of public lands and resources on approximately 1,415,300 acres of public surface within the BLM Farmington Field Office (FFO) area and 3,020,693 acres of federal subsurface minerals in all of San Juan County, most of McKinley County, western Rio Arriba County and northwestern Sandoval County, New Mexico. The overall planning area encompasses 8,274,109 acres.

PURPOSE AND NEED FOR THE PLAN

In 1988, the FFO approved an RMP following many of the same steps that were followed to complete this plan. The RMP was amended six times between 1990 and 2000 to address changing demands on public land management. The previous RMP and amendments are no longer adequate to address current demands on public lands and resources, while meeting the BLM's mission. Those decisions from the 1988 RMP (including amendments) that are still valid have been carried forward into this RMP, to be implemented to the extent that they are not in conflict with the direction of this plan.

The planning area encompasses the New Mexico portion of the San Juan Basin. The Basin is one of the largest natural gas fields in the nation and has been under development for more than 50 years. It supports approximately 18,000 active oil and gas wells and there are more than 2,400 existing oil and gas leases in the planning area. Virtually all of the area with high potential for oil and gas development has already been leased. For those portions of the planning area that fall outside the administrative boundaries of the FFO, planning analysis only addressed oil and gas development.

The rate of oil and gas leasing and development is increasing in the San Juan Basin, with the highest numbers projected within the FFO area. The EIS for the 1991 RMP Amendment (BLM 1991a), under which oil and gas activities have been conducted to date, analyzed the impacts for 4,465 wells projected to be drilled in the 20-year period from 1991 through 2011. Changes in state spacing regulations and infill drilling have contributed to a revised estimate of 9,970 projected new wells extracting from federal minerals over the next 20 years. The surface disturbance associated with this projected increase in development has been documented to exceed the levels analyzed in the NEPA analysis for the 1991 amendment.

Inter-Area Agreement No. NM-010-071 resulted in a change in the administration of livestock grazing and oil and gas programs in the FFO and the Albuquerque Field Office (AFO) that was not addressed in the previous RMP. As of July 1992, the AFO assumed the responsibilities for permitting the extraction of federal minerals in the Lindrieth, New Mexico, area and in the extreme southern

portion of the FFO area. For this reason, the development of oil and gas minerals in the land under the administration of the AFO are included in the RMP.

The population of San Juan County has grown since the 1988 RMP was prepared. This growth has increased the demand to make land available for urban expansion or public purposes in the tri-city area of Farmington, Bloomfield, and Aztec. An RMP revision was needed to re-examine the status of lands that may be available for disposal, as well as to identify lands that the BLM should acquire to benefit resource management in the public interest, if they are made available by willing sellers. Changes in land use demands from lessees and from the public have necessitated a revision to the RMP to account for major changes in land use management that were not addressed in the previous RMP and amendments.

Federal regulations (43 CFR 8342.2) require that off-highway vehicle (OHV) designations be accomplished through the resource management planning process. As the population of San Juan County increased, so has the amount of OHV use on public lands along with concerns that the OHV designations established in the 1988 RMP are no longer appropriate to protect public resources. This revised RMP provides updated OHV designations with the objective of protecting sensitive surface resources while providing opportunities for OHV-based recreation on public lands.

Prior planning efforts established a variety of Specially Designated Areas (SDA), such as Areas of Critical Environmental Concern (ACEC), Research Natural Areas (RNA), Special Management Areas (SMA), and others. New information uncovered by inventory and monitoring efforts, as well as regulatory and policy changes, have identified additional lands requiring special protection. Federal regulations (43 CFR 1610.7-2) identify the RMP process as the vehicle for analyzing proposed ACEC designations.

Coal companies have expressed interest in leasing coal in areas that have not been analyzed in previous plans. Section 3 of the Federal Coal Leasing Amendments Act of 1976 requires comprehensive land use planning prior to changes in coal leasing.

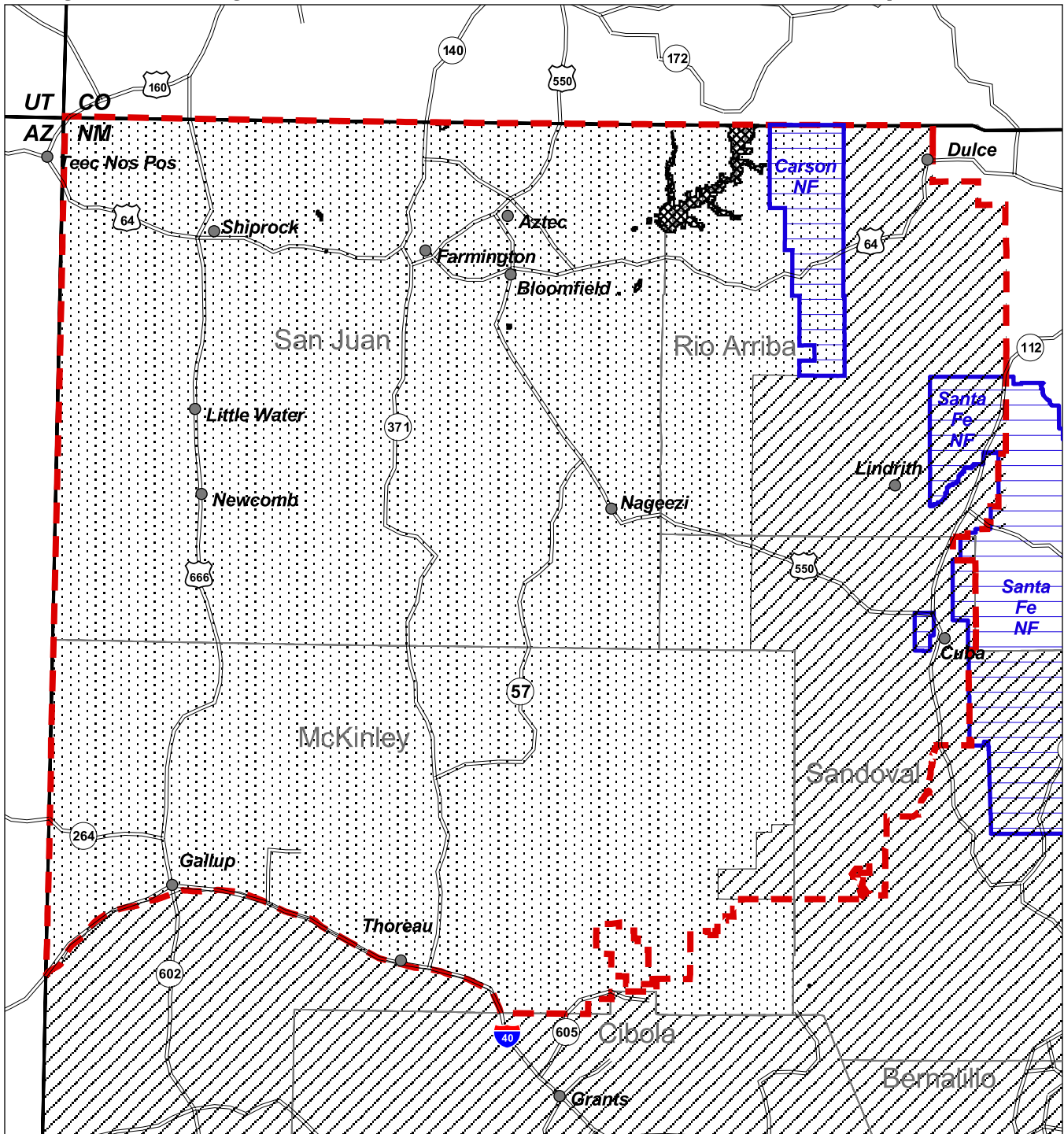
PLANNING AREA

The planning area, located in northwestern New Mexico, encompasses over 8,000,000 acres of mixed land ownership and includes all of San Juan County, most of McKinley County, western Rio Arriba County, and northwestern Sandoval County. Included within this area are approximately 2,000,000 acres of public surface estate and approximately 3,000,000 acres of subsurface minerals. The management objectives and philosophies developed in this plan are intended to be applied only to the public surface and mineral estate. **Map 1** illustrates the planning area and its location within New Mexico. The population of the area is centered around the Farmington-Aztec-Bloomfield-Shiprock area to the north, the Gallup-Crownpoint area to the south, and Cuba to the east.

Climate

The climate of the planning area is classified as arid Continental, characterized by cool, dry winters and warm dry summers. The great distance from any source of oceanic moisture creates a climate of abundant sunshine and large diurnal variations in temperature. Due to its location in the southern Rocky Mountains, wintertime Pacific storm systems borne by westerly winds lose much of their moisture prior to passing through the region. The peak precipitation season occurs during late summer and early fall, when moisture moves into the region from the Gulf of Mexico in association with the western extension of the Bermuda High. The more mountainous and elevated portions of the planning area experience wetter and colder conditions than those near Farmington (WRCC 2001).

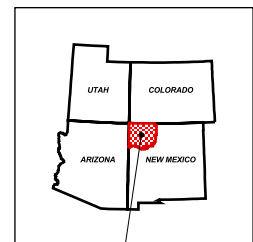
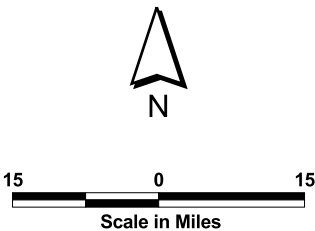
The annual precipitation at Farmington is 8.8 inches. The driest and wettest months are June and August, when 0.3 and 1.2 inches of rain occur, respectively. The average high and low



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LEGEND

- RMP/EIS Boundary
- County Boundary
- Farmington Field Office
- Albuquerque Field Office
- Bureau of Reclamation
- National Forest
- Town
- Major Road
- Interstate Highway
- U.S. Route
- State Highway



Area of Interest

Map 1: General Location of the Planning Area

Source: BLM 2000

temperatures at Farmington in August are 90 and 59 degrees Fahrenheit (°F), respectively. The January average high and low temperatures are 42 and 19°F.

The dominant winds within the region tend to prevail from the southwest and westerly directions during the daytime hours for much of the year. However, local wind conditions can vary substantially from this general pattern throughout the planning area, due to the effects of topography channeling and mountain-valley circulations.

Topography

Although most of northwestern New Mexico is in the Colorado Plateau, the San Juan Basin is the dominant feature of the planning area. The San Juan Basin is an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado. Roughly circular in shape, it is approximately 200 miles long (north to south) and 130 miles wide, including its Colorado portion, covering approximately 15,000 to 25,000 square miles. The central part of the San Juan Basin is a dissected plateau, gently dipping to the west. Stream erosion has formed deep, steep-sided canyons. Nearly all of the formations in the San Juan Basin can be observed on the surface due to the geologic structure and topographic relief.

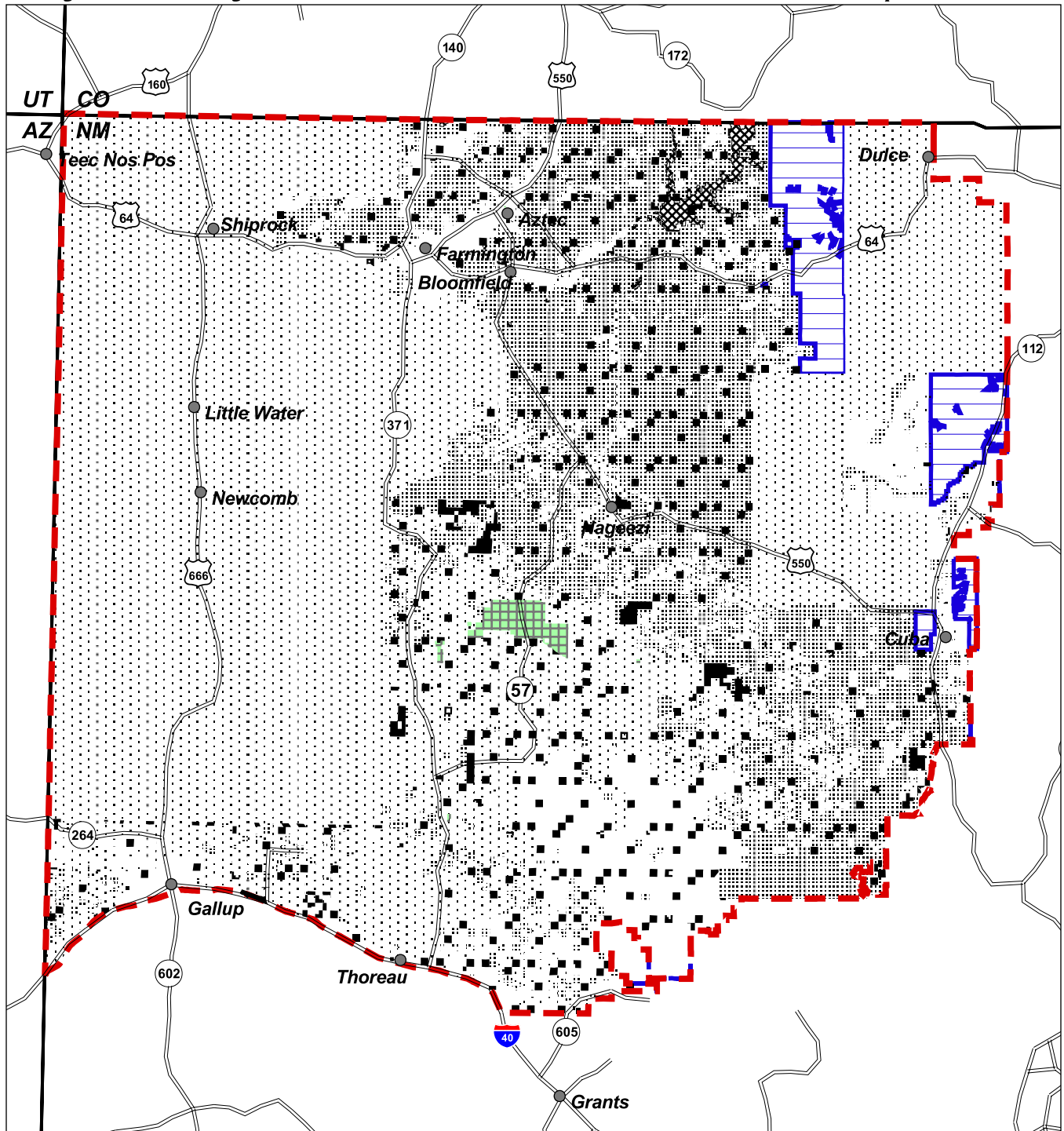
The San Juan Basin is bordered on the west by the Defiance Uplift and the Chuska Mountains, on the north by the San Juan dome, on the south by the Chaco slope and the Zuni Uplift, and on the east by the Nacimiento uplift (Engler et al. 2001). The Hogback monocline separates the San Juan Basin to the east from the Four Corners Platform, a structural divide that forms the northwestern border of the San Juan Basin. The Hogback monocline is a horseshoe-shaped feature that rims the San Juan Basin on the northwest and north sides, with a maximum rise in elevation of 700 feet above the surrounding area. The western flank of the San Juan Basin merges with the eastern edge of the Defiance Uplift of northeastern Arizona. There are no sharp structural boundaries in the southern and southwestern parts of the San Juan Basin. Rock outcrops form the edge of the San Juan Basin to the south and east. Hydrocarbons in the San Juan Basin developed in stratigraphic traps.

Extremes in topographic relief exist in the planning area, including areas of broad mesas interspersed with many deep canyons with steep canyon walls, dry washes, entrenched narrow valleys, and alluvial fans and floodplains, extending on both sides of the Continental Divide. Elevations range from approximately 4,800 feet, where the San Juan River flows into Utah, to approximately 9,400 feet in the Chuska Mountains, 8,800 feet near the Jicarilla Apache land, and 7,300 feet near Cuba on the eastern side of the Continental Divide.

Land Ownership

The distribution of the public lands has an important influence on land management options. Public lands are fairly well consolidated in northeastern San Juan County, while scattered, often called “checkerboard”, ownership patterns predominate over much of the remaining planning area. The planning area includes some public land (and federal minerals) in Sandoval County that is part of the AFO area.

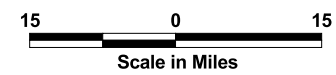
There are a number of surface owners that are involved in the approval (permitting) process for developing federal minerals, including BLM, U.S. Forest Service (USFS), Bureau of Reclamation (USBR), Bureau of Indian Affairs (BIA), tribal, state, and private. The National Forest land in the planning area is located in parts of the Carson National Forest (Jicarilla Ranger District) and the Santa Fe National Forest (parts of the Cuba and Coyote Ranger Districts). The USBR land is located around Navajo Lake, and managed by Navajo Lake State Park. **Map 2** illustrates the administrative boundaries for the lands and minerals administered by the BLM (FFO and AFO), USFS, and USBR in the planning area. The amount of land and federal minerals administered by each office in the planning area is presented in **Tables 1 and 2**.



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LEGEND

- RMP/EIS Boundary
- Land Ownership**
- BLM
- Bureau of Reclamation
- Forest Service
- National Park Service
- Private
- State
- Tribal Land
- Town
- Major Road
- Interstate Highway
- U.S. Route
- State Highway



Source: BLM 2002

**Map 2: Land Ownership
in the Planning Area**

Table 1. Surface Acres in the Planning Area

Cooperating Land Management Agencies	San Juan County	McKinley County	Rio Arriba County	Sandoval County	Total: Surface Acres by Owner
FFO BLM	856,593	163,580	322,431	72,682	1,415,286
AFO BLM	0	40,035	22,895	314,225	377,155
USFS	0	13	23,4301	22,558	256,872
USBR	15,982	0	15,053	0	31,035
Subtotal: Surface Acres by County	872,575	203,628	594,680	409,465	2,080,348
Other Land Management Agencies					
Department of Defense	0	259	0	0	259
Tribal Lands	2,323,806	1,616,225	612,141	222,250	4,774,422
National Park Service	31,301	2,904	0	0	34,205
State	122,326	135,994	43,476	32,879	334,675
Private	234,460	512,522	199,499	103,719	1,050,200
Subtotal: Surface Acres by County	2,711,893	2,267,904	855,116	358,848	6,193,761
Total: Surface Acres	3,584,468	2,471,532	1,449,796	768,313	8,274,109

Source: GIS data derived from BLM FFO and SO coverages.

Table 2. Acres Overlying Federal Minerals in the Planning Area

Cooperating Land Management Agencies	San Juan County	McKinley County	Rio Arriba County	Sandoval County	Total: Surface Acres Overlying Federal Minerals by Owner
FFO BLM	843,574	149,724	315,843	69,561	1,378,702
AFO BLM	0	40,035	22,759	312,654	375,448
USFS	0	13	234,301	22,558	356,872
USBR	7,984	0	7,891	0	15,875
Subtotal: Surface Acres Overlying Federal Minerals by County	851,558	189,772	580,794	404,773	2,026,897
Other Land Management Agencies					
Department of Defense	0	259	0	0	259
Tribal Lands	153,309	211,499	1,166	25,514	391,488
National Park Service	17,139	2,351	0	0	19,490
State	19,325	15,206	1,798	6,379	42,708
Private	142,338	119,074	195,819	82,620	539,851
Subtotal: Surface Acres Overlying Federal Minerals by County	332,111	348,389	198,783	114,513	993,796
Total: Surface Acres Overlying Federal Minerals	1,183,669	538,161	779,577	519,286	3,020,693

Source: GIS data derived from BLM FFO and SO coverages.

SCOPING / ISSUES

The BLM planning regulations (43 CFR 1600) equate land use planning with problem solving and issue resolution. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands and resources. Not all problems are capable of resolution through land use planning—some may require changes in policy, budget, or law. Issue-driven planning, which is the approach used in RMPs, means that an emphasis is placed on addressing those aspects of current management believed to be at issue. Issues to be addressed in the RMP/EIS were identified by the public, by cooperating agencies, and by BLM staff.

Public Scoping

Formal public scoping meetings were held in the tri-cities area of Farmington, Bloomfield, and Aztec between September 26 and October 8, 2000. Comments were documented and later grouped into categories in a report created by the FFO (BLM 2001a). The three general categories of comments were: 1) OHV use and general recreational use of the FFO area, 2) commercial development within the FFO area, and 3) comments on the RMP process. Comments in categories 1 and 2 were considered during development of the alternatives that were evaluated in the RMP/EIS.

The most public comments were related to the first category, OHV and other recreational uses of public lands. Some people expressed interest in opening the FFO area to increased OHV use and others preferred to limit OHV access. Several areas and trails were specifically identified to be set aside for use only by non-motorized recreationists, such as hikers, bicyclists, or horses. Other areas and trails were recommended to be designated for or maintained as open to OHV use. Additional comments included recommendations to designate accessible shooting areas, to prohibit the use of firearms where public safety may be compromised, and to develop environmental education areas.

Comments in the second category were from five respondents who addressed the commercial use of public land and minerals, mostly related to the development of mineral leases, the conflicts between coal mining and oil and gas development, concerns over the constraints on the development of oil and gas, and concerns over transferring federal surface ownership without protection of the development rights for mineral lessees (split estate).

Interviews were conducted in the local communities from December 2000 to April 2001 to obtain input from members of the public not likely to attend scoping meetings. Interviewers made a point of engaging a variety of people in conversation by frequenting community-gathering places, such as restaurants, laundromats, churches, and stores. The groups of people interviewed included residents, local government officials, local and out-of-town recreationists, oil and gas company employees, merchants, and others. In general, the interviews sought descriptions about settlement patterns, work routines, recreation activities, support services, geographic features of importance, changes on the land and in the communities, the use of public land, and ideas for improving BLM land management (Preister 2001). Many of the comments from these interviews are important to the BLM but were determined by FFO staff to be unrelated to the development of the RMP/EIS.

Comments that identified issues relevant to the development of the RMP/EIS alternatives highlighted the potential conflicts between the multiple uses of federal land. The major categories of the comments from the interviews were related to the following categories: 1) oil and gas development, 2) recreation, and 3) community interests and urban development pressures.

Cooperating Agency and BLM Issues

During development of the Management Situation Analysis, a document prepared before the RMP/EIS in the BLM planning process, cooperating agency representatives and BLM resource specialists completed Opportunity Analysis Worksheets that documented specific recommendations

for changes in land management. Recommendations included new SDAs, changes to management prescriptions in existing SDAs, and changes to the implementation of some resource programs.

Primary Issues Addressed in the EIS

The five issues addressed in the EIS were identified based on interagency consultation, state government input, cooperating agency input, review by BLM staff and managers, and through extensive discussions and public meetings with individuals, industry representatives, and special interest groups. The following issues formed the basis for the alternatives in the RMP/EIS.

1. Oil and Gas Leasing and Development—impacts of projected new development and determination of stipulations for new leases.
2. Land Ownership Adjustments—consideration of areas to be acquired or removed from public lands.
3. Off-Highway Vehicle Use—determine the appropriate designations for the FFO area.
4. Specially Designated Areas—consideration of the boundaries, management, and resources protected.
5. Coal Leasing Suitability Assessment—consideration of the potential coal mining areas and evaluation of the process used for permitting.

Issues Considered but Not Further Analyzed

There were several issues recommended during the scoping and the comment period for incorporation in an alternative that were eliminated from detailed analysis for a variety of reasons. Some of these were determined to be resolvable within continuing management guidance; others, such as the protection of significant cultural resources, were resolved with the expansion or delineation of new SDAs. Those recommendations that were not incorporated into an alternative are listed below with the reasons they were not analyzed.

1. *Prohibit any new oil and gas development on federal land in the planning area*—Due to the national need for energy resources and the BLM's legal mandate under the Mining and Minerals Policy Act of 1970 and the Minerals Policy Research and Development Act of 1980, this recommendation was not considered feasible.
2. *Prohibit any new oil and gas development outside of the high intensity oil and gas area of the FFO*—This was rejected because it would severely limit access to available mineral reservoirs and is inconsistent with federal laws and mandates for multiple use of public lands.
3. *Eliminate no surface occupancy restrictions in SDAs*—This was not considered viable because it would result in violations of federal laws such as the Wilderness Act, Endangered Species Act, National Historic Preservation Act, and FLPMA.
4. *Eliminate restrictions on placement of roads and pipelines*—This would allow new roads and pipelines to be constructed cross-country without restrictions, resulting in high acreage of surface disturbance that is inconsistent with BLM, USBR, and USFS policies for preserving resources and managing multiple uses.
5. *Eliminate all restrictions on OHV use in the planning area*—Removing all restrictions would subject SDAs to damage from OHV use that would jeopardize the resources those areas were established to protect.
6. *No New Surface Disturbance and No Net Increase in Surface Disturbance*—The purpose of this recommendation was to preclude further habitat fragmentation in wildlife management areas by limiting well pad, road, and pipeline construction. This was determined not to be

practical or reasonable mainly because precluding existing leaseholders from extracting minerals violates the BLM's contract responsibilities and would likely require high-dollar compensation amounts from the federal government to the lessees. In addition to economic issues, an alternative requiring no net increase in surface disturbance would prevent the orderly drainage of gas from underground formations and could lead to a violation of correlative rights. Linking new development to the rate of plugging and abandonment of old wells would cut the number of new wells to approximately one half that projected for the near future. This would result in a reduction of natural gas output from the Basin requiring existing customers to seek other sources of natural gas. Such an alternative would also run counter to National Energy Policy direction to meet increased demands for natural gas.

7. *No Further Leasing*—Aspects of this recommendation were analyzed as management prescriptions for some SDAs. However, due to the presence of prior existing leases, application of this limitation could only occur if leases expire, having little effect on over 90 percent of the available lands in the planning area that are already under existing oil and gas leases.

PLANNING CRITERIA

For each issue selected to be addressed in the EIS, planning criteria (summarized below) were developed to guide the resolution of that issue.

1. Oil and Gas Leasing and Development
 - Determine if additional federal mineral estate should be considered for leasing.
 - Based on a Reasonable Foreseeable Development Scenario (RFDS), determine the effect of developing oil and gas leases.
 - Determine the impact of management constraints for protection of resource values and identify new ones if needed.
 - Identify the cumulative impacts of oil and gas development.
 - Identify management constraints necessary to protect wildlife, fragile soils, water resources, and other resource values.
 - Clarify the stipulations applied at the lease issuance stage and COAs applied before development activities begin.
2. Land Ownership Adjustments
 - Identify retention, disposal, and acquisition areas that would create a more efficient and economical land ownership pattern for managing public lands.
 - Consider the effects of any land ownership adjustments on split estate.
3. Off-Highway Vehicle Use
 - Identify areas to be designated as “open,” “limited,” or “closed” to OHV use.
 - Determine the special use areas that should be designated for OHV use to meet specific user group and general public demand.
 - Determine which OHV designations and areas would result in minimum conflicts between people and resources.
4. Specially Designated Areas
 - Identify the areas and resource values that should be designated for special management attention.
 - Determine how these areas and resource values should be managed.

5. Coal Leasing Suitability Assessment
 - Identify lands unsuitable for coal mining.
 - Consider multiple use conflicts.
 - Select previously identified tracts that should be carried forward for further consideration for coal leasing.
 - Identify new areas that should be considered for future coal leasing.

LEGISLATIVE CONSTRAINTS

BLM's management policy and program direction are conducted in compliance with direction and associated guidance from laws, regulations, manuals, policies, executive orders, memoranda, and applicable planning documents. A brief list of the key legislation providing guidance and constraints to BLM in the management of public lands is included in **Table 3**. A summary of the authorizing actions that guide BLM management decisions regarding fluid minerals leasing and development is included in Appendix A.

Table 3. Key Federal and State Legislation Providing Guidance in BLM Programs

Resource or Program	Key Legislation	Purpose
Land Use Planning	Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 <i>et seq.</i>) ¹	Provides a framework for managing public lands and defines BLM's mission as one of multiple use and sustained yield.
	National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 <i>et seq.</i>) ¹	Requires an evaluation of the environmental effects of a federal undertaking including its alternatives. BLM's land use planning process and analysis incorporate NEPA requirements.
Minerals	1920 Mineral Leasing Act, as amended	Authorizes the Secretary of the Interior to lease oil and gas resources on all public domain and federally acquired lands. Lands excluded from such leasing by legislation or secretarial policy are listed in CFR Title 43, Part 3100.0-3.
	Surface Mining Control and Reclamation Act (SMCRA) of 1977 (30 USC 1201 <i>et seq.</i>)	Requires application of "unsuitability criteria" prior to coal leasing, used to screen out areas unsuitable for mining for various reasons.
	Federal Coal Leasing Amendments Act of 1976	Requires comprehensive land use planning prior to coal leasing.
Lands and Realty	Recreation and Public Purposes Act	Provides for the disposal of lands for public or recreational purposes to support community and statewide.
Wilderness	Wilderness Act of 1964	Establishes a National Wilderness Preservation System and uses and prohibitions within designated areas.

Resource or Program	Key Legislation	Purpose
Wilderness	Bisti/De-na-zin Wilderness Expansion and Fossil Forest Protection Act of 1996	Combined and expanded the Bisti and De-na-zin Wilderness Areas through the exchange of state and Navajo lands located in the wilderness for other lands. Established Fossil Forest Research Natural Area.
	San Juan Basin Wilderness Protection Act of 1984	Designated the Bisti and De-Na-Zin Wilderness Area. Withdraws the Fossil Forest from all forms of appropriation under the mining laws and from mineral leasing in recognition of its aesthetic, natural, scientific, educational, and paleontological values.
Soils	1974 Colorado River Basin Salinity Control Act, as amended (1984)	Directs the Secretary of the Interior to "...develop a comprehensive program for minimizing salt contributions to the Colorado River from lands administered by the BLM."
Water Quality	Clean Water Act of 1977	Establishes the Nonpoint Source Pollution program, which emphasizes improving water quality in degraded stream systems. Requires permits for activities that may contribute sedimentation to surface water bodies.
	Federal Water Pollution Control Act of 1972, as amended	Basic authority for instream water quality standards and provides maximum permissible pollution discharges.
	Safe Drinking Water Act of 1974	Basic authority for domestic water quality standards.
Air	Clean Air Act of 1969 as amended	Establishes federal air quality regulations and the National Ambient Air Quality Standards; delegates the enforcement of these standards to the states.
	20NMAC2.33—Gas Burning Equipment – NO ₂	Regulates the amount of nitrogen dioxide (NO ₂) emissions from new or existing natural gas burning equipment.
	20NMAC2.35—Natural Gas Processing Plant – Sulfur	Regulates sulfur emissions from existing/new gas processing facilities.
	20NMAC2.42—Coal Mining and Preparation Plants – Particulate Matter	Establishes requirements to minimize particulate matter emissions for coal mine and preparation plant sources, such as crushers, conveyors, and coal haul roads.
	20NMAC2.60—Open Burning	Outlines the process to obtain permits for open burning, such as fire management activities.
	20NMAC2.70—Operating Permits	Provides permitting requirements for stationary sources that exceed 100 tons per year (TPY) of a regulated pollutant, 10 TPY of a hazardous air pollutant (HAP), or 25 TPY of combined HAPs.

Resource or Program	Key Legislation	Purpose
Air	20NMAC2.72—Construction Permits	Applies to new or modified stationary sources that (1) have a potential emission rate greater than 10 pounds per hour or 25 TPY of any air pollutant for which there is a national or state ambient air quality standard or (2) exceed hourly HAPs emission levels.
	19NMAC8.20.2050	Requires an air pollution control plan for fugitive dust emissions for new coal mining activities to be approved by the New Mexico Surface Coal Mining Commission.
	20NMAC2.73—Notice of Intent and Emissions Inventory Requirements.	Part 73 requires new or modified stationary sources that have potential emission rates greater than 10 TPY of any regulated air contaminant or 1 TPY of lead to file an Notice of Intent (NOI) prior to construction. Sources subject to this part shall submit annual emissions inventories.
	20NMAC2.74—Permits – Prevention of Significant Deterioration (PSD).	Requirements apply to (1) 28 identified source types that emit more than 100 TPY of any pollutant for which there is a national ambient air quality standard or (2) any other source that emits 250 TPY.
Invasive Weed Management	Noxious Weed Act of 1974	Provides for the control and management of non-indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.
	New Mexico Noxious Weed Management Act of 1978	Requires the management of noxious weeds and the development of a weed management plan to improve the state economy and environment.
	EO 11312, Invasive Species-1999	Directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts.
Special Status Species	Endangered Species Act, as amended	Requires special protection and management for federally listed threatened and endangered (T&E) species, species proposed to be listed as T&E, and designated and proposed critical habitat.
Wildlife	Fish and Wildlife Conservation Act of 1980	Provides financial and technical assistance to states for the development and implementation of conservation plans and programs for non-game fish and wildlife.

Resource or Program	Key Legislation	Purpose
Wildlife	Fish and Wildlife Coordination Act of 1958	Requires federal agencies to consult with the USFWS and the state agency that administers wildlife resources whenever it plans an activity affecting a stream or body of water to promote conservation of wildlife resources by preventing loss of and damage to such resources and to provide for the development and improvement of wildlife resources.
	Migratory Bird Treaty Act of 1976	Implements the treaties that the US has signed to protect birds that migrate across our national borders. It makes illegal the taking, possessing, or selling of protected species.
Forestry	Material Disposal Act of 1947	Establishes the authority under which the BLM disposes of timber and other forest products.
Rangeland	Public Rangelands Improvement Act of 1978	Provides direction to the BLM for improving wildlife habitat.
	Taylor Grazing Act of 1937	Provides uniform guidance for administration of grazing on the public lands to promote healthy sustainable rangeland ecosystems.
	Public Rangelands Improvement Act of 1978	Establishes national policy to improve the conditions on public rangelands, requires a national inventory and consistent federal management policies, and provides funds for range improvement projects.
Recreation	National Trails System Act of 1968, as amended	Establishes National Scenic and Historic Trails to provide for recreation, public access, enjoyment, and appreciation of the "open-air, outdoor areas and historic resources of the Nation."
	Land and Water Conservation Fund Act of 1964, as amended	Regulates admission and special recreation user fees at certain recreational areas and establishes a fund to subsidize acquisition of lands and waters for recreational and conservation purposes.
Cultural Resources	American Antiquities Act of 1906	Protects all historic and prehistoric sites on federal lands and prohibits excavation or destruction of such antiquities unless a permit is obtained.
	National Historic Preservation Act (NHPA) of 1966	Supplements the provisions of the Antiquities Act of 1906. Permits may be issued only to educational or scientific institutions and only if the resulting activities will increase knowledge about archeological resources.

Resource or Program	Key Legislation	Purpose
Cultural Resources	Archaeological and Historic Preservation Act of 1974	Amends the 1960 Reservoir Salvage Act; provides for the preservation of significant scientific, prehistoric, historic, and archeological materials and data that might be lost or destroyed as a result of federally sponsored projects.
	Historic Sites, Buildings, and Antiquities Act of 1935	Provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and for other purposes.
	Native American Graves Protection and Repatriation Act of 1990	Assigns ownership and control of Native American cultural items, human remains, and associated funerary objects to Native Americans. Establishes requirements for the treatment of Native American human remains and sacred or cultural objects found on federal land.
	Reservoir Salvage Act of 1960 (as amended by Archaeological and Historic Preservation Act of 1974)	Provides for the recovery and preservation of historical and archeological data (including relics and specimens) that might be lost or destroyed in the construction of dams and reservoirs.
	American Indian Religious Freedom Act of 1978	States the policy of the US to protect and preserve for American Indians their inherent rights of freedom to believe, express, and exercise traditional religions.
	Archaeological Resources Protection Act of 1979	Requires federal agencies to provide notice to the Secretary of the Interior of certain construction activities, and for recovery or salvage of archeological resources. Applies to any direct or federally assisted activity that could cause irreparable harm to prehistoric, historic, or archaeological data and establishes penalties for stealing or vandalizing.
	EO 11593 (“Protection and Enhancement of the Cultural Environment,” 36 FR 8921, May 13, 1971)	Requires that federal agencies manage their programs so that federally owned sites, structures, and objects of historical, architectural or archaeological significance are preserved, restored and maintained; and institute procedures to contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance.

Resource or Program	Key Legislation	Purpose
Cultural Resources	EO 13007 (“Protection of Religious Practices and Sacred Sites” [1996])	Requires the management of federal lands, to the extent practicable, permitted by law, and not clearly inconsistent with agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners.
	New Mexico Wilderness Act of 1980	Establishes the Chaco Culture National Historical Park.
	Chacoan Outliers Protection Act of 1995	Establishes 39 important archaeological protection sites totaling approximately 14,372 acres in New Mexico and Arizona.

¹ This law is not repeated for each program in this table, although it provides guidance for all BLM programs.

PLANNING PROCESS

This RMP was developed following the BLM resource management planning process described in BLM's planning regulations and handbook (H-1600-1). Staff from the FFO and AFO, USFS, and USBR comprised the interdisciplinary team that guided development of the RMP/EIS.

Relationship to BLM Policies, Plans, and Programs

BLM planning regulations require that the RMP be “consistent with officially approved or adopted resource related plans, and the policies and programs contained therein, of other federal agencies, state, local, and tribal governments so long as the guidance and resource management plans are also consistent with the purposes, polices, and programs of federal law, and regulations applicable to public lands...” (43 CFR 1610.3-2). Inclusion on the interdisciplinary team of the USFS and USBR ensured that the issues and management decisions selected in the Record of Decision (ROD) were consistent with adjacent management plans.

The Governor’s 60-day review of the Proposed RMP/Final EIS indicated no inconsistencies with state plans. The Governor’s office expressed concern that adequate consultation be conducted with the Navajo Nation. The City of Farmington was concerned that portions of the RMP might be inconsistent with the City’s Master Plan, approved in March 2003, but have expressed a willingness to coordinate with the FFO to alleviate potential conflicts as they arise.

The plan is also consistent with previously developed recovery plans such as the Mexican Spotted Owl Recovery Plan (USFWS 1995), Habitat Management Plans such as those developed by the FFO for Rattlesnake Canyon and Crow Mesa, and activity plans carried forward.

Collaboration

During the planning process, formal and informal efforts were made by the BLM to involve other federal agencies, state, local, and tribal governments, and the public. Some consultations were conducted as required by legislation and regulation, and some were part of ongoing collaboration with interested stakeholders.

Intergovernmental Coordination

The FFO and the City of Farmington have established a schedule to meet on a regular basis to ensure consistency as both the Master Plan and the RMP are implemented, in response to the City’s expressed concern that the two plans may conflict.

FFO staff met with municipal officials to request that they identify parcels of land that the municipalities (county, city, school boards) might be interested in acquiring from the BLM through land transfers. If the selected parcels did not conflict with other land management goals, they were included in the list of potential Recreation and Public Purposes (R&PP) locations included in Appendix B.

Interagency Consultation

BLM coordinated with various state and federal agencies during the development of the RMP. Agencies with which the BLM conducted additional coordination include the Environmental Protection Agency, the New Mexico Department of Energy, Minerals, and Natural Resources, New Mexico Game and Fish Department, and the New Mexico Environment Department. The full list of agencies contacted is included in Table 5-2 of the Proposed RMP/Final EIS.

In particular, due to the public concern over air quality issues, the BLM met with air quality specialists from the New Mexico Air Quality Bureau and the EPA to discuss these issues and strategies for resolving the issues. Air quality portions of the ROD were coordinated with the San Juan Basin Public Lands Office in Durango, Colorado.

Tribal Consultation

Tribal consultation letters were sent to 77 recipients representing 19 Pueblos, 29 Navajo Chapters, the Navajo Nation, the Jicarilla Apache, Southern Ute, and Ute Mountain Ute Tribes. During the planning process, BLM staff met with Navajo Nation agency staff, several Navajo Chapters and Eastern Navajo Land Board to seek input to the draft plan. As part of the public interviews, the sociological consulting firm contracted by the BLM spoke with rural Navajo residents to obtain information on potential RMP issues. Copies of the Draft RMP/Draft EIS and Proposed RMP/Final EIS were sent to all tribal entities who requested copies. Due to an oversight, the Navajo Nation Division of Natural Resources and the Pueblos of Laguna and San Juan were not mailed copies. As soon as the error was discovered, copies were mailed and BLM staff met with the Navajo Nation Division of Natural Resources to brief staff and answer questions. Only the Southern Ute Tribe submitted comments on the draft.

At the close of the protest period for the Proposed RMP/Final EIS, the Navajo Nation transmitted a letter to the New Mexico State Director expressing concerns about the Proposed RMP/Final EIS. Specific concerns with the government to government relationship between the Navajo Nation and BLM are being addressed outside of the ROD. The FFO has a long history of consultation with the Navajo Nation on projects and issues which might affect its people or interests. Consultation has, in the past, included site-specific consultation on projects such as Applications for Permits to Drill (APD) and pipelines in areas of concern to the Navajo Nation. Two sacred areas of particular concern (Cho'li'i and Dzil'na'oodlii) have received special management emphasis since the 1988 RMP (BLM 1988). The 1998 RMP amendment (BLM 1998a) enlarged Cho'li'i and designated the area as an ACEC. The ROD and this RMP designate Dzil'na'oodlii as an ACEC. In both ACECs, requirements to reduce noise from oil and gas equipment will be required. All minerals in these areas were leased for development in 1948. If leases expire, the BLM will not issue new leases near the ACECs, or other areas considered Traditional Cultural Properties (TCPs), until completing consultation with the Navajo Nation.

During the planning process, 24 Native American Tribes and 27 Navajo Chapters were contacted in an attempt to identify TCPs. Pages 3-86 to 3-88 in the Proposed RMP/Final EIS provide further details on how the 73 known and potential TCPs were identified and the rationale for why the locations of many are not published. BLM will continue to work cooperatively with the Navajo Nation to ensure that any other areas of interest are identified so site-specific consultations on projects can be targeted.

Other Stakeholder Relationships

In addition to participating in the formal public scoping meetings, FFO staff specialists met with groups interested in recreation on public lands and received recommendations on trails that should be opened and developed for a variety of activities. While some of these recommended trails appear in the proposed alternatives, others will be reviewed by staff and possibly designated in the future through activity plans, a process that provides opportunities for further public involvement. BLM Recreation staff intend to continue the collaboration with user groups.

BLM range conservationists meet periodically with allottees to discuss issues of concern related to livestock grazing. These are informal groups that meet as needed to administer the livestock grazing program.

A small industry/BLM work group of the San Juan Basin Working Committee assisted the BLM by providing information on mineral development plans and operating procedures for inclusion in the RFDS. BLM minerals staff regularly participate with industry and other agency representatives in the Working Committee.

The San Juan Basin Public Roads Committee includes members from the oil and gas industry and the FFO. The committee has a set of bylaws that address road maintenance on BLM system roads within the San Juan Basin. Under this agreement, 95 percent of the cost for system road maintenance is paid by the oil and gas industry.

Voluntary offsite mitigation funds from the oil and gas industry will continue to be used to develop adaptive management strategies, implement management prescriptions in SDAs, fund research related to mitigation and reclamation, and to enhance other resource conditions off-site. Voluntary contributions in the amount of one thousand dollars per acre of land which can not be reclaimed for the life of the well are deposited in an account maintained by the BLM National Business Center. Contributions are strictly voluntary and made at the discretion of oil and gas operators after a permit to drill is issued. A working group consisting of affected grazing permittees and oil and gas industry representatives evaluates proposals for distribution of funds. Priority is given to projects in areas most affected by oil and gas development and 70 percent of the funds are to be used for projects to improve Public land health. Ultimate authority for expenditure of funds rests with the BLM.

RELATED PLANS

The plan is consistent with previously developed recovery plans such as the Mexican Spotted Owl Recovery Plan (USFWS 1995), habitat management plans such as those developed by the FFO for Rattlesnake Canyon and Crow Mesa, and activity plans carried forward. Other related plans include the Navajo Reservoir RMP under development by the USBR, the Carson National Forest Plan that guides the land use management decisions for the Jicarilla Ranger District, the Santa Fe National Forest Plan that guides land use management decisions for the Cuba and Coyote Ranger Districts within the San Juan Basin, and the City of Farmington Master Plan.

POLICY

Many policies and decisions that existed prior to the plan being written are outside the scope of the plan but may influence the decisions or are needed to understand management of the area. This guidance affects BLM land management decisions, in addition to the legislative constraints listed above, and may be in the form of related plans, agency policy, federal regulations, or field office policy. **Table 4** lists the primary guidance for FFO land use management decisions.

Table 4. Key BLM Policy and Agency Guidance for Management of Programs

Resource or Program	Key Policy or Other Guidance
Minerals	BLM Onshore Oil and Gas Orders, authorized by 43 CFR 3160:
	Onshore Order #1 Approval of Operations
	Onshore Order #2 Drilling Operations
	Onshore Order #3 Site Security
	Onshore Order #4 Measurement of Oil
	Onshore Order #5 Measurement of Gas
	Onshore Order #6 Hydrogen Sulfide Operations
	Onshore Order #7 Disposal of Produced Water
	Draft Onshore Order #8 Workovers and Subsequent Well Operations (includes abandonment)
	The New Mexico BLM NTLs consistent with or exceeding minimum standards specified in the 43 CFR 3160 regulations or Onshore Orders:
	NTL 85-1: Cultural Resource Surveys
	NTL 87-1: Painting of Oil Field Facilities
	NTL 89-1: Requirements to Operate on a Federal Lease and Notice of Change of Operator
	NTL 89-2: Standards for Use of Electronic Flow Computers and Electronic Gas Measurement Systems
	NTL 90-1: Requirements to Operate on Federal and Indian Leases: Casing and Cementing Requirements
	NTL 92-1: Waste Disposal
	NTL 92-3: Limits for Accumulation of Oil in Water Disposal Pits and Tanks
	NTL 92-3A: Limits for Accumulation of Oil in Water Disposal Pits and Tanks
	NTL 92-4: Non-Mechanical Temperature/Gravity Compensation on LACT Units
	NTL 92-5: Standards for Meters Measuring Low Gas Volumes
NTL 93-1: Requirements for Operators Who Vent or Flare Gas from Gas Wells (Albuquerque District only)	
NTL 93-2: Modification of Production Equipment to Prevent Bird and Bat Losses	
NTL 94-1: Closure Standards for Unlined Surface Impoundments	
Surface Operating Standards for Oil and Gas Exploration and Development—"Gold Book"	
Lands and Realty	BLM Manual 2470
	BLM Manual 9113
Soils	BLM Manual Sections 7000 and 7100
Water	BLM Manual Sections 7000 and 7200
Special Status Species	BLM Manual 6840

Resource or Program	Key Policy or Other Guidance
Wildlife	Memorandum of Understanding (MOU) No. NMSO-41 between the BLM and the New Mexico Department of Game and Fish (NMDGF) provides for cooperative development of fish and wildlife resource plans.
Recreation	Current management direction for dispersed recreation opportunities is provided in the CFR (Title 43, Part 8300) and BLM manuals, including the following:
	43 CFR, Parts 2930 and 8370—Authority to issue Special Recreation Permits
	43 CFR 8340—Provides for OHV use as a legitimate activity on public land wherever it is compatible with other resource management objectives.
	43 CFR 6300 (formerly 8560)—BLM Wilderness Management Regulations.
	BLM Manual H-8550-1—Interim Management Policy for Lands Under Wilderness Review
Visual Resource Management	BLM Manuals 8400, 8410-1, 8431-1
Fire Management	Federal Wildland Fire Policy (updated in 2000)
	BLM Policy 92-13-1
Cultural Resources	The BLM cultural program operates under a national programmatic agreement with the ACHP and State Historic Preservation Officers. Implementation of the agreement in New Mexico is through a protocol agreement with the State Historic Preservation Office (SHPO), 1998.
	BLM Manual 8100—Cultural Resource Management
	BLM Manual 8110—Identifying Cultural Resources
	BLM Manual 8120—Protecting Cultural Resources
	BLM Manual 8130—Utilizing Cultural Resources for Public Benefit
	BLM Manual 8160—Native American Coordination and Consultation BLM Handbook H-8100-1, <i>Procedures for Performing Cultural Resources Field Work on Public Lands in the Area of New Mexico State BLM Responsibility</i> (2002).

CHAPTER 2 MANAGEMENT DECISIONS

The management goals, objectives and actions related to the five issues analyzed in the EIS, oil and gas leasing and development, OHV designations, land ownership adjustments, management of SDAs, and coal leasing suitability, will guide future management of these activities in the FFO. The Management Decisions selected in the ROD, presented in detail in Chapter 2 of the Proposed RMP/Final EIS, are those of the Preferred Alternative (Alternative D) in the RMP/EIS, with some minor adjustments.

For the other resources and resource programs managed by the FFO that were not specifically addressed in the EIS alternatives and analysis, the goals, objectives, and management actions are those described under Continuing Management Guidance in Chapter 2 of the Proposed RMP/Final EIS. Management Decisions carried forward from the 1988 RMP are included in Appendix D.

The management decisions presented in this land use plan support many of the goals in the BLM's Strategic Plan (BLM 2000a). The agency goals that pertain to the FFO area are listed first, followed by the objectives and management actions that support the goals under each resource program.

GOALS FOR RESOURCE CONDITIONS AND RESOURCE USES

The overall BLM agency goals are to provide multiple use and ensure public land health to meet long-term resource values. The goals most relevant to the FFO area that are addressed in this RMP include the following:

- Restore and maintain the health of the land.
- Provide opportunities for environmentally responsible commercial activities, including the orderly development of important energy resources.
- Preserve natural and cultural heritage resources.
- Provide opportunities for environmentally responsible recreation.

OBJECTIVES AND MANAGEMENT ACTIONS FOR RESOURCE PROGRAMS IN THE FFO AREA

Land Health

Objective

A primary objective for all public land in the FFO area is to meet the New Mexico Standards for Public Land Health that were accepted by the Secretary of the Interior as part of the Record of Decision for the *Statewide RMP Amendment/EIS for Standards for Public Land Health and Guidelines for Livestock Grazing Management* (BLM 2000b). BLM staff determines whether activities meet the standards by evaluating the results against indicators developed for each standard. The standards describe the desired conditions, or objectives, for healthy public lands under three categories: Upland Sites, Biotic Communities, and Riparian Sites. The goal to restore and maintain the health of public lands will be advanced by striving to meet this objective.

Management Actions

FFO staff will use the following standards to evaluate the conditions of public lands and to help develop management actions to move towards the restoration of healthy ecosystems.

Upland Sites Standard

Healthy upland ecological sites are in a productive and sustainable condition within the capability of the site. Upland soils meeting the standard are stabilized and exhibit infiltration and permeability rates that are appropriate for the soil type, climate, and landform. The combined kind, amount, and/or pattern of vegetation provide protection on a given site to minimize erosion and assist in meeting state and tribal water quality standards. Indicators for this standard may include, but are not limited to, the following:

- Consistent with the capability of the ecological site, soils are stabilized by appropriate amounts of standing live vegetation, protective litter, biological soil crusts, and/or rock cover.
- Erosion is indicated by flow patterns characteristics of surface litter soil movement, gullies and rills, and plant pedestalling.
- Satisfactory plant protection is indicated by the amount and distribution of desired species necessary to prevent accelerated erosion.

Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard

Ecological processes such as the hydrologic cycle, nutrient cycle, and energy flow support productive and diverse native biotic communities, including special status, threatened, and endangered species. Desired plant community goals maintain and conserve productive and diverse populations of plants and animals that sustain ecological functions and processes. Restoration should first be achieved with native plants, and when appropriate, non-native plants. Indicators for this standard may include, but are not limited to, the following:

- Commensurate with the capability of the ecological site, plant and animal populations are productive, resilient, diverse, and sustainable.
- Landscapes are composed of communities in a variety of successional stages and patterns.
- Diversity and composition of communities are indicated by the kinds and amount of species.
- Endangered and special status species are secure and recovering, with the goal of delisting and ensuring that additional species need not be listed within New Mexico.

Riparian Sites Standard

Healthy riparian areas are in a productive, properly functioning, and sustainable condition, within the capability of each site. There is present adequate vegetation of diverse age and composition to withstand high stream flow, capture sediment, provide for groundwater recharge, provide habitat, and assist in meeting state and tribal water quality standards. Indicators for this standard may include, but are not limited to the following:

- Stream channel morphology and stability as determined by gradient, width/depth ratio, channel roughness, and sinuosity.
- Streambank stability as determined by degree of shearing, sloughing, and vegetative cover on the bank.
- Appropriate riparian vegetation includes a mix of communities comprised of species with a range of age, density, and growth form.

Minerals**Objective**

It is the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs, consistent with national objectives of an adequate supply of minerals at reasonable market prices. At the same time,

the BLM strives to ensure that mineral development is carried out in a manner that minimizes environmental damage and provides for the rehabilitation of affected lands.

Management Actions

Oil and Gas

A total of 2,597,193 acres of BLM-managed lands are open for oil and gas leasing and development under Standard Terms and Conditions. The constraints on oil and gas development listed below will apply as stipulations on new leases. For existing leases within those areas, BLM will apply these constraints as Conditions of Approval (COA) or coordinate with existing leaseholder-operators on siting development to minimize resource damage.

Approximately 286,910 acres are subject to Controlled Surface Use stipulations for new leasing, in all or part of the SDAs listed below.

FFO Area:

- | | | |
|-----------------------------------|--|--------------------------------------|
| 1. Alien Run Mountain Bike Trail | 12. Glade Run Recreation Area | 22. Navajo Lake Horse Trail |
| 2. Bald Eagle ACEC | 13. Gobernador and Cereza Canyon Fossil Area | 23. Piñon Mesa Fossil Area |
| 3. Betonnie Tsosie Fossil Area | 14. Gonzales Mesa Wildlife Area | 24. Piñon Mesa Recreation Area |
| 4. Bohannon Canyon Fossil Complex | 15. Kutz Canyon Fossil Area | 25. Rattlesnake Canyon Wildlife Area |
| 5. Carson Fossil Pocket | 16. La Jara ACEC | 26. River Tracts Riparian Area |
| 6. Cedar Hill ACEC | 17. Laguna Seca Mesa Wildlife Area | 27. Rock Garden Recreation Area |
| 7. Cereza Canyon Wildlife Area | 18. Lybrook Fossil Area | 28. Rosa Mesa Wildlife Area |
| 8. Crow Mesa Wildlife Area | 19. Mexican Spotted Owl ACEC | 29. San Rafael Canyon ACEC |
| 9. Dzil'na'oodlii ACEC | 20. Middle Mesa Wildlife Area | |
| 10. Ensenada Mesa Wildlife Area | 21. Muñoz Canyon ACEC | |
| 11. Ephemeral Wash Riparian Area | | |

AFO Area:

- | | |
|--------------------------------------|-------------------------------|
| 1. 1870s Wagon Trail SMA | 5. Historic Homesteads SMA |
| 2. Cañon Jarido SMA | 6. San Luis Cliffs Window SMA |
| 3. Elk Springs ACEC | 7. San Luis Mesa Raptor ACEC |
| 4. Headcut Prehistoric Community SMA | 8. Torrejon Fossil Fauna ACEC |

Approximately 25,442 acres will be under No Surface Occupancy stipulations for new leases, in all or part of the SDAs listed below.

FFO Area:

- | | | |
|-----------------------------------|---|---|
| 1. Adams Canyon ACEC | Recreation Area | 40. Martin Apodaca Homestead ACEC |
| 2. Ah-shi-sle-pah Road ACEC | 22. East Side Rincon Site ACEC | 41. Martinez Canyon ACEC |
| 3. Albert Mesa ACEC | 23. Encierro Canyon ACEC | 42. Moss Trail ACEC |
| 4. Angel Peak ACEC | 24. Encinada Mesa-Carrizo Canyon ACEC | 43. Negro Canyon SDA |
| 5. Angel Peak Scenic Area | 25. Farmer's Arroyo ACEC | 44. Pointed Butte ACEC |
| 6. Ashii Na'a' a' ACEC | 26. Four Ye'i ACEC | 45. Pork Chop Pass ACEC |
| 7. Bi Yaazh ACEC | 27. Frances Mesa ACEC | 46. Pregnant Basketmaker ACEC |
| 8. Blanco Mesa ACEC | 28. Gonzalez Canyon-Senon S. Vigil Homestead ACEC | 47. Pretty Woman ACEC |
| 9. Blanco Star Panel ACEC | 29. Gould Pass Camp ACEC | 48. Prieta Mesa ACEC |
| 10. Cagle's Site ACEC | 30. Haynes Trading Post ACEC | 49. Rincon Largo District ACEC |
| 11. Canyon View ACEC | 31. Head Canyon Motocross Track | 50. Rincon Rockshelter ACEC |
| 12. Cho'li'I ACEC | 32. Hummingbird ACEC | 51. Rock House-Nestor Martin Homestead ACEC |
| 13. Christmas Tree Ruin ACEC | 33. Hummingbird Canyon ACEC | 52. Santos Peak ACEC |
| 14. Church Rock Outlier ACEC | 34. Jacques Chacoan Community ACEC | 53. Shield Bearer ACEC |
| 15. Cottonwood Divide ACEC | 35. Kachina Mask ACEC | 54. Simon Ruin ACEC |
| 16. Crow Canyon ACEC | 36. Kin Yazhi ACEC | 55. Star Rock ACEC |
| 17. Deer House ACEC | 37. Kiva ACEC | 56. Star Spring-Jesus Canyon ACEC |
| 18. Delgadita-Pueblo Canyons ACEC | 38. Largo Canyon Star Ceiling ACEC | 57. String House ACEC |
| 19. Devil's Spring Mesa ACEC | 39. Margarita Martinez Homestead ACEC | 58. Superior Mesa ACEC |
| 20. Dogie Canyon School ACEC | | 59. Tapacito and Split Rock ACEC |
| 21. Dunes Vehicle | | 60. Truby's Tower ACEC |

AFO Area:

- | | |
|---------------------------------|--------------------|
| 1. Azabache Station SMA | 3. Cuba Airport SM |
| 2. Continental Divide Trail SMA | |

Nondiscretionary closures (i.e. those required by existing laws and regulations) will continue on 111,148 acres. These areas are contained in designated Wilderness, Wilderness Study Areas (WSA), and other SDAs, listed below.

FFO Area:

1. Ah-shi-sle-pah WSA
2. Bisti/De-Na-Zin Wilderness Area
3. Fossil Forest Research Natural Area
4. Lake Valley Chaco Culture Archaeological Protection Site

AFO Area:

5. Cabezon WSA
6. Chamisa WSA
7. Empedrado WSA
8. Empedrado Watershed Study Area
9. Ignacio Chavez SMA
10. Ignacio Chavez WSA
11. La Lena WSA

Approximately 79,000 acres, primarily contained within the SDAs listed below, will be closed to new leasing. The majority of lands listed as closed to new leasing (see Appendix C) is subject to existing leases, so the discretionary closure would apply only to new leases or to existing leases that are allowed to expire.

FFO Area:

- | | |
|--|---|
| 1. Andrews Ranch ACEC | 12. Halfway House ACEC |
| 2. Bee Burrow ACEC | 13. The Hogback ACEC |
| 3. Beechatuda Tongue Geological Formation | 14. Holmes Group ACEC |
| 4. Bis sa'ani ACEC | 15. Indian Creek ACEC |
| 5. Carracas Mesa Recreation/Wildlife Area | 16. Kin Nizhoni ACEC |
| 6. Casa del Rio Chaco Culture Archaeological Protection Site | 17. Morris 41 ACEC |
| 7. Casamero Community ACEC | 18. North Road ACEC |
| 8. Chacra Mesa Complex ACEC | 19. Pierre's Site ACEC |
| 9. Crownpoint Steps and Herradura ACEC | 20. Reese Canyon Research Natural Area |
| 10. East La Plata Wildlife Area | 21. Simon Canyon ACEC |
| 11. Greenlee Ruin Chaco Culture Archaeological Protection Site | 22. Thomas Canyon Natural/Wildlife Area |
| | 23. Toh-la-kai ACEC |
| | 24. Twin Angels ACEC |
| | 25. Upper Kin Klizhin ACEC |

AFO Area:

1. Cabezon Peak ACEC
2. Jones Canyon SMA
3. Juana Lopez Research Natural Area
4. Pelon Watershed SMA

Seasonal Timing Limitations will be employed on 483,807 acres, in the areas listed in **Table 5**. The FFO will work in collaboration with industry, the New Mexico Department of Game and Fish, and other interested parties to develop structured exception criteria. The FFO will assist operators in designing plans for development to minimize impacts to oil and gas operations while meeting wildlife goals.

Table 5. Areas with Timing Limitations

Area	Administrative Office	Time Period	Purpose
Bald Eagle ACEC	FFO	November 1 through March 31	Protection of important seasonal wildlife habitat (buffer zones around bald eagle use areas)
Cereza Canyon Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
Crow Mesa Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
East La Plata Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
Ensenada Mesa Wildlife Area	FFO	May 1 through July 15	Protection of important seasonal wildlife habitat (antelope fawning range)
Gonzales Mesa Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
Middle Mesa Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
Raptor nest sites	FFO	March 1 to June 30	Protection of important seasonal wildlife habitat (bird of prey nests)
Rattlesnake Canyon Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
Rosa Mesa Wildlife Area	FFO	December 1 through March 31	Protection of important seasonal wildlife habitat (big game winter range)
Rosa Mesa Wildlife Area: Designated habitat	FFO	December 1 through July 15	Protection of important seasonal wildlife habitat (elk calving)
Cañon Jarido SMA	AFO	February 1 to July 1	Protection of recreational, wildlife and cultural values
Elk Springs ACEC	AFO	May 15 to November 15	Protection of elk and deer winter range, and recreational and scenic values

Area	Administrative Office	Time Period	Purpose
Ignacio Chaves SMA	AFO	May 15 to November 15	Protection of elk and deer winter range, and recreational and scenic values
San Luis Mesa Raptor Area ACEC	AFO	July 2 to January 31	Protection of raptor nesting habitat

Mitigation Measures

For the majority of activities occurring on public lands in the planning area, mitigation is implemented through COAs for activities related to and occurring on oil and gas leases and special stipulations, which are attached to grants for rights of way. Similar stipulations are attached, when appropriate, to non-oil and gas related surface disturbing activities. Application of mitigating measures is determined on a site-specific basis after identification of the location and the resources affected. Many of these mitigation measures can be linked to best management practices (BMP) that cover a broad variety of practices used to reduce or eliminate pollution sources. Some mitigation measures directly related to mineral extraction are described below, and many that pertain to any surface-disturbing activity are included under the headings of the other resources included in this RMP.

- Standardized drilling window offsets will be employed to reduce the number of drill sites needed. The New Mexico Oil and Gas Commission establishes, with BLM concurrence, drilling windows for each gas formation. By standardizing one window for multiple formations the opportunity for dual completion of wells (one well hole draining more than one formation) is increased. Dual completion, re-completion and commingling (both downhole and at the surface) will be encouraged and permitted in order to reduce the number of new well pads and consequent surface disturbance. This will reduce impacts to soils and vegetation, reduce air impacts caused by fugitive dust, reduce habitat fragmentation and offer less opportunity for the spread of noxious weeds.
- A compliance plan for new well pads and rights-of-way will be developed to integrate existing initiatives and prioritize areas with outstanding problems. A timeline for correcting problem areas will be included, as will a strategy for assigning adequate personnel to address the issue of compliance and reclamation.
- Pipelines will follow existing roads where possible in order to minimize surface disturbance and consequent potential impacts to soils, vegetation, and habitats. This will also serve to reduce potential for spread of noxious weeds.
- Oil and gas development will be restricted in areas that have special topographic (steep or broken terrain and/or on benches) and soil concerns in order to reduce impacts caused by soil erosion and habitat disturbance. Development in these areas will be considered on a case-by-case basis and will contain site-specific mitigation designed to prevent increased sediment from being transported into drainages and to prevent fragmentation of areas determined to provide important wildlife habitat.
- Operators are encouraged to unitize in areas of dense development to increase management efficiency and facilitate operations in sensitive areas. Unitization is the process by which multiple lease holders in a geographic area share facilities so as to reduce surface disturbance caused by multiple duplicate facilities such as pipelines and compressor stations.
- Drilling within 1,000 horizontal feet of Navajo Dam and appurtenant structures will be restricted. This includes the foundation of the dam, which extends 1,320 feet upstream and

1,260 feet downstream from the dam axis (T. 30 N., R. 7 W., Sec. 18: S ½, Sec. 19: N½, N½ SW ¼, N½N½SE¼).

- Electronic transmission of well data and piping of produced water will be required, where feasible, to reduce the number of vehicle visits to wells in order to reduce disturbance to wildlife and direct mortality as a result of road kills. It will also reduce the amount of dust, potential increased sedimentation, disruption of livestock operations and recreational uses.
- Noise from oil and gas equipment that operates on a continuous (**more than 8 hours/day** on a long-term basis, which is more than 1 week in duration) will be kept at or below 48.6 dBA (A-weighted decibels) at specified locations to minimize disturbances to people, as well as to raptor nest sites for golden eagles, ferruginous hawks, and prairie falcons. The Draft Noise Notice to Lessee (NTL) described in Appendix E (Alternative D) of the Proposed RMP/Final EIS will be issued as final NTL and attached as a COA to Applications for Permits to Drill (APD), and as a stipulation to Rights of Way (ROW) grants and Sundry Notices in order to reduce impacts from noise generated from oil and gas sites on visitor and residential use areas. The NTL specifies a noise standard but allows companies the flexibility of choosing which equipment or method(s) they will use to reach the standard. Variances will be allowed on a case-by-case basis following procedures as listed in the final NTL.

Coal

The 14 PRLAs designated in the 1988 RMP will be available and the unsuitability criteria previously applied will be in effect. Those PRLAs that are affected by Congressional designation of the WA and RNA may be exchanged for coal leases in other parts of New Mexico, if it is in the public interest. At the time any of the PRLAs are processed, the unsuitability criteria will be reapplied on a site-specific basis.

The 17 competitive coal tracts designated in the 1988 RMP will be available for leasing. The 20 unsuitability criteria described in 43 CFR 3461.5 would be reapplied during the leasing process.

In a preliminary application of the unsuitability criteria for the EIS, approximately 378,875 acres were determined to be suitable for future leasing and development in the FFO area. The remainder of the FFO boundary can be considered if there are (1) commercial quantities, (2) areas with a coal transportation system, and (3) when there is a viable market for the coal.

Salable and Locatable Minerals

Public lands in the FFO area are important sources of mineral materials for construction projects in the region, including sand and gravel, rock and stone, and other fill materials. The FFO program defines three levels of activity: 1) casual use using non-mechanized equipment, 2) notice level comprising less than five acres of surface disturbance, and 3) plan level comprising more than five acres of surface disturbance and heap leaching operations.

Valuable sources of salable minerals within the proposed disposal areas near the tri-cities will be identified to enable the FFO to maintain access to these sources in the event that nearby parcels are transferred out of federal ownership.

Lands and Realty

Objective

The objective of the FFO lands program is to facilitate the acquisition, exchange, or disposal of public lands in order to provide the most efficient management of public resources. The program is responsible for processing land withdrawals, granting rights-of-way (ROWs) and easements on public lands, and acquiring easements on non-public lands where necessary. The lands program

also issues leases and patents under the R&PP Act, and licenses and permits for specific uses such as filming or special events. All land adjustment actions must go through the NEPA process.

Management Actions

In general, under all land adjustments, the BLM will protect valid existing rights. These would include authorized permits, leases, ROW, and licenses. The FFO will continue a prevention program developed by BLM, The Navajo Nation, and BIA to prevent unauthorized occupation.

Disposal

The land ownership adjustments identified in the previous RMP and amendments will be carried forward. Exchange, sale, disposal under the R&PP Act, or other legal disposal will be considered if the proposed parcels meet the following criteria established in Section 203 of FLPMA.

- Such tract because of its location or other characteristics is difficult and uneconomical to manage as part of the public lands, and is not suitable for management by another federal department or agency; or
- Such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or
- Disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in federal ownership.

If a parcel is to be disposed of through exchange, Section 206 of FLPMA requires that the action serves the public interest.

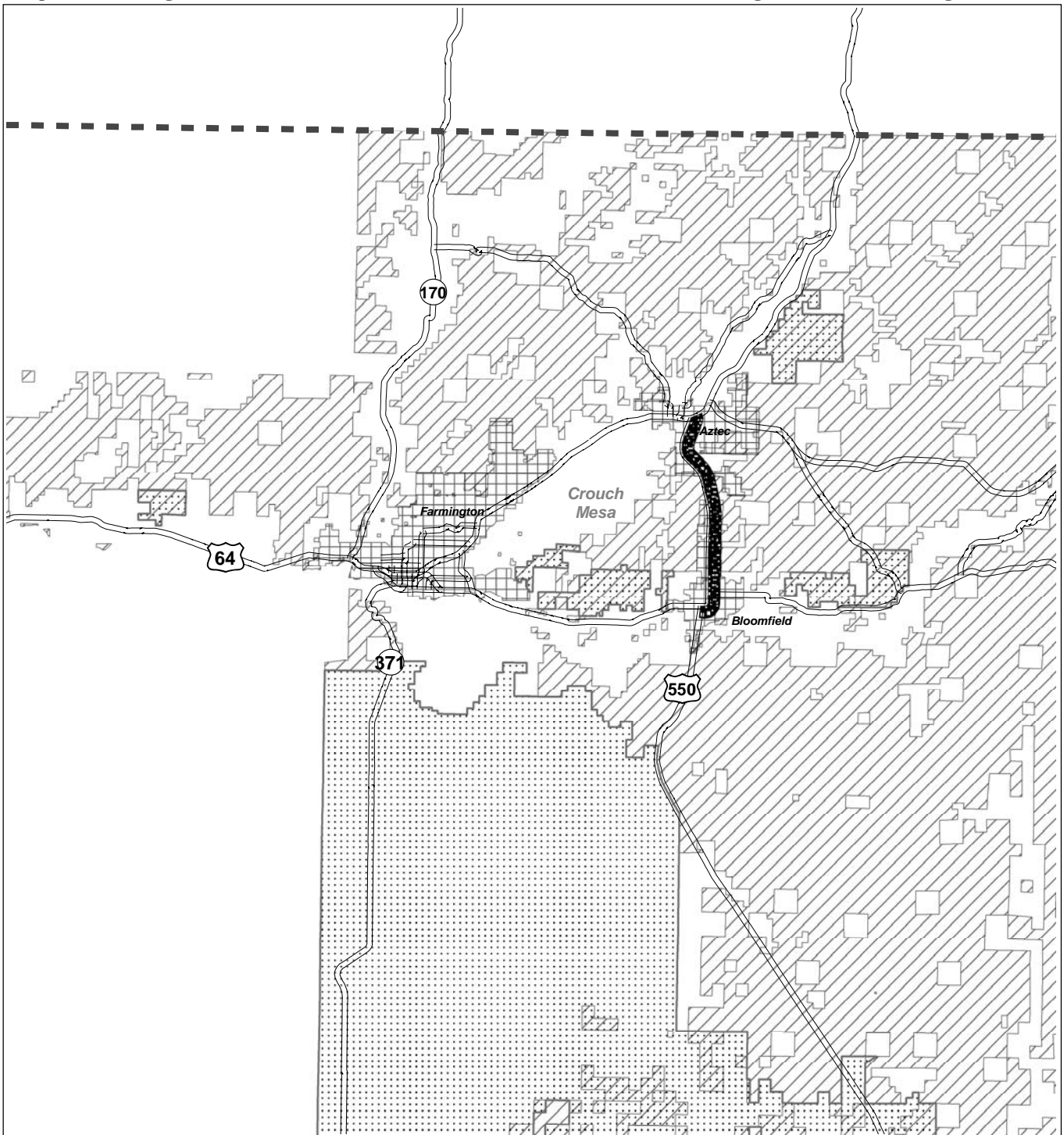
Approximately 340,118 acres of public land will be available for disposal (**Map 3**). Parcels identified in the previous RMP and amendments are incorporated into the lands available for disposal or acquisition.

Lands on Crouch Mesa and lands along and less than 1 mile east of U.S. Highway 550 between Aztec and Bloomfield will receive priority for disposal to assist the cities in meeting their long term planning goals for urban development. Lands presently identified as potential R&PP Act sites by various government entities and non-profit organizations are listed in Appendix B. This list is not exclusive and may change with future proposals. Any proposal for an R&PP Act lease will undergo detailed site-specific environmental analysis, appropriate consultation, and public review. All such leases must meet the criteria specified in BLM Manual 2740.

Acquisition

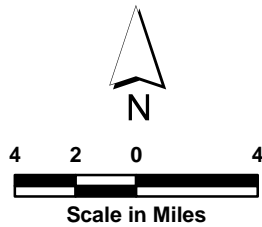
Inholdings within SDAs, approximately 178,237 acres, will receive priority for acquisition. Additional riparian areas will also receive priority for acquisition. Many SDAs have a management prescription to retain the public lands within the boundary. Disposal of parcels within SDAs may be considered, in rare instances, if the Authorized Officer determines, after site-specific environmental analysis, appropriate consultation, and public review, that such a disposal would not have an adverse effect on the management goal of the SDA and would be of overall benefit to the public.

Other lands that consolidate public ownership or benefit a resource program could also be acquired, if the acquisition were determined to be in the public interest. Any lands acquired would be managed in the same manner as the adjacent or surrounding public lands.

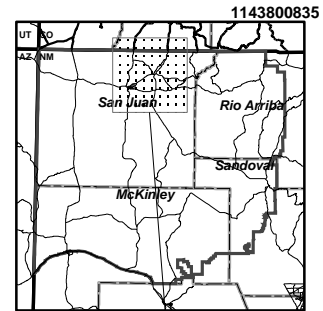


LEGEND

- RMP/EIS Boundary
- Area of Potential Land Disposal
- Municipal Boundary
- BLM Owned Land
- Aztec-Bloomfield Corridor
- Town
- Major Road
- Interstate Highway
- U.S. Route
- State Highway



Source: BLM FFO



1143800835

Area Shown

Map 3. Land Available for Disposal in the Tri-Cities Area

Land Withdrawal

The FFO will continue to review existing land withdrawals on a periodic basis to ensure that the reasons for the withdrawal are still valid and only the acreage needed is retained in withdrawn status. Policy will minimize the amount of land withdrawn (particularly from mining and mineral leasing) in favor of leases, permits, or cooperative use agreements that are more flexible. Upon revocation or modification of a withdrawal, all or part of the withdrawn land could be restored to multiple use. Additional land may be identified for withdrawal if criteria are met and will be processed on a case-by-case basis.

Rights-of-Way

Development of energy-related ROWs for roads and pipelines is one of the primary activities in the FFO lands program. The FFO processes ROW applications for access, utilities and telephone lines, fiber optic lines, and other communication sites. All ROW applications will continue to receive environmental review on a case-by-case basis.

To the extent possible, new ROWs will be located within or parallel to existing ROWs or ROW corridors to minimize resource impacts. Right-of-Way (ROW) corridors identified by the 2002 Western Utility Group (WUG 2002) revision of the 1992 Western Regional Corridor Study (WUG 1992) are designated for powerline and pipeline use. Specific proposals will require site-specific environmental analysis and compliance with established permitting processes. Activities generally excluded from ROW corridors include mineral material sales, range and wildlife habitat improvements involving surface disturbance and facility construction, campgrounds and public recreational facilities, and other facilities that would attract public use. New oil and gas wells will be sited outside these designated ROW corridors.

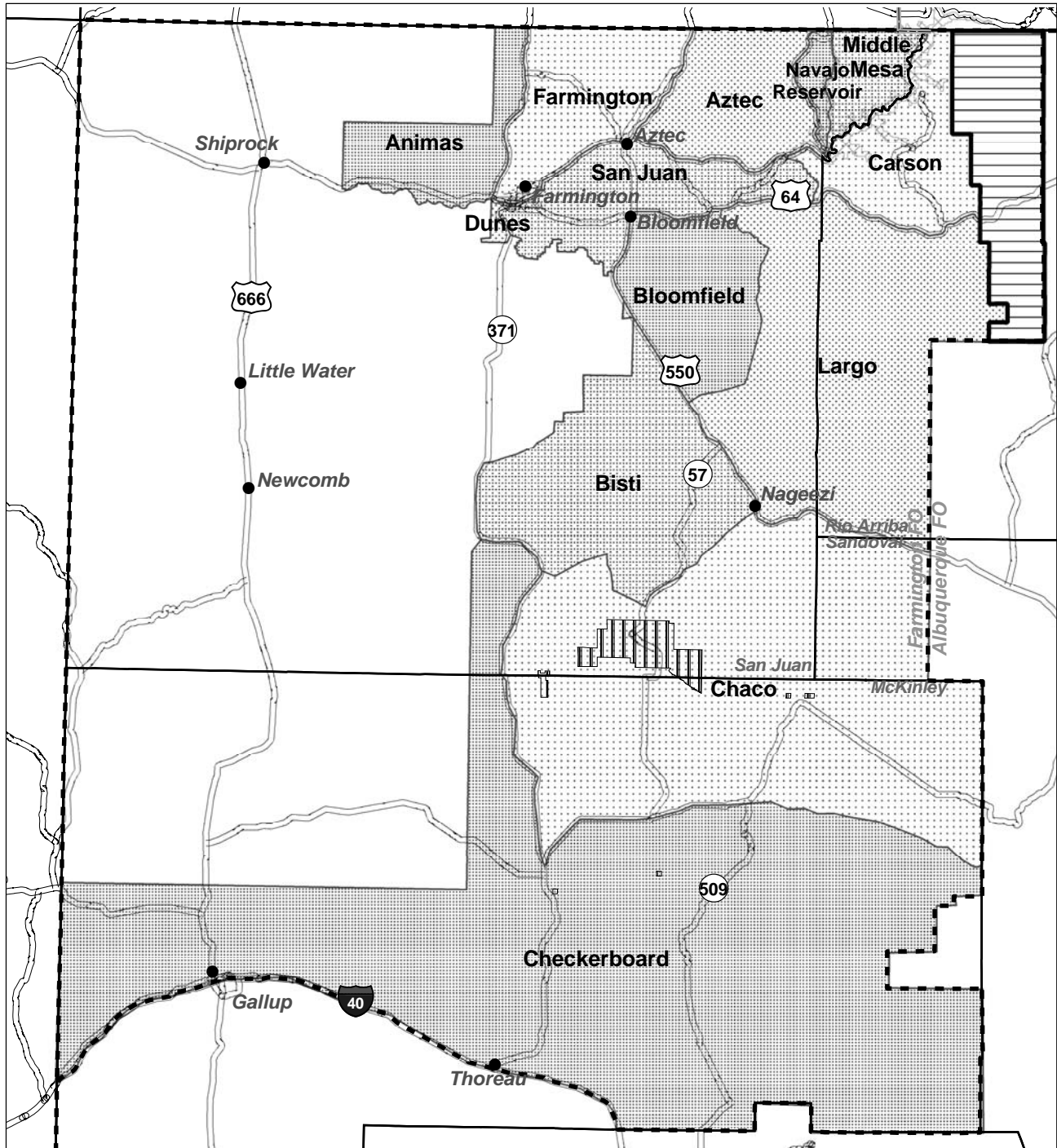
Roads and Access

The FFO does not have an active easement acquisition program, largely due to the numerous oil and gas service roads located throughout the FFO area that have historically been open to the public. The few easements that may be acquired each year generally provide legal access to BLM-initiated rangeland improvement projects and recreation areas.

The FFO has designated 13 OHV Management Units, shown on **Map 4**, to serve as the basis for maintenance and transportation planning. The FFO will complete the inventory of the existing road system to identify the major collector roads that could serve as the backbone for the long-term road network. After the inventory has been completed, the FFO will continue the process to classify and designate all levels of roads within the system based on traffic levels, type of use, condition, and other criteria.

The FFO will continue to support the San Juan Basin Public Roads Committee that includes members from the oil and gas industry and the FFO. The committee has a set of bylaws that address the issue of road maintenance on BLM system roads within the San Juan Basin. Under this agreement, 95 percent of the cost for system road maintenance will be paid by the oil and gas industry. FLPMA enables the use of cost-share authorizations to provide the financing by users for road construction and maintenance. BLM will still incur the cost of upgrading and maintaining system roads that access federal facilities through the Deferred Maintenance and Capital Improvement Process.

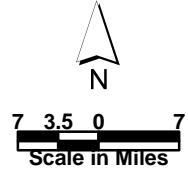
To address issues of unnecessary roads and road maintenance as well as problems with reclamation of abandoned roads, the AFO will establish a road management unit in the Lindrith/Cuba area similar to those established in the FFO. This will help the BLM, the county, and industry to coordinate efforts to maintain roads and reduce road related impacts to watersheds.



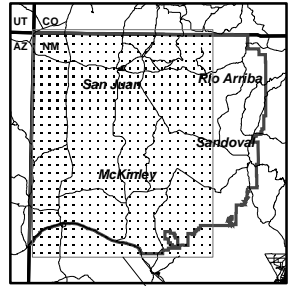
LEGEND

- Bisti** OHV Management Unit*
- Chaco Culture NHP
- Navajo Reservoir
- Carson National Forest
- County Boundary
- BLM Field Office Boundary

- Town
- Major Road
- Interstate Highway
- U.S. Route
- State Highway



Source: BLM FFO



*Individual OHV units are delineated with unique names and shade patterns

Map 4. OHV Management Units

Mitigation Measure Related to Road Construction

Construction and design of roads shall meet the standards specified in BLM Manual 9113 and the Gold Book (BLM and USFS 1989).

Lee Acres Landfill

The Lee Acres Landfill is a closed landfill formerly operated under permit from BLM by San Juan County as a municipal solid waste disposal site from 1962 to 1986. A release of liquid waste and hydrogen sulfide gas caused closure of the landfill due to hazardous material concerns. Evaluations resulted in the landfill being listed on the National Priorities List by EPA. This listing required further assessment and at the landfill. BLM is currently in negotiation with the EPA and New Mexico Environment Department (NMED) to develop a plan to remediate the potential hazardous materials concerns through a ROD under the authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which will guide the final cleanup, monitoring, and implementation of any necessary follow-up actions at the landfill.

In order to assist with the institutional controls required to implement the ROD, the BLM has already withdrawn the 134.68 acres of public land where the landfill is located from settlement, sale, location and entry, as described in Public Land Order No. 7234 (62 *Federal Register* 2177, January 15, 1997). The current withdrawal will remain in effect until January 15, 2047. The withdrawal does not prohibit all activities. Its primary intention is to prevent pumping of groundwater from beneath the site in order to avoid unacceptable risks to human health or the environment. Other activities may occur at BLM's discretion if they do not interfere with protecting public health and environment.

Specially Designated Areas

Objective

The objective of designating SDAs in the FFO is to protect, maintain, and enhance the special resource values on public lands. Areas that have special resource values are identified where some uses may be restricted in order to protect the resources. These areas include public lands such as ACECs, Wilderness Areas (WA), Wilderness Study Areas (WSA), Special Recreation Management Areas (SRMA), and Research Natural Areas (RNA), and other designations such as Wildlife Areas and Riparian Areas.

Management Actions

There are 649,901 acres of areas with special designations and management prescriptions designed to protect specific resource values. This includes 79 cultural resource ACECs, one ACEC for geology, one recreation ACEC, and four ACECs for threatened or endangered species. Also included are two Research Natural Areas, one Wilderness Study Area (also designated as an ACEC), one Wilderness Area, and 30 other areas designated to maintain special management considerations. These areas will be managed according to the management prescriptions listed in Appendix C.

Where two specially designated areas overlap, the more restrictive management prescriptions will apply. For example, even though the management prescriptions for a cultural resource ACEC do not contain a seasonal restriction, if the ACEC overlaps an area with seasonal wildlife restrictions, the seasonal restriction will apply to the overlapping areas.

Additionally, many SDAs have a management prescription that does not allow vegetation manipulation. This could limit the ability of BLM to control noxious weeds or conduct other activities, which may be necessary to improve public land health. Exceptions to this prescription will be allowed when site-specific environmental analysis indicates such treatments are necessary to

maintain or improve public land health or to control noxious weeds, and when it can be demonstrated such treatments will not adversely impact the resources for which the SDA was created.

Apparent discrepancies between GIS data maintained at the BLM New Mexico State Office (NMSO) and FFO records for the amount of federal mineral and surface estate within various SDAs have been identified. The FFO will coordinate with the NMSO to reconcile the differences and the results will be published as part of the annual plan monitoring report. The legal boundaries of the SDAs are maintained on title plats at the FFO.

Recreation

Objective

The objective of the FFO outdoor recreation program is to ensure the continued availability of public land for a diverse array of quality resource-dependent outdoor recreation opportunities. Recreation use is managed to protect the health and safety of visitors; to protect natural, cultural, and other resource values; to stimulate enjoyment of public lands; and to resolve user conflicts.

Management Action

General Recreation Management

Visitor demands and new recreation uses and opportunities will continue to influence how and what recreational opportunities are provided in the FFO area. Most public lands are managed to maintain a freedom of recreational choice with a minimum of regulatory constraints. General management direction for the twelve Recreation SDAs is provided in Appendix C.

Detailed direction for primitive and unconfined types of recreation can be found in management plans for the Bisti and De-na-zin WAs. The two management plans will be replaced by one updated management plan. Recreation opportunities in the WSA will be managed under BLM's Interim Wilderness Management Policy and Guidelines for Lands Under Wilderness Review.

The outdoor recreation program uses the Recreation Opportunity Spectrum (ROS) groupings as the basic tool for inventory and management to ensure the general public a continued variety of quality recreational opportunities. Providing opportunities for backcountry recreation and more developed types of recreation close to major urban areas is emphasized. An effort is made to locate and establish use areas and trails compatible with social and natural environments in close proximity to heavily populated areas. The acreage under each ROS class, to be applied within the Recreation SDAs, is shown in **Table 6**.

Table 6. Recreation Opportunity Spectrum Classifications

ROS Class	Acres ¹
Rural	19,388
Roaded Natural	39,431
Semi-primitive non-motorized/ motorized ²	5,275
Semi-primitive non-motorized	55,978
Primitive	0
Total	120,072
Notes: ¹ Applies to BLM land only.	
² Motorized uses generally apply to mesa top areas. Canyon sides and bottoms are non-motorized.	

A broad range of outdoor recreation opportunities such as backpacking, camping, sightseeing, fishing, boating, picnicking, horseback riding, wildlife viewing, OHV use, mountain biking, and motorcycling is provided for, in an attempt to meet varying public needs. Access is maintained and developed, where necessary, to enhance recreation opportunities and allow public use.

The FFO issues permits for a range of recreational activities annually. These include commercial guide services, hunting guides, competitive events (i.e., mountain bike races, OHV rock crawling events, motocross races, equestrian events), special large group events, and educational activities.

The FFO issues Special Recreation Permits (SRP) to authorize certain recreational uses of lands administered by the BLM. Permits are issued for competitive events, commercial events, and educational use. Commercial use is recreational use of public lands for business or financial gain.

Competitive use is any formally organized or structured use, event, or activity on public land in which there are the elements of competition between two or more contestants, registration of participants, and/or a predetermined course or area is designated. Competitive use also includes individuals contesting an established record such as speed or endurance. Educational use is an academic activity sponsored by an accredited institution of learning.

Off-Highway Vehicles

The FFO has designated 13 OHV Management Units, shown on Map 4, covering the entire field office area. The 13 areas were derived by access routes, entry points, and use patterns for more effective management. A total of 4,616 acres of public land are designated as Open for OHV use, 1,353,301 are designated as Limited to maintained roads, designated trails, routes, and areas except where conditions are determined to be suitable for cross-country travel. Another 57,369 acres are designated as Closed to OHV travel. Closed areas are within SDAs described in Appendix C. Detailed maps indicating the areas under each designation will be available at the Farmington Field Office.

The overall goal of the OHV Management Units is to provide a range of recreational opportunities for the different recreational user groups, while ensuring resource protection and reducing conflicts between other public land users and permit holders. Specific management objectives for each unit will likely vary depending upon site-specific resource conditions and public needs and concerns.

Additional routes, trails, and areas may be identified within the OHV Management Units when OHV Activity Plans are completed for each unit. Unit planning may also change the size or location of areas subject to closure. Within the first 6 months of implementing this RMP, the FFO will complete a prioritized list of areas for site-specific planning in close coordination with the public. The priority of planning will be based on criteria identified in Appendix E. All plans will be completed within 15 years.

Detailed OHV management direction is provided through Recreation Area Management Plans for Simon Canyon ACEC, the Dunes Vehicle Recreation Area, and the Glade Run Recreation Area. The 22,800 acres of OHV use limited to designated routes and 4,600 acres under open designation within the GRTS will continue to apply. A plan completed for Rosa Mesa that limits OHV use to designated maintained roads and seasonal closures on 40,960 acres of public land will continue in effect. (Some previous plans specified prescriptions for Off-Road Vehicles, or “ORVs.” For consistency in terminology, the FFO is using OHV in this and future plans to refer to any motorized or mechanized vehicle. This term will supercede and incorporate any previously approved and continuing guidance for vehicles).

OHV designations are administrative, allowing management flexibility in response to changes in the environment. All public land is designated as “open,” “limited,” or “closed” to motorized vehicles. The designations provide for the following uses:

- Open Area: Areas on public land where OHVs may be operated, subject to the conditions set forth in 43 CFR 8341 through 8344. Open designations generally include areas where there are no compelling resource protection needs, use conflicts, or public safety issues that would warrant limiting OHV use.
- Limited Area: Areas on public land where OHVs may be restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, including the following categories: number of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on maintained roads and trails; use on designated road and trails; and other restrictions. Limitations may be used to meet specific resource management objectives, protect resources or public safety.
- Closed Area: Areas on public land where OHV use is prohibited. Closures may be necessary to protect resources, ensure visitor safety, or reduce use conflicts.
- Emergency OHV limitations of use and closure of areas and trails to OHV use can be assigned under the authority of 43 CFR 8341.2 on a case-by-case basis to prevent or stop unnecessary degradation of resources or adverse effects to other authorized uses. Emergency closures remain in effect only until an interim or standard designation can be made, or until the adverse effects are eliminated and measures to prevent their recurrence have been implemented.

The dispersed recreation areas that could be designated as open to cross-country travel would be further refined as OHV Management Unit plans are developed by FFO staff. Other site-specific screening criteria that could further restrict the potentially open areas will be applied during plan development, including avoidance of cultural resources, sensitive species habitats, riparian areas, and proximity to residences.

To be suitable for cross-country travel, the land must meet the following criteria:

- BLM surface
- Outside an SDA
- Outside a designated disposal area

In the Proposed RMP/Final EIS, approximately 65,800 acres that met the above criteria were determined to be the least susceptible to damage from cross-country travel by applying the additional criteria below.

- Slopes greater than 30 percent
- South-facing slopes steeper than 15 percent
- Seasonal high water table
- Depth to bedrock less than 20 inches
- Highly erodible by wind or water

Each SDA has individual OHV designations (listed in Appendix C), which may be different from and take precedence over the designations in the surrounding OHV Management Unit. Management actions and exceptions within dispersed recreation areas are listed in **Table 7**.

Roads and trails may be classified differently by many individuals due to the variety of terrain, vegetation, and soil types on which they occur. Some ambiguity in trail designations will continue to exist until formal designation of routes, trails, and areas within the OHV Activity Plans is completed.

Table 7. Summary of Dispersed Area OHV Cross-Country Issues and Exceptions

OHV Issue	Management Action
Cross-Country Travel	Permitted in certain designated SDAs.
Emergency Use	Allowed.
Administrative Use	Allowed unless specifically prohibited.
Lease and Permit Holders	Not allowed unless specifically authorized.
In Proximity to Residences	Not allowed within ½ mile of any residence unless on a maintained road or a designated trail or route.
Wetlands and Riparian Areas	Prohibited. Travel limited to maintained roads.
Exceptions for OHV Cross-Country Travel	
Camping	Cross-country travel for camping is allowed within 300 feet of roads by the most direct route, after site selection by non-motorized means.
Dry Washes	Allowed unless specifically prohibited for protection of other resources.
Game Retrieval	Allowed by the most direct route unless specifically prohibited.
Disabled Access	Allowed per provisions of Rehabilitation Act.
Firewood and Christmas Tree Collection	Not allowed unless specifically authorized by permit.

In particular, it is difficult to provide one definition of motorized, wheeled cross-country travel to fit all situations that might occur. Cross-country travel is defined as wheeled, motorized travel by any vehicle, recreational or other, off of roads and trails. This definition only applies to cross-country travel in the dispersed area and not to cross-country travel within the SDAs and ACECs. Further clarification is provided below.

Motorized travel is considered cross-country when:

- The passage of motorized vehicles depresses undisturbed ground and crushes vegetation.
- The motorized vehicle maximum width (the distance from the outside of the left tire to the outside of the right tire or maximum tire width for motorcycles) does not easily fit the road or trail profile. However, an all-terrain vehicle traveling within a two-track route established by a pickup truck is not considered cross-country travel.
- Motorized vehicles use livestock and game trails, unless the trails are clearly evident, or continuous single-track routes used by motorcycles over a period of years.

Motorized travel is not considered cross-country when:

- Motorized vehicles use constructed roads that are maintained by the oil and gas industry and/or the BLM, unless specifically closed to use through signing and/or gates. Constructed roads are often characterized by a road prism with cut and fill slopes.
- Motorized vehicles use trails specifically designated for the vehicle being used. For example, this would include the single-track trails within SDAs that are designed for motorcycles.
- Motorized vehicles use clearly evident two-track and single-track routes with regular use and continuous passage of motorized vehicles over a period of years. A route is a track where perennial vegetation is devoid or scarce, or where wheel tracks are continuous depressions in the ground, evident to the casual observer, but are vegetated.

- Travel is within a dry wash or arroyo that is as wide as the motorized vehicle’s maximum width and there are no other resource concerns such as riparian areas or springs.

Seven trails have been identified in four of the OHV Management Units (**Table 8**). The general location of these trails is shown in **Map 5**. The final alignment and use of the proposed trails will be determined when individual OHV Activity Plans are developed. Additional routes, trails, and areas may be identified, as plans are developed for each OHV Management Unit. Plans will be written based on the priority of resource protection needs and the amount of public use, and will include environmental review and public involvement. The individual OHV Activity Plans should be completed within 15 years.

Table 8. Proposed Multi-Use Trails

OHV Unit	Trail	Length (miles)
Farmington	Bohanan Canyon	19.7
	Kiffen Canyon	13.4
Aztec	Aztec to Alien Run	6.7
San Juan	Aztec City	12.1
	Bloomfield	9.4
	Horn Canyon	19.7
Bloomfield	Kutz Canyon	12.6

BLM-authorized vehicle access to inholdings in the northern portion of the De-Na-Zin may be permitted using the route to the former life estate located in T. 24 N., R. 11 W., Section 7 (map available at BLM FFO). Authorization would require the inholder to secure all necessary permits and leases, and would require appropriate environmental analysis and implementation of all mitigation measures necessary to minimize impacts to the wilderness area.

Roads identified in the Transportation Plan to remain open for public access when oil and gas development in the area ceases will be included in the individual OHV Activity Plans.

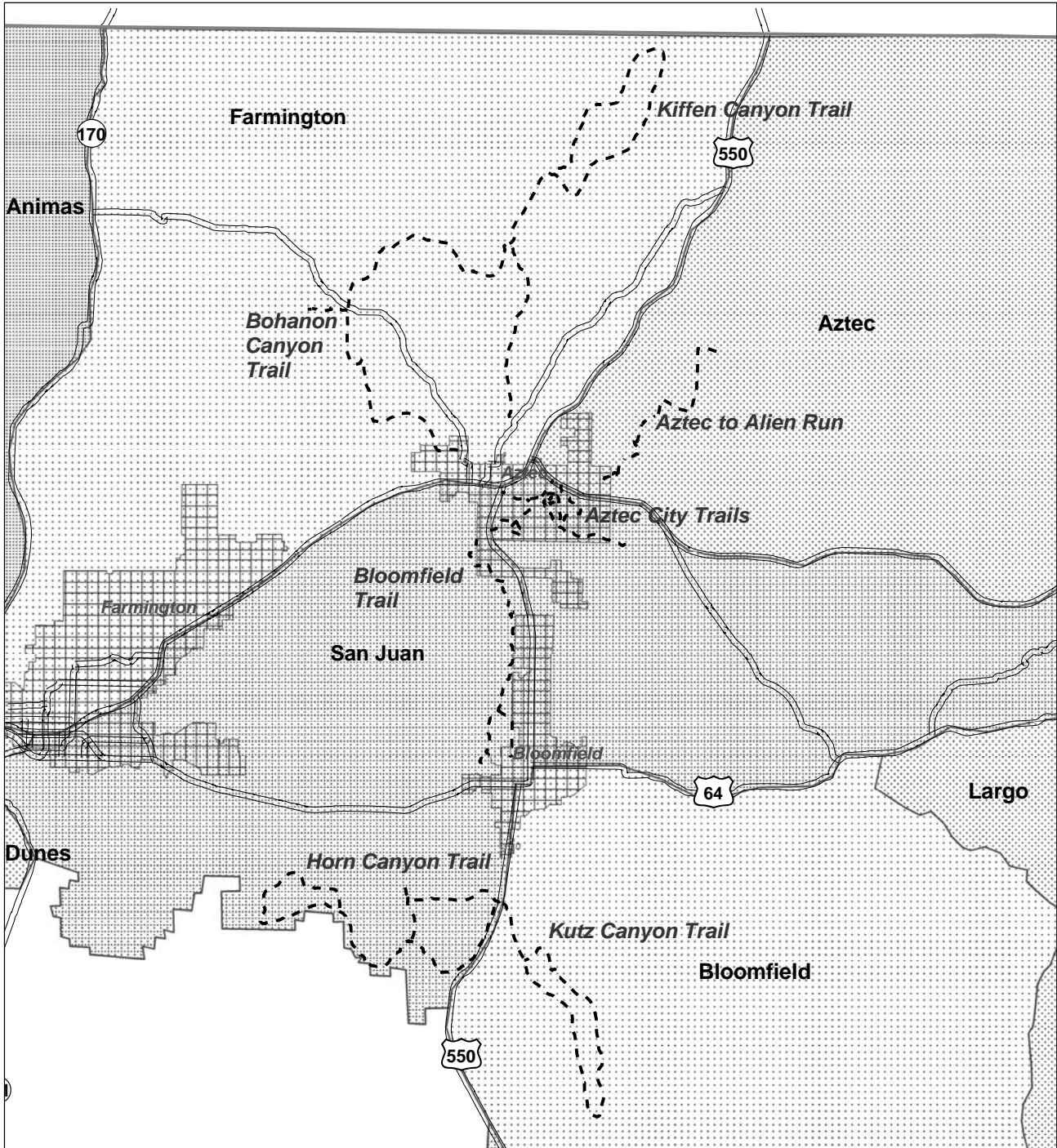
Visual Resources Management

Objective

The objective of the BLM Visual Resource Management (VRM) program is to systematically identify and evaluate these resources to determine an appropriate level of management, then manage all activities to meet that level.

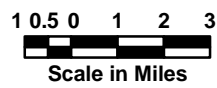
Management Actions

An inventory process is used to develop a scenic quality evaluation, a visual sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes (Class I through Class IV) that acknowledge existing visual contrasts. A VRM class identifies suggested degrees of human modifications that should be allowed in a landscape to protect visual resources, with Class I allowing the least modification and Class IV the most. Visual design considerations are a management responsibility shared by all resource management programs.

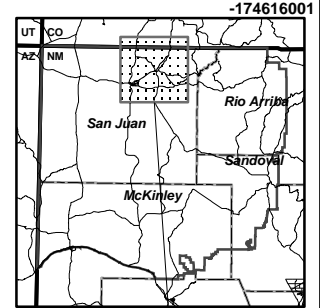


LEGEND

- Trail
- Major Road
- Interstate Highway
- U.S. Route
- State Highway
- Municipal Boundary
- Aztec OHV Units*



Source: BLM FFO



*Individual OHV units are delineated with unique names and shade patterns

Map 5. Location of Proposed Multi-Use Trails

In the Proposed RMP/Final EIS, interim designations were made in the classifications, pending completion of an inventory that meets current BLM guidance. Until the inventory is completed, the list below summarizes the acreage of VRM classes within the FFO area.

Class I:	83,433 acres
Class II:	560,143 acres
Class III:	1,104,717 acres
Class III/IV:	2,323,810 acres

Mitigation Measures

Mitigation measures for visual resources listed below apply primarily to mineral extraction activities and are not all-inclusive. Additional mitigation measures for mineral extraction or other program activities may be developed and implemented as necessary.

- Operators may be required, on a case-by-case basis, to leave a tree screen on one or more sides of a location.
- Above-ground structures are required to be painted in one of 5 colors designated to blend with the natural color of the landscape.
- Permit holders are required to coordinate with the Authorized Officer on the design and color of power poles and transmission lines to achieve minimal practicable visual impacts.
- Permit holders may be required to reconstruct rock rims as near as possible to the original.

Soils and Water

Objective

The BLM's soil and watershed program places emphasis on preventing and/or avoiding further degradation of soil and water resources, as well as their conservation. The program contributes to the success of other resource programs and has a legislation mandate for the protection, restoration, and improvement of these resources.

Management Actions

The 1974 Colorado River Basin Salinity Control Act (as amended, 1984) directs the Secretary of the Interior to "...develop a comprehensive program for minimizing salt contributions to the Colorado River from lands administered by the Bureau of Land Management." Although the BLM is the largest landowner in several subwatersheds of the San Juan Basin, other owners and agencies must be involved in improving environmental conditions. Coordinated Resource Management Plans provide the means for the participation of diverse groups in improving resource management. The FFO will promote the Coordinated Resource Management Plan process within the San Juan Basin to improve resource conditions when opportunities arise.

Soil and water conservation practices will be used to develop site-specific Best Management Practices (BMP) at the project level to prevent or reduce the amount of pollution to a level compatible with water quality goals. Monitoring will be used to determine the effectiveness of BMPs.

The soils program will provide support to other resource activities in the FFO and also continue to emphasize its legislative mandates for the protection, maintenance, and enhancement of the soil resources. It is an important part of the monitoring effort to determine whether the standards for public land health are met.

The BLM's water resource program includes participation with the state and EPA in water quality management. Specifically, the BLM works to ensure that the management and development practices comply with state water quality standards.

The hydrology program will continue to emphasize legislative mandates of protections, maintenance, and enhancement of the resources, as well as to provide support for other resource activities in the FFO area.

All water rights are acquired in accordance with state substantive and procedural law, except where Congress or the Executive Branch has created a federal reservation with a reserved water right.

Mitigation Measures

Various techniques will be employed to reduce soil erosion. Most measures focus on reducing the amount of surface disturbance, protecting disturbed soils from water or wind erosion, and restoring natural vegetation as soon as possible. Site-specific practices will be attached to the COAs attached to each APD, or to any other permit issued by the FFO. Depending upon the site-specific situation, the chief mitigation measures to be employed include the following:

- Operators are required to submit a plan of reclamation to the BLM.
- Clearing, grading, and other disturbance of soil and vegetation is limited to the minimum area required for construction.
- Any roads used exclusively for construction purposes shall be adequately closed to all vehicular travel and rehabilitated after completion of construction.
- Topsoil removed during construction will be stockpiled and used in reclamation.
- Sidehill cuts of more than 3 feet vertical are not permitted. Areas requiring cuts greater than this will be terraced so none are greater than 3 feet.
- Disturbed areas shall be mulched as designated by the Authorized Officer.
- Disturbed areas will be reseeded following specifications using designated seed mixtures within one year of final construction.
- No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 6 inches deep, the soil shall be deemed too wet to work.
- All roads will follow Gold Book standards (BLM and USFS 1989).

In addition to those measures listed above, the following mitigation measures will be applied, as appropriate, to protect surface water and groundwater from the impacts of surface disturbance:

- Drilling pits will be lined with an impervious material at least 8 mils thick.
- Mud and blow pits will be constructed so as not to leak, break, or allow discharge of liquids or produced solids.
- Washes shall be diverted around well pads.
- Culverts of sufficient size (minimum 18 inches) will be placed where drainages cross access roads.
- Low water crossings shall be constructed in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossing.
- Full compliance with all applicable laws, regulations and Onshore Orders is required. (Onshore Order No. 2 requires protection of all useable aquifers when casing and cementing oil and gas wells.)

- Prior to approval of a well location within 500 horizontal feet of the high water line of Navajo Reservoir (elevation 6,085 feet), it must be examined by USBR and the potential impacts to water quality determined.

Air Quality

Objective

BLM actions and use authorizations will comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans.

Management Action

Prior to implementation, all BLM-initiated or authorized activities within non-attainment areas must undergo a determination (when applicable) of conformity with the National Ambient Air Quality Standards (NAAQS) according to the General Conformity Rule (40 CFR Part 93.150). The New Mexico Air Quality Bureau (NMAQB) is responsible for enforcing the state and national ambient air quality standards in New Mexico. Any emission source must comply with the NMAQB regulations.

The counties in the planning area are classified as in attainment of all state and national ambient air quality standards, although ozone levels in San Juan County are approaching nonattainment. BLM joined with other agencies and stakeholders to form the Four Corners Ozone Task Force in order to seek monitoring and mitigation strategies to avoid significant air quality impacts and will continue to support this process. When appropriate mitigation measures are identified by this inter-agency group, the BLM will establish them for existing oil and gas operations through the use of NTLs and enforce their implementation. Companies applying for APDs may be required to evaluate the use of new technology to reduce surface disturbance with its consequent impacts on air quality.

Mitigation Measures

All air pollutant emissions from future federally conducted or approved activities under the Farmington RMP shall comply with all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans. Potential air quality impacts will require special mitigation. The air quality analysis produced for the Farmington Proposed RMP/Final EIS updates the cumulative basis for the region. Unless ongoing monitoring and additional modeling indicate otherwise, the following mitigation measures are required.

- **Emissions Control (Construction):** The Proposed RMP/Final EIS determined that significant air quality impacts would not occur during construction based on a detailed analysis performed for the *Oil and Gas Development on the Southern Ute Indian Reservation: Final Environmental Impact Statement* (BLM 2002a). However, the analysis for the Southern Ute Tribe assumed that no more than four wells would be constructed concurrently, each within one-half mile proximity to another. Since the Farmington RMP allows for more dense well development (i.e., 1/4-mile proximity), construction shall be limited to only four wells concurrently in any given square mile, with each well no closer than one-half mile to another. This measure is necessary to assure that construction impacts will comply with applicable air quality regulations.
- **Emissions Control (Wellhead/Field Compressors):** If appropriate control measures that can be applied as mitigation measures have not been recommended through the Clean Air Action Plan process by July 1, 2004, interim mitigation will be instituted. New and replacement wellhead compressors will be required to limit their NO_x emissions to less than 10 grams per horsepower-hour. This requirement would apply to all new and replacement compressor engines, unless the proponent can demonstrate (using air pollutant dispersion modeling) that a specific higher emission rate would not cause or contribute to an

exceedance of any ambient air quality standard. This measure is intended to substantially reduce the level and extent of project emissions to form ozone throughout the project region. Implementation of this measure would also eliminate the predicted significant near-field 24-hour nitrogen dioxide impacts (to the 24-hour nitrogen dioxide New Mexico Ambient Air Quality Standard and annual nitrogen dioxide PSD Class II Increment, as well as the assumed 8-hour ozone National Ambient Air Quality Standard, PSD Class I increment and visibility impacts in downwind mandatory federal PSD Class I Areas) estimated to occur from project emission sources, as presented in the Proposed RMP/FEIS.

- **Emissions Control (Sales/Pipeline Compressors):** If appropriate control measures that can be applied as mitigation measures have not been recommended through the Clean Air Action Plan process by July 1, 2004, interim mitigation will be instituted requiring that each sales (pipeline) compressor station added to the planning area shall limit its total nitrogen oxides emissions to less than 1.5 grams per horsepower-hour. This requirement applies to all new and replacement compressor engines, unless the proponent can demonstrate (using air pollutant dispersion modeling) that a specific higher emission rate would not cause or contribute to an exceedance of applicable air quality regulations. Again this measure would reduce the potential for significant impacts to air quality.
- **Participation in the Four Corners Regional Ozone Task Force:** The BLM shall continue to participate in the Four Corners Regional Ozone Task Force, in order to continue its support of the San Juan County Early Action Compact (EAC) with local governments in San Juan County, the New Mexico Environmental Department, and the Environmental Protection Agency. The EAC process will study ozone formation processes in the region and determine the effects that future growth will have in order to ensure that the area continues to comply with the national 1- and 8-hour ozone standard in San Juan County. It is anticipated that the EAC group will finalize the emissions reduction process in a Clean Air Action Plan (CAAP) that they propose to submit to the EPA for their review by March 31, 2004. Therefore, project emission sources may be subject to future CAAP emission control measures that are more stringent than the nitrogen oxides emission mitigation limits identified above. Additionally, as the Ozone Task Force makes specific recommendations, the BLM will incorporate those recommendations within its legal authority as mitigation measures under 43 CFR 3162.1. Finally, BLM shall assist the NMAQB and EPA to monitor actual ozone conditions throughout the EAC process. Implementation of this measure is intended to prevent assumed future violations of the 8-hour ozone National Ambient Air Quality Standard, as presented in the Proposed RMP/Final EIS.
- **Expanded Regional Cumulative Air Quality Impact Assessment:** BLM shall perform a regional cumulative far-field analysis of potential PSD Class I increment, atmospheric deposition, and visibility impacts as part of the planned “Northern San Juan Basin Coalbed Methane Development EIS” air quality impact assessment. Implementation of this measure is intended to further define potential regional cumulative air quality impacts at down-wind mandatory federal PSD Class I Areas based on assumed development patterns under the Farmington Proposed RMP/Final EIS. Based on the outcome of the regional analysis, additional mitigation may be required.

For any proposed coal mining associated with the RMP, including increases in current extraction or use, the BLM will coordinate with all appropriate agencies of state, federal, and tribal governments to ensure compliance with laws and regulations. Project specific dispersion modeling and an environmental assessment will be prepared with the opportunity for public input. Air quality will be examined in cooperation with the NMAQB, following applicable permit procedures.

Invasive Weed Management

Objective

The objective of the FFO weed management program is to detect invasive plant species populations, prevent the spread of new invasive populations, manage existing populations using the tools of integrated weed management, and eradicate invasive populations, using the safest environmental methods available. Prevention and management of invasive plants assists in improving the health of public lands.

Management Action

The FFO will inventory existing infestations, and plan for the prevention of noxious weed invasion, monitoring of revegetation efforts for invasive weeds, and assessment of the success of weed control efforts.

The plan developed for the FFO includes the following program procedures.

- Prevention and Detection—develop a prevention and early detection program.
- Education and Awareness—generate internal and external support for noxious weed control. The FFO has a one-week invasive plant workshop at San Juan College in July.
- Inventory—ensure that adequate baseline data are available on the distribution of weeds.
- Planning—include provisions for noxious weed management in all BLM funded or authorized actions.
- Integrated Weed Management—determine the best methods for an integrated approach to weed management and implement on-the-ground operations.
- Coordination—ensure management for noxious weeds is carried out efficiently and consistently across jurisdictional and political boundaries. San Juan County is in the process of forming a weed management team that consists of members from the BLM, San Juan County officials, Cities of Farmington, Aztec, and Bloomfield, BIA, and San Juan College.
- Monitoring, Evaluation, Research, and Technology Transfer—ensure sufficient data are available to evaluate management actions, provide a basis for making informed decisions, assess progress towards management objectives, and develop new and more effective management methods.

For all actions on public lands that involve surface disturbance or rehabilitation, reasonable steps would be required to prevent the introduction or spread of noxious weeds, including requirements for using weed seed-free hay, mulch, and straw.

Wildlife

Objective

The objectives of BLM’s wildlife management program are to ensure optimum populations and a natural abundance and diversity of fish and wildlife values by restoring, maintaining, and enhancing habitat conditions for consumptive and non-consumptive uses.

Management Action

Wildlife management emphasizes the perpetuation of a biologically diverse plant and animal community. Priority wildlife management activities conducted in the FFO include big game management and surveys to determine game population size and health. The FFO also determines the numbers, habitat needs, and distribution of non-T&E bird species including migratory songbirds. The protection and enhancement of wildlife habitat is accomplished through an aggressive program of habitat improvement projects, designation of SDAs with wildlife friendly management

prescriptions, and the application of mitigation measures on key wildlife lands where oil and gas reserves are being developed. Stipulations on oil and gas activities are applied to mitigate the impacts on wildlife. The FFO administers a small amount of fisheries habitat on small, relatively isolated tracts of public land mostly along the San Juan River.

The FFO will continue the monitoring program, initiated in 1999, to assess the status of avian species utilizing the key habitat types common to the FFO area. This monitoring effort consists of conducting point count surveys during the spring breeding period and during the winter in the following habitat types: piñon-juniper; ponderosa pine/piñon pine/Gambel's oak; riparian (cottonwood, willow, saltcedar); Wyoming big sagebrush/grass (untreated); and Wyoming big sagebrush/grass (treated).

The piñon-juniper and Great Basin Desert Scrub plant communities in the northeastern part of the planning area provide habitat for herds of wintering and resident populations of mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus*). Mule deer and elk are found most often on FFO land north of US 550, and are much less common south of the highway due to the lack of suitable habitat (BLM 1988). Deer and elk population density on FFO land varies by location and time of year.

Several small populations of pronghorn antelope (*Antilocapra americana*) reside in the area north and east of US 550 near Angel Peak and Ensenada Mesa. There are also remnants of a once-thriving population of antelope in the Twin Mounds area, declining over the past 10 years. Studies are currently in progress to determine the cause of this decline. Mountain lion (*Felis concolor*) and black bear (*Ursus americanus*) also occur in the planning area. The mountain lion population in the FFO area appears to be doing well, supported by the NMDGF harvest quota for the 2001-2002 season for Game Management Units 2 and 7, set at 11 lions. Reports of black bear in the FFO area are infrequent, with no open hunting season.

Habitat management plans (HMP) or activity plans will be developed for wildlife management areas, especially the six Wildlife SDAs without plans, described in detail in Appendix C.

HMPs developed for Rattlesnake Canyon and Crow Mesa SDAs (BLM 1997, 1999b) will be implemented. These areas are characterized by deep canyons, piñon-juniper woodlands with stringers of ponderosa pine, and areas dominated by big sagebrush. The objectives of these HMPs are to increase the year-round resident mule deer and elk populations, contribute to the stabilization of the watersheds, and improve the existing biological diversity. Actions planned for these areas include improving the quantity and quality of forage, water, and protective cover for deer and elk, and increasing ground cover to reduce soil erosion (BLM 1997, 1999b). The condition of wildlife habitats are affected by the multiple uses of the land, including mineral extraction, livestock grazing, recreation activities, and fire management.

Mitigation Measures

In addition to the measures already listed under Soils and Water Resources above, mitigation measures to protect or restore wildlife habitat include the following:

- No hardwood tree with a diameter of 10 inches or more at the base or any ponderosa pine, Douglas fir, or aspen tree is to be removed or damaged without approval from the Authorized Officer.
- Use of pesticides and herbicides shall comply with applicable federal and state laws.
- Permit holder shall be responsible for weed control and selective control of invasive weeds on disturbed land and reclaimed areas within the limits of the well pad, associated road, and pipeline ROW.

- Permit holder is responsible for consultation with the Authorized Officer and/or local authorities for acceptable weed control methods within limits imposed in the COAs.
- Designated Antelope Habitat: In order to protect important antelope fawning habitat, exploration, drilling and other development activity will be allowed only during the period from May 1 through July 15. Limitation does not apply to maintenance and operation of producing wells. Exception to this limitation may be, specifically authorized in writing by the Authorized Officer of the Federal surface management agency.
- Elk Calving Habitat: In order to protect important seasonal wildlife habitat (elk calving range), exploration, drilling and other development activity will be allowed only during the period from July 15 through November 30. This limitation does not apply to maintenance and operation of producing wells. Exception to this limitation may be specifically authorized in writing by the Authorized Officer of the Federal surface management agency.
- Seasonal restrictions are applied to prohibit surface disturbance in key habitats for deer.
- Permanent or temporary pipelines for water disposal will be installed as early as possible to eliminate excessive truck traffic in sensitive wildlife areas. Exceptions may be considered on a case-by-case basis.
- All unguarded pits containing liquids will be fenced with woven wire. All fencing must be in accordance with New Mexico State Law.
- Unless otherwise agreed to by the Authorized Officer in writing, powerlines shall be constructed in accordance to standards outlined in “Suggested Practices for Raptor Protection on Powerlines” (Olendorff et al. 1981).
- No construction, drilling, or completion activities shall be conducted between March 1 and June 30 in buffer zones surrounding active raptor nests.
- In key areas, where practical, well data may be required to be transmitted electronically to reduce vehicle traffic and wildlife disturbance.

Special Status Species

Objective

The objective of the program is to comply with federal and state requirements for protection of threatened and endangered species and their habitat, as well as to protect the habitat of sensitive, non-listed species to prevent the need for listing them as threatened or endangered.

Management Action

Currently, there are five endangered, three threatened, and one proposed species that occur, or have the potential to occur on lands managed by FFO (**Table 9**). In addition, the USFWS has designated portions of FFO lands as critical habitat for the Mexican spotted owl and the Colorado pikeminnow.

Not all rare species receive the legal protection of the ESA of 1973, as amended. These species may not be rare enough to warrant protection under ESA, or there may not be sufficient data collected about the species for the USFWS to make a determination to list under ESA. Rare species or species with insufficient data are often listed as special status species. Federal land management agencies are mandated to manage special status species so that they should not need to be listed under ESA in the future.

Table 9. Federally Listed, Proposed, and Candidate Species and Critical Habitat that Occur or Potentially Occur in the Planning Area

Species	Status ¹	Comments
Knowlton's cactus <i>Pediocactus knowltonii</i>	E	Endemic to New Mexico on rolling gravel hills in the piñon-juniper/sagebrush plant community. Entire wild population is fenced and protected from disturbances.
Mesa Verde cactus <i>Sclerocactus mesae-verdae</i>	T	Found in soils derived from Mancos, Fruitland, and Lewis shale. Largest population on Ute and Navajo tribal lands. All populations on lands managed by FFO are protected in the Hogback ACEC.
Mancos milkvetch <i>Astragalus humillimus</i>	E	Found in piñon-juniper woodlands and desert shrublands on sandstone rimrock ledges and mesa tops in San Juan County and adjacent Colorado. All populations on lands managed by FFO are protected in the Hogback ACEC.
Colorado pikeminnow <i>Ptychocheilus lucius</i>	E	Inhabits sections of the San Juan River and other rivers in the upper Colorado River basin. No wild Colorado pikeminnows have been detected in the planning area.
Colorado pikeminnow designated critical habitat	N/A	Colorado pikeminnow designated critical habitat consists of portions of the San Juan River beginning at the NM Highway 371 bridge in Farmington and continues downstream to Lake Powell.
Razorback sucker <i>Xyrauchen texanus</i>	E	Inhabits sections of the San Juan River and other rivers in the upper Colorado River basin. No razorback suckers have been detected in the planning area.
Bald eagle <i>Haliaeetus leucocephalus</i>	T	Bald eagles migrate through and winter in the planning area. Important habitats used by the eagles are protected and managed under FFO land use planning decisions and the Bald Eagle ACEC activity plan of 1992.
Mountain plover <i>Charadrius montanus</i>	PT	Endemic grassland species in the western U.S. Nine breeding records in the planning area from 1970 to 1999. Suitable nesting habitat on FFO lands has been identified and special management stipulations are attached to permits. May nest on AFO land but not confirmed.
Mexican spotted owl <i>Strix occidentalis lucida</i>	T	Found in the southwestern U.S., principally in New Mexico and Arizona. After extensive surveys, no nesting has been confirmed of FFO or AFO.
Mexican spotted owl critical habitat	N/A	Critical habitat designated in 2001. All designated critical habitat in the planning area is located within the boundaries of the proposed Mexican Spotted Owl ACEC.
Yellow-billed cuckoo <i>Coccyzus americanus</i>	C	Western subspecies breeds in Arizona, California, and New Mexico. Nests in cottonwood/willow riparian habitat along rivers. Recent data indicates it is very rare in the San Juan River valley. Potential habitat on FFO land was surveyed for this species in 2002.
Southwestern willow flycatcher <i>Empidonax trailii extimus</i>	E	No breeding southwestern willow flycatchers (SWWF) have ever been detected in the planning area. All designated potential SWWF habitat is protected and managed under the guidelines of the Southwestern Willow Flycatcher Habitat Management Plan of 1998.

Sources: Nicholopoulos 2001, BLM 1995a, BLM 2000c, BLM 2000d.

Notes: ¹ E = endangered, T = threatened, PT = proposed threatened, C = candidate species.

Lists of special status species are maintained by several agencies including the USFWS, BLM, USFS, and the State of New Mexico. There are 36 special status species that may have the potential to occur in the planning area (**Table 10**). FFO has coordinated with the other agencies to determine which of these 36 species warrant special management, or field studies to collect data.

Table 10. State Listed and Other Special Status Species that Occur or Potentially Occur in the Planning Area

Species	Status ¹			Comments
	USFWS Species of Concern ²	BLM Sensitive Species	State	
Plants				
Acoma fleabane, <i>Erigeron acomanus</i>	X	X	SOC	Grows in sandy soil at base of Entrada sandstone cliffs. Endemic to McKinley County on and in area of FFO and AFO land.
Aztec gilia, <i>Aliciella formosa</i>	X	X	E	Grows in salt desert shrublands on soil from Nacimiento Formation. Known from San Juan County in New Mexico on FFO land in tri-cities area.
Bisti fleabane, <i>Erigeron bistiensis</i>	X	X		Found in Great Basin desert scrub on soils from Ojo Alamo Sandstone Formation.
Brack's fishhook cactus, <i>Sclerocactus cloveriae</i> var. <i>brackii</i>	X	X		Occurs on sandy-clay hills of the Nacimiento Formation in desert scrub habitat.
Knight's milkvetch, <i>Astragalus knightii</i>	X	X	SOC	On rimrock ledges of the Dakota Formation in conifer woodlands. Known only from the Mesa Prieta area of the middle Rio Puerco on AFO land and could occur in the planning area.
Parish's alkali grass, <i>Puccinellia parishii</i>	X	X	E	Grows in alkali seeps and wetlands in desert scrub. Occurs on AFO land in Sandoval County, possibly within the planning area.
Ripley's milkvetch, <i>Astragalus ripleyi</i>	X	X	SOC	Found from sagebrush to ponderosa pine in Rio Arriba and Taos counties in New Mexico and adjacent Colorado. Could occur on FFO land. Not detected on the Jicarilla Ranger District during species-specific surveys.
Sivinski's fleabane, <i>Erigeron sivinskii</i>	X	X	SOC	Inhabits steep barren shale slopes of the Chinle Formation in coniferous woodlands in McKinley County, New Mexico and Apache County, Arizona. Occurs in the southern part of FFO land.
New Mexico silverspot butterfly, <i>Speyeria nokomis nitocris</i>	X	X		Found in moist habitats around marshes and along streams in southwestern U.S. May occur, but not confirmed, in riparian habitats on FFO and AFO lands.

Species	Status ¹			Comments
	USFWS Species of Concern ²	BLM Sensitive Species	State	
San Juan checkerspot butterfly, <i>Euphydryas anicia chuskae</i>	X	X		Found at high altitudes in alpine tundra and pine forests in the Chuska Mountains in McKinley, San Juan Counties in New Mexico, Apache County, and Arizona. Not likely to occur on FFO land.
San Juan tiger beetle, <i>Cicindela lengi jordai</i>	X	X		Found along sandy washes in May and June in parts of San Juan County. May occur on FFO land.
San Ysidro tiger beetle <i>Cicindela willistoni funaroii</i>	X	X		Found on mudflats from mid-July to August in New Mexico and Arizona. Could occur on mudflats on FFO and AFO lands.
William Lar's tiger beetle, <i>Cicindela fulgida williamlarsi</i>	X	X		Found along streams and on mudflats in June and July in Arizona and New Mexico, and may occur on FFO and AFO lands.
Roundtail chub, <i>Gila robusta</i>	X	X	E	Historically occurred in the San Juan, Zuni, San Francisco, and Gila River drainages. Currently, rare in the San Juan River but it may occur in area of FFO river tracts.
American and arctic peregrine falcons, <i>Falco peregrinus anatum</i> and <i>F. p. tundrui</i>	X	X	T	The American peregrine falcon nests in the western and eastern U.S., while the arctic peregrine falcon breeds north of the tree line. The American peregrine falcon nests in New Mexico and both subspecies migrate through the state. There are three nest sites on FFO land but it is not known to nest elsewhere on the planning area.
Baird's sparrow, <i>Ammodramus bairdii</i>	X	X	T	Breeds in grassland habitat in the northern prairie states and Canada. Likely migrant through FFO and AFO lands.
Black tern, <i>Chlidonias niger</i>	X	X		Breeds in wetlands in the central and western U.S. Is likely a regular migrant that forages over ponds and uses open riparian areas and emergent wetlands on FFO and AFO lands.
Ferruginous hawk, <i>Buteo regalis</i>	X	X		Breeds from the Canadian provinces south to New Mexico in grassland habitat. Five to seven active nests on FFO land recently; may also nest on AFO land in the planning area.
Gray vireo, <i>Vireo vicinior</i>			T	Breeds in much of the southwestern U.S. and Mexico and winters in Mexico. Breeds in piñon-juniper woodlands on FFO land and is fairly common. Also may nest on AFO land and USFS land within the planning area.
Harlequin duck, <i>Histrionicus histrionicus</i>	X			Populations in western and eastern North America. Western population winters along the pacific coast and breeds along rushing mountain stream from Canada south into Wyoming. Accidental in New Mexico and assumed to occur only rarely in planning area.

Species	Status ¹			Comments
	USFWS Species of Concern ²	BLM Sensitive Species	State	
Loggerhead shrike, <i>Lanius ludovicianus</i>	X	X		Breeds throughout much of the U.S. and southern Canada and winters in New Mexico. Is found in the desert scrub and grassland habitat on FFO and AFO lands. May also occur in desert scrub habitat on USFS land within the planning area.
Northern goshawk, <i>Accipiter gentilis atricapillus</i>				Nests throughout North America. In the southwestern U.S., is most often found in ponderosa pine forests. There is one active goshawk territory on the Jicarilla Ranger District, but has not been recorded as a breeding species elsewhere within the planning area.
Western burrowing owl, <i>Athene cunicularia</i>	X	X		Breeds in much of the western U.S. and Canada. Populations in New Mexico consist of breeding and wintering birds. Nests in grasslands and desert scrub habitats in association with prairie dogs or other burrowing rodents. Burrowing owls were observed during wildlife surveys on FFO land and it likely occurs elsewhere within the planning area.
White-faced ibis, <i>Plegadis chihi</i>	X	X		Nests in freshwater marshes from California east into Idaho and Wyoming. May occur in riparian areas or agricultural fields during migration on FFO and AFO BLM lands.
Big free-tailed bat, <i>Nyctinomops macrotis</i>	X	X		Occurs in South and Central America and the southwestern U.S., mostly in New Mexico and Arizona. Found in rugged country that provides crevices generally below 6,000 feet. Was detected at two locations on FFO land and four locations on the Jicarilla Ranger District.
Fringed myotis, <i>Myotis thysanodes</i>	X	X		Occurs throughout the western U.S., including all of New Mexico. Can be found at mid-elevation grasslands, shrublands, and woodlands. Was not detected on FFO land in 1997 and 1998, but was captured 21 times on the Jicarilla Ranger District.
Long-eared myotis, <i>Myotis evotis</i>	X	X		Occurs throughout much of western North America and in New Mexico. Found mostly in coniferous forests. Captured numerous times in FFO land and the Jicarilla Ranger District. Maternity colonies likely occur near some of the capture sites.
Long-legged myotis, <i>Myotis volans</i>	X	X		Occurs over much of the U.S., including New Mexico. Found in coniferous forests from 6,000 to 9,600 feet. Captured numerous times on FFO and Jicarilla Ranger District land. Maternity colonies may be near some capture sites.
New Mexico jumping mouse, <i>Zapus hudsonius luteus</i>	X	X	T	This subspecies occurs in Arizona and New Mexico, where it inhabits herbaceous wetland habitats in valley and mountain areas. It may occur in riparian habitat on FFO and AFO lands.

Species	Status ¹			Comments
	USFWS Species of Concern ²	BLM Sensitive Species	State	
Occult little brown bat, <i>Myotis lucifugus occultus</i>	X	X		Occurs throughout most of the U.S., including most of New Mexico. Usually found in ponderosa pine and oak-pine forests but can be found in most habitats near water. Not recorded during bat surveys on FFO and USFS land but could still occur in these areas.
Small-footed myotis, <i>Myotis ciliolabrum</i>	X	X		Occurs throughout the western and eastern U.S., including New Mexico. Occurs in a wide variety of habitat types. Captured numerous times on FFO land and the Jicarilla Ranger District. Captures were in desert scrub to mixed conifer forest.
Spotted bat <i>Euderma maculatum</i>	X	X	T	Occurs in the western U.S., with historic records from all counties within the planning area. Found mostly in forested habitat but can also be found at lower elevation sites. The spotted bat was audibly detected once on FFO land and once on the Jicarilla Ranger District.
Townsend’s big-eared bat, <i>Plecotus townsendii pallescens</i>	X	X		Occurs in the western U.S., including the western half of New Mexico. Found in a variety of habitats and is closely tied to caves and mine shafts where it roosts and hibernates. Captured at two locations on FFO land.
Yuma myotis, <i>Myotis yumanensis</i>	X	X		Occurs in the western U.S., including all of New Mexico. Found in coniferous woodlands in lower elevation habitats near water. Captured once on FFO land.

Source: Nicholopoulos 2001.

Notes: ¹ FSOC = federal species of concern, SOC = state species of concern, E= endangered, and T= threatened.

² USFWS species of concern have no legal requirements under the ESA.

Six species known to occur in the planning area receive special management: beautiful gilia, also known as Aztec gilia (*Aliciella formosa*), Brack’s fishhook cactus (*Sclerocactus cloveriae* var. *brackii*), American peregrine falcon (*Falco peregrinus anatum*), ferruginous hawk, yellow-billed cuckoo (*Coccygus americanus*), and Golden Eagle (*Aquila chrysaetos*). Potential bat habitat is surveyed before construction projects that impact sandstone cliff faces are authorized. Three years of field work has been conducted to determine the potential abundance of the gray vireo. In the future, FFO will cooperate with other agencies to gather data and develop special management for special status species when the situation warrants.

The FFO has inventoried and monitored golden eagles (*Aquila chrysaetos*), ferruginous hawks (*Buteo regalis*), and prairie falcons (*Falco mexicanus*) since 1981 (Hawks Aloft 1998, 1999a,b,c, and FFO files). A two-year bat survey on FFO land resulted in the detection of 14 species (Gannon 1997, 1998). Surveys for Mexican spotted owls and bald eagle protection will also continue. FFO also monitors raptor nesting and applies special stipulations as outlined in the Raptor Policy of 2000, to protect nesting ferruginous hawk, golden eagle, and prairie falcon. Other nesting raptors observed during proposed project biological surveys are also protected by site-specific stipulations.

Habitat management plans (HMP) or activity plans will be developed for the five Threatened and Endangered Species ACECs. Implementation of the Farmington Southwestern Willow Flycatcher Habitat Management Plan (BLM 1998b) serves to protect FFO lands along the rivers and creates islands of habitat that may improve towards potential willow flycatcher habitat over time. It includes measures to protect potential habitat to ensure that there would be no net loss of potential southwestern willow flycatcher habitat from oil and gas development or other ground disturbance activities.

Mitigation Measures

- No surface disturbance shall be permitted in bald eagle core areas.
- No construction activities shall be conducted between November 1 and March 31 in bald eagle buffer zones, unless approved on a case-by-case basis.
- Golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), and prairie falcon (*Falco mexicanus*) nest sites: No construction, drilling, or completion activities shall be conducted between March 1 to June 30 in a radius of 1/3 mile around active and historic nest sites.
- Mitigation for peregrine falcon nest sites will be determined on a site-specific basis using the principle of designating sensitive zones in which disturbance is seasonally restricted as delineated in Johnson (1994).
- All oil and gas producers will receive a list of sections by legal location that contain established raptor nests. If a producer wishes to install or operate a new compressor between March 1 and June 30 in a designated raptor section, the compressor must not emit more than 48.6 dbA at 300 feet from the compressor or the producer may submit a sundry prior to installing a compressor so the FFO T&E biologist can evaluate the situation and recommend a mitigation solution. The coordinated mitigation solution will not be more stringent than 48.6 dbA at 300 feet.
- All proposed actions within unsurveyed suitable habitat for any current or proposed T&E (state or federally listed) species will require surveys according to the responsible agency's protocol. Restrictions will be placed on surface disturbing activities in suitable habitat until these inventories are complete. The absence of any T&E species must be confirmed prior to approval of any surface disturbing action that may affect the habitat. If a T&E species is found, appropriate restrictions on new development will be imposed to avoid or mitigate adverse impacts. USFWS and affected agency shall be involved in Section 7 consultation, if necessary.
- When individual plants or suitable habitat for Brack's cactus are found during a biological survey for a ground-disturbing project, the company proposing the project will be required to transplant plants from the project area if well relocation or directional drilling are not feasible. Aztec gilia mitigation measures will be implemented on a case-by-case basis.

Riparian Areas

Objective

The BLM's multiple use management results in a variety of activities that can affect the quality and health of riparian areas important to fish and wildlife. The objective of the FFO is to manage riparian areas for restoration and protection to achieve and maintain Proper Functioning Condition (PFC).

Management Action

Recent management guidance is provided in the Riparian and Aquatic Habitat Management Plan (BLM 2000c; BLM 2000d). Riparian and wetland areas are considered to be functioning

properly when adequate vegetation, landform, or large woody debris are present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality. The process used to assess PFC is described in BLM Technical References 1737-9 and 1737-15. PFC is reassessed on a 3-year rotating basis. A binder containing monitoring information, such as PFC results, reassessment schedules, and photo-point monitoring photos, for each designated riparian reach is maintained in the FFO.

HMP or activity plans will be developed for the Ephemeral Wash Riparian Area, which is composed of many small units along designated riparian areas within the FFO administrative boundary. General management prescriptions are described in Appendix C.

Mitigation Measures

- No development activity or surface occupancy shall be permitted in wetland areas (as defined in the *Corps of Engineers Wetlands Delineation Manual* [US Army 1987]). Exceptions may be analyzed in a site-specific environmental assessment. Any wetland acreage destroyed shall be mitigated by the acreage ratio as prescribed by the USFWS.
- A buffer strip of vegetation, width determined on a case-by-case basis, shall be left between areas of surface disturbance and riparian vegetation.
- Minerals under areas of critical concern along the San Juan River, and under or close to Navajo Lake, shall be developed using no surface occupancy and directional drilling. Exceptions may be granted on a case-by-case basis in consultation with appropriate agencies. Any exception to surface occupancy shall have strict additional mitigating measures attached. Seasonal closure(s) for waterfowl and bald eagle wintering may also apply.
- When riparian vegetation cannot be avoided during permitted project, the permittee is responsible to reestablish any riparian vegetation lost during construction. Cottonwoods will be replaced on a 10 to 1 ratio and willows will be replaced on a 3 to 1 ratio. Sediment barrier fences will be constructed to BLM specifications in designated riparian area active channels that may be destabilized due to construction activities, or as off site mitigation to protect the integrity of designated riparian areas.

Wilderness

Objective

The objective of the FFO wilderness program is to protect and manage the Wilderness Area (WA) and the Wilderness Study Area (WSA) in accordance with the non-impairment standards of the Wilderness Act of 1964.

Management Action

Currently, the FFO manages the 44,608-acre Bisti/De-na-zin WA and the 6,653-acre Ah-shi-sle-pah WSA. The Bisti/De-na-zin WA contained three previously designated ACECs: Badlands, Log Jam, and Lost Pine. The ACEC designations were removed during the planning process because the areas are protected and managed as designated wilderness. Existing management plans prepared for both the Bisti and De-na-zin WAs will be replaced by one updated management plan.

The Ah-shi-sle-pah WSA will be managed under the Interim Management Policy and Guidelines for Lands Under Wilderness Review until the area is either added to the National Wilderness Preservation System by Congress or removed from further consideration (BLM 1995b). The purpose of BLM's Interim Management Policy is to protect existing wilderness values, manage valid existing rights and grandfathered activities until final wilderness suitability determinations have been made. If

designated wilderness, the area will be managed under the Wilderness Act of 1964, the enabling legislation, and BLM Wilderness Management Regulations (43 CFR 6300, formerly 8560).

The New Mexico Wilderness Study Report (BLM 1991b) recognized the outstanding wilderness values found in the Ah-shi-sle-pah WSA. However, the report did not recommend the WSA for wilderness designation due to the known coal reserves, the existence of PRLAs on 90 percent of the WSA acreage, the anticipated likelihood of future mineral development, and the potential transfer of 3,094 acres in the WSA to the Navajo Nation. If released from further wilderness consideration, the area would continue to be managed as an ACEC to protect important paleontological, scenic, and recreational values.

Forestry

Objective

The objective of the FFO forestry program is to manage woodlands and timber stands for the production of forest products to support multiple uses and sustained yields. Multiple uses include recreation, timber sales, and harvesting of fuelwood.

Management Action

Timber sales are not active in the FFO area. Restoration projects focus on improving the 7,400 acres of ponderosa pine through cutting or burning the encroaching piñon and juniper.

Fire Management

Objective

The objective of the FFO fire program is to manage and use fire consistent with its natural role in the functioning ecosystem, and the protection of life and property.

Management Action

The Farmington Interagency Fire Program operates with the cooperation of the FFO and the Jicarilla Ranger District. The program guidance is documented in the 2001 Farmington Field Office Fire Management Plan (BLM 2001b), which addresses all fuels management guidance and provides the basis for decisions regarding evaluation and response to wildfires.

All fire management activities must also comply with other federal regulations on wilderness management, T&E species protection, cultural and historic preservation, and air and water quality standards and guidance. During reclamation after a fire, a weed management plan is required.

Lightning causes the majority of wildfires in the FFO area, with fires caused by people, either accidentally or intentionally, as the next major source. The increasing population in the tri-cities area has resulted in an increase in fires in the wildland/urban interface area. Fuel loadings in the urban areas are often moderate, with an occasional area of heavy fuel loadings. With the existing fuel loadings, a wind-driven fire in these areas under dry conditions could threaten structures. Areas containing high fuel loadings, such as cottonwood trees, willows, saltcedar, and alkali sacaton, are usually located on private land. There have been no known fires in either of the WAs during the past 10 years due to the predominance of badlands with little vegetation and scattered stands of sagebrush and grass.

The FFO has agreed to suppress fires on approximately 1.5 million acres of public land, 300,000 acres on USFS land, and under the Joint Powers Agreement, on another 700,000 acres of private, state, and Indian lands where fires may pose a threat to public land.

Rangeland

Objective

The objective of the rangeland program is to promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangeland to properly functioning condition; to promote the orderly use, improvement, and development of the public lands; to efficiently and effectively administer domestic livestock grazing; and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands. The program is working toward improving the overall health of all public lands within the BLM's responsibility.

Management Action

Three major parts of the program are grazing administration, resource inventory and monitoring, and range improvement. Grazing administration consists of issuing and supervising permits and leases that authorize livestock grazing. Related tasks include detecting and abating unauthorized use and supervising allotments. Analyses of resource monitoring and inventory information is used to evaluate and adjust grazing use. Range improvement helps enhance rangeland resource conditions for a variety of uses, including domestic livestock and wildlife forage and watershed protection. Public rangeland will be managed to meet the Standards for Public Land Health (BLM 2000b). If the Standards are not met, guidelines, called the Livestock Grazing Management Practices, offer tools to guide the FFO to improve those areas not meeting the Standards.

Guidelines are reasonable and practical management options, which when applied, move rangelands toward the statewide standards. They are based on science, past and present management experience, and public input. These guidelines will be used to develop grazing management practices to be implemented at the watershed, allotment, or pasture scale.

Specific application of these guidelines occur at the field office level, in consultation, cooperation, and coordination with lessees, permittees, interested public, and landowners. Their implementation is carried out with recognition for the impact that BLM's management objectives have on adjacent landowners. When grazing allotments are planned for disposal, the BLM is required to provide notification to permittees two years in advance.

Guidelines are designed to encourage innovation and experimentation in the development of alternative livestock grazing management practices. They improve rangeland health and consider the natural migration patterns of wildlife. The goals of the Livestock Grazing Management Practices are summarized below.

- Promote native plant health, soil stability, microorganisms, water quality, stream channel morphology, function and habitat for native wildlife including threatened and endangered and special status species.
- Provide the basic requirements of rangeland ecological sites, including allowing for plant recovery and growth; allowing residual vegetation on upland and riparian sites to protect the soil from wind and water erosion, improve infiltration, and improve soil permeability; and improve or restore riparian-wetland functions.
- Use livestock to integrate organic matter into the soil, distribute seeds and establish seedings, prune vegetation to stimulate growth, and enhance water infiltration into the soil.
- Allow for flexibility in season, duration, frequency, and intensity of use.
- Consider climate topography, vegetation, wildlife, kind and class of livestock.
- Give priority to rangeland improvements and land treatments that offer the best opportunity for achieving standards of rangeland health.

- Incorporate the use of other land management practices where needed to achieve the desired plant community, including, but not limited to prescribed fire, and biological, mechanical, and chemical land treatments.
- Use non-native plant species only in those situations where native species are not readily available or are incapable of maintaining or achieving properly functioning conditions and biological health.

Mitigation Measures

Various mitigation measures in the Soils, Water, Special Status Species, Riparian Areas, and Wildlife sections above also serve to mitigate impacts to the rangeland components essential for rangeland health. Additional mitigation measures that are intended to reduce impacts to livestock operators on the rangelands include the following:

- Prior to crossing, using, or paralleling any improvement on public land, the operator shall contact the owner of the improvement to obtain mitigating measures to prevent damage to the improvements.
- All cut fences are to be tied to H-braces prior to cutting. The opening will be protected as necessary during construction to prevent the escape of livestock.
- When construction activity in connection with a ROW breaks or destroys a natural barrier used for livestock control, gaps thus opened shall be fenced to prevent drift of livestock.
- The permit holder is responsible to contact the grazing lessee(s) prior to crossing any fence on public land or any fence between public and private land, and to offer the lessee(s) an opportunity to be present when the fence is cut to ensure the fence is adequately braced and secured.
- Cattleguards may be required when new roads cross existing fence lines.

Cultural Resources

Objective

The BLM's Cultural Resource Management Program is a comprehensive system for identifying, planning the appropriate use of, and managing cultural resources on public lands within areas of BLM responsibility. The major emphasis of the BLM's cultural resource management program objectives involves the protection, preservation, and enhancement of the cultural resources for present and future generations. Both administrative and physical measures are undertaken to ensure these objectives are met. The program objectives include the following:

- Respond in a legally and professionally adequate manner to (1) the statutory authorities concerning historic preservation and cultural resource protection, and (2) the principles of multiple use.
- Recognize the potential public and scientific uses of, and the values attributed to, cultural resources on the public lands, and manage the lands and cultural resources so that these uses and values are not diminished, but rather are maintained and enhanced.
- Contribute to land use planning and the multiple use management of the public lands in ways that make optimum use of the thousands of years of land use history inherent in cultural resource information, and that safeguard opportunities for attaining appropriate uses of cultural resources.
- Protect and preserve in place representative examples of the full array of cultural resources on public lands for the benefit of scientific and public use by present and future generations.

- Ensure that proposed land uses, initiated or authorized by BLM, avoid inadvertent damage to federal and non-federal cultural resources.

Management Action

The program objectives are carried out through two primary program components: protection and utilization. The protection component is concerned with safeguarding and maintaining cultural resources for the public, and includes proactive management activities such as physical protection, preservation, interpretation of cultural resources, and public education. The protection component also provides support to other FFO activities so that the management and development of public lands can proceed in accordance with legal and regulatory requirements. The utilization component is concerned with scientific research and collection management.

Public lands administered by the BLM are inventoried for cultural resources while implementing both program components to meet the legal requirements of taking into account the effect of a federal undertaking on cultural resources. All inventories and site recording are conducted under the guidance and standards found in Handbook H-8100-1. Cultural surveying to identify at-risk cultural sites is part of the cultural resource program under Section 110 of the NHPA, as amended to provide proactive protection in addition to inventories required to meet Section 106 requirements.

The FFO will continue to maintain copies of the investigative records prepared for cultural resources associated with federal undertakings. This information, in conjunction with base maps showing the location of recorded sites and inventoried areas, is used to guide agency decisions regarding appropriate utilization of the resources. The BLM also contributes to the maintenance of a database of recorded sites and surveyed areas, sponsored by the Archaeological Records Management Section of the New Mexico Historic Preservation Division.

The primary purpose of ACEC designation of cultural resources is to provide special management attention to protect and prevent irreparable damage to important historic and cultural values. Management objectives for the ACECs, described in detail in Appendix C, are predominantly related to protection and preservation of the cultural values, with some areas identified for protection of both cultural and recreational values. Special protection from such uses as oil and gas activities, mineral entry, land disposal, vegetation management, and OHV activities is provided to important cultural sites in 79 ACECs encompassing approximately 78,700 acres in the FFO area.

A stabilization program was established in the mid-1970s and remains active. Since then the architecture of 24 Navajo pueblitos and six Chacoan outliers has been documented and stabilized, including emergency stabilization at one historic homestead site. Both administrative and physical protection measures have been undertaken to ensure the long-term preservation of the Chacoan outliers designated as Chaco Culture Archaeological Sites by federal law. In addition to the Chacoan outliers, other Anasazi sites, early Navajo, and historic sites are being actively protected.

The Site Steward Program is an important aspect of the FFO site protection program. The *Site Protection Action List* was prepared by FFO cultural resources staff to identify and establish specific management prescriptions to protect at-risk cultural sites. Specifically, the Site Protection Plan identified management actions to protect site integrity from visitor use and assessed stabilization needs of the ACECs.

The cultural resource program's utilization component "facilitate appropriate scientific use of cultural properties on public lands; to ensure that collections of archaeological materials removed from public lands and records relating to them are maintained in qualified public repositories as U.S. property and are used for appropriate research or educational purposes; and to ensure that the public receives tangible benefits from all uses of public land cultural resources" (BLM Manual

8130—Utilizing Cultural Resources for Public Benefit). Use Category Designations are an assessment by BLM of the appropriate use for a cultural property that is a mechanism for assisting management decisions about land use. Use categories include scientific use, conservation for future use, traditional use, public use, experimental use, and discharge from management.

No sites within the FFO are specifically allocated for experimental use or for discharge from management. Sites that may not be eligible for the NRHP, a significant benchmark for evaluating significance and guiding management decisions, are often disturbed or destroyed during construction. Those that are not destroyed are not otherwise actively managed, but they are not formally discharged from management. Within the FFO, up to 20 percent of the sites documented each year are considered not significant.

The BLM, USFS, and USBR all work in cooperation with the Native American tribes and the Bureau of Indian Affairs to coordinate and consult before making decisions or approving actions that could result in changes in land use, physical changes to lands or resources, changes in access, or alienation of lands. Federal programs are required to be carried out in a manner sensitive to Native American concerns and tribal government planning and resource management programs. The BLM coordination with tribes in preparing and maintaining inventories of the public lands and determining their various resource and other values; in developing and maintaining long-range plans providing for the use of the public lands; and in managing the public lands.

The FFO has a long history of consultation with the Navajo Nation on projects and issues that might affect its people or interests. Consultation has, in the past, included site-specific consultation on projects such as APDs and pipelines in areas of concern to the Navajo Nation. Two sacred areas of particular concern (Cho'li'i' and Dzil'na'oodlii) have received special management emphasis since the 1988 RMP. The 1998 RMP amendment enlarged Cho'li'i' and designated the area as an ACEC. The ROD designated Dzil'na'oodlii as an ACEC as well. Specific management prescriptions are listed for these areas, as well as all cultural ACECs, in Appendix C. BLM will work cooperatively with the Navajo Nation to ensure that any areas of interest are identified in advance of project decisions so site-specific consultations can be targeted.

Mitigation Measures

The following measures apply to situations that may occur during surface-disturbing activities. Others may be developed to apply to site-specific activities and permits, as appropriate to the location.

- **Discovery of Cultural Resources in the Absence of Monitoring:** If, in its operations, an operator/holder discovers any previously unidentified historic or prehistoric cultural resources, then work in the vicinity of the discovery will be suspended and the discovery promptly reported to the BLM Field Office Manager. The BLM will then specify what action is to be taken. If there is an approved “discovery plan” in place for the project, then the plan will be executed. In the absence of an approved plan, BLM will evaluate the significance of the discovery and consult with the State Historic Preservation Officer in accordance with 36 CFR Section 800.11
- **Discovery of Cultural Resources During Monitoring:** If monitoring confirms the presence of previously unidentified cultural resources, then work in the vicinity of the discovery will be suspended and the monitor will promptly report the discovery to BLM Field Office Manager. BLM will then specify what action is to be taken. If there is an approved “discovery plan” in place for the project, then the plan will be executed. In the absence of an approved plan, BLM will evaluate the significance of the discovery and consult with the State Historic Preservation Officer in accordance with 36 CFR Section 800.11.

- **Damage to Sites:** If, in its operations, operator/holder damages, or is found to have damaged, any previously documented or undocumented historic or prehistoric cultural resources, excluding “discoveries” as noted above, the operator/holder agrees at his/her expense to have a permitted cultural resources consultant prepare and have executed a BLM approved data recovery plan. Damage to cultural resources may result in civil or criminal penalties in accordance with the Archeological Resource Protection Act of 1979 (as amended).

Paleontology

Objective

Paleontological resource protection objectives include facilitating research and collection on public lands, use for education and recreation, protecting scientifically valuable resources that may be in conflict with other land and resource uses, and protecting scientifically valuable fossils, as required by law.

Management Action

Paleontological resources are managed on public lands because they are nonrenewable resources of value to scientists, educators, hobbyists, and other members of the public. Without protection, the resources may be intentionally or unintentionally damaged or destroyed, causing valuable information to be lost.

The paleontology program achieves its objectives through the following activities (BLM 1987):

- Identifying and evaluating paleontological resources so they may be adequately addressed in planning and environmental analysis documents.
- Maintaining and conducting an effective and continuing protection program.
- Increasing the awareness of federal land managers and the public regarding the significance of paleontological resources and management requirements, and encouraging public participation in resource management.
- Developing volunteer or cooperative management agreements and associations with individuals, professional paleontologists, local organizations and governments, and the scientific community.
- Avoiding or mitigating impacts to valuable paleontological resources.
- Avoiding publicizing the exact locations of scientifically significant paleontological resources if such attention would conflict with management objectives.
- Managing and issuing collection permits when appropriate.

Eight SDAs to protect important paleontological formations have been established or carried forward within the FFO area. A portion of the Torrejon Fossil Fauna ACEC falls within the FFO area, but is managed by the AFO.

Mitigation Measures

If in the conduct of any surface-disturbing operations, paleontological material is observed, the lessee or operator shall cease any operations that would result in the destruction of such objects and immediately contact the BLM. Further investigation will dictate site-specific stipulations for avoidance or salvage of any significant paleontological resources.

Law Enforcement

The FFO Field Office Ranger will work closely with the Field Manager to prioritize actions in support of resource management objectives. The Field Office Ranger’s responsibilities include

criminal investigations, response to public complaint, surveillance, and patrols of sensitive areas. The law enforcement activities are conducted in accordance with Department and BLM manuals, regulations, and policies.

The BLM Law Enforcement Program works cooperatively with other agencies in the Four Corners Area including the New Mexico State Police, San Juan County Sheriff's Office, Farmington Police Department, New Mexico Department of Game and Fish, Drug Enforcement Administration, Area II Narcotics Enforcement, Chaco Culture National Historical Park, and the Civil Air Patrol.

There are seven areas of emphasis for the Law Enforcement Program in the planning area:

1. Oil and Gas—Activity focuses on the support of the Petroleum Engineering Technicians on the theft of product, vandalism to facilities and equipment, and compliance checks.
2. Cultural Resources—There are many significant cultural resources that are accessible through the road network. Theft and vandalism of these resources are constant threats. Support includes patrol, surveillance, and cooperative information sharing on suspected criminal activity. FFO's law enforcement program is also involved in the investigation of illegal activities and the arrest and prosecution of those caught doing illegal activities.
3. Paleontological Resources—There are pockets of dense, high quality fossils. Both the Bisti and De-na-zin WAs were specifically designed to protect these resources and provide for orderly, scientific investigations. Support focuses on extended patrols of risk areas and recruiting volunteers to assist in providing coverage.
4. Controlled Substances—Controlled substance trafficking, production, cultivation, and use occur within the planning area. Law enforcement efforts focus on maintaining visibility to deter illegal substance activity on the public lands, while continuing close coordination with other law enforcement organizations within the planning area.
5. Vegetation Theft—The illegal cutting and removal of woodland products is seasonal, with demand increasing in the fall. The cutting and vehicle traffic associated with removal damages soil, plants, and wildlife habitats. The theft of endangered species plants threatens their existence. Law enforcement efforts will focus on prevention through education and permitting, patrols, and public support in reporting illegal activity.
6. Employee Safety—Resource specialists work in remote areas, and law enforcement supports safe operations in isolated areas through direct support, overflight safety checks, and provision of safety information and equipment. With awareness of any potential threat of interference, the Law Enforcement Ranger will accompany resource specialists to the field.
7. Recreation—There are numerous and varied outdoor recreation opportunities and activities occurring on the public lands within the planning area, including rafting, swimming, fishing, hunting, horseback riding, mountain biking, backpacking, bird watching, rockhounding, vehicle camping, and OHV use. Law enforcement assists the recreating public with information on special areas, permitting, opportunities, access, and land status. Support focuses on patrol of developed sites, visitor information and education, and coordination with other agencies during special events.

MONITORING

This section describes the monitoring that will be conducted during implementation of the approved RMP.

Land Use Plan Monitoring

BLM will monitor the plan to track implementation of land use decisions and to document progress toward accomplishment of decisions. An annual report will be prepared by the FFO that

will review plan decisions to determine compliance, as well as the effectiveness and validity of decisions.

Resource Condition Monitoring

A variety of monitoring studies are conducted in the FFO to assess the effectiveness of various management and/or mitigation strategies. The amount and extent of monitoring can vary from program to program based on funding and personnel availability. Specific resource monitoring programs will be conducted as described below. Other resource monitoring programs may be developed to address specific issues that occur as plan implementation progresses.

Cultural Resources

- A site stewardship program employing volunteers is used to monitor cultural ACECs.
- Annual monitoring of Chacoan Outliers is conducted to detect natural changes as well as potential threats.

Recreation and Wilderness

- Recreation program personnel monitor organized events to ensure compliance with permit stipulations.
- The Ah-Shi-Sle-Pah WSA is monitored monthly as required by BLM policy.

Wildlife

Wildlife Program personnel conduct the following monitoring studies to provide baseline information for use in impact assessment and evaluation:

- Studies on key browse species to assess the age, form class, and degree of hedging
- Pellet group studies to assess deer days use and trend in elk use within key areas
- Point count bird surveys within key habitat types
- Helicopter surveys to monitor the trend in deer, elk, and antelope numbers
- Vegetative cover and point count bird studies to monitor the effects of thinning, burning, and seeding in a piñon-juniper plant community
- Macro-invertebrate and river substrate monitoring on selected portions of the San Juan River

Special Status Species

Historical inventory and monitoring studies for Mesa Verde cactus, Knowlton's cactus, Mancos milkvetch, bald eagle, southwest willow flycatcher, Mexican spotted owl, and mountain plover are summarized in the Biological Assessment (BLM 2002b) prepared for the Draft RMP/EIS. Other species that have been inventoried or monitored include ferruginous hawk, prairie falcon, golden eagle, peregrine falcon, yellow-billed cuckoo and Aztec gilia. As funding and personnel commitments permit, appropriate monitoring of listed T&E species as well as other Special Status Species will continue.

Riparian

Riparian habitats in the FFO will be surveyed on a 3-year rotating basis to evaluate trends toward proper functioning condition.

Air Quality

Air quality monitoring falls within the authority of the State of New Mexico. The FFO will pursue funding to assist the NMAQB in establishing additional air quality monitoring stations. BLM will assist the NMAQB in conducting air quality monitoring by providing funds and access to public lands for monitoring sites. The ongoing state air quality monitoring program is described in detail on

the New Mexico Environment Department web site: www.nmenv.state.nm.us/ozonetf/. In addition, the FFO, the San Juan Public Lands Center, and appropriate state and federal agencies will work cooperatively to monitor potential impacts to PSD Class I areas in the region.

Invasive Weed Management

Sites where weed control measures have been implemented will be monitored to assess control effectiveness. Monitoring and mapping of invasive weed locations will occur as funds and personnel permit.

Rangeland

As personnel and funding permit, the rangeland monitoring plan will be implemented. Monitoring activities include evaluating actual use of the land, forage utilization, and rangeland trend, applying the standards and guidelines set forth in the Standards for Public Land Health and Guidelines for Livestock Grazing Management (BLM 2000b). Precipitation data will also be collected in selected locations.

CHAPTER 3 PUBLIC INVOLVEMENT

In keeping with the BLM's national Strategic Plan (BLM 2000a), NEPA, and FLPMA, the FFO will seek out opportunities to involve stakeholders in the implementation of this RMP. During development of the RMP/EIS, public interest and concern was clearly expressed on a variety of issues and land use management concerns, some of which were related to the FFO's management of resources and programs, even if they were not directly related to the analysis in the RMP/EIS. It is the intent of the FFO to work in cooperation, consultation, and collaboration with local and state governments, tribes, interest groups, and individuals to achieve and sustain common objectives. The FFO will further this collaboration with the public and interest groups through the activities and organizations described in this section, while looking for new opportunities to obtain public feedback and input for use in land management programs.

RESOURCE ADVISORY COUNCIL

The New Mexico Resource Advisory Council (RAC) provides input on BLM decisions from local community members, concerned citizens, and government officials from all levels. The statewide 15-person board is made up of three groups representing the many different public land users in the state. Its scope includes developing recommendations on the implementation of land use plans; advising the BLM in implementing standards for ecological health, sustainability, and guidelines for resource uses; and advising the BLM in promoting federal, state, and local cooperation in the management of natural resources on public lands. Among the responsibilities of the RAC are gathering and analyzing information, conducting studies and field examinations, and hearing public testimony.

COORDINATED RESOURCE MANAGEMENT PLANNING

The Coordinated Resource Management planning process has been a successful means in the past for facilitating the participation of diverse groups in improving resource management. Coordinated Resource Management is a voluntary, non-regulatory process that uses consensus to discuss and solve resource management issues of interest to landowners, land users, managers, and other interested parties who work together as a team. The FFO will promote this process within the San Juan Basin to improve resource conditions when opportunities arise.

TRIBAL CONSULTATION

The BLM has significant and ongoing consultation obligations and responsibilities with Native American tribes, local and state governments, other federal agencies, and interested groups and individuals. Native American concerns frequently cross-cut program boundaries and involve several programs simultaneously. According to BLM Manual 8160, all BLM staff "are responsible for ensuring that their actions and recommendations do not overlook Native American concerns; for reporting to appropriate officials any Native American concerns that are identified to them; ... and for assisting in the BLM's execution of its Native American coordination and consultation responsibilities."

During development of the RMP, the FFO was made aware of some specific concerns of the Navajo Nation related to mineral leasing and areas of particular importance to Navajo culture. As a result of consultation meetings with BLM and tribal leadership, it was decided that the BLM will work cooperatively with the Navajo Nation to ensure that areas of interest are identified so site-specific consultations can be targeted during implementation of this plan. Efforts also will be made to consult with other tribes with cultural interests in the FFO area.

OTHER STAKEHOLDER COLLABORATIVE ACTIVITIES

FFO minerals and engineering staff will continue to work with the San Juan Basin Public Roads Committee to plan for road maintenance on BLM system roads within the San Juan Basin. They will also continue to participate in the San Juan Basin Working Committee, composed of industry and other agency representatives, to discuss surface reclamation and land use and minerals management on public lands and federal minerals.

BLM Range Conservationists plan to continue meeting periodically with ranchers in informal groups to discuss issues of concern related to administering the livestock grazing program.

The National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001C), stressed the “need for continued public input, participation and improved communication, particularly at the local level” because “successful OHV management relies on good coordination and communication with the general public.” During development of the RMP/EIS, the FFO Recreation Specialists learned the value of working with local OHV groups and other recreationists to identify their needs for trails and access to specific areas. This information was used to develop the proposed trails and management of recreation areas. Further public involvement will be needed to plot the exact location of the proposed trails, to identify additional areas appropriate for designation as open to cross-country travel, and to develop activity plans. The FFO Recreation Specialists intend to continue this collaboration with user groups.

CHAPTER 4

MANAGEMENT PLAN IMPLEMENTATION

The Management Actions presented in Chapter 2 will be implemented primarily as site-specific actions with more detailed environmental analysis following existing program guidance and permitting procedures. Resource management programs fall into two broad categories in the FFO. Certain programs, particularly the oil and gas program and fuel wood permit program, are driven by public demand. A major portion of the field office work load is devoted to supporting and or mitigating public demand programs. Other programs such as rangeland management, wildlife management, and recreation management have significant program components devoted to improving public land and resource health. Program specific activity plans will be developed to implement the broader land use plan decisions presented in this RMP.

OIL AND GAS-RELATED SURFACE RECLAMATION AND COMPLIANCE

Petroleum Engineering Technicians will be cross-trained in surface protection topics. Industry is expected to fully comply with the surface protection and hazard reduction aspects of appropriate Onshore Orders, as well as COAs and Standard Stipulations. Among the required compliance actions are the installation of stack protectors to exclude birds and bats, pit fencing, noxious weed control, and revegetation of well pads and ROWs.

A compliance plan for new well pads and ROWs will be developed by February 28, 2004. The plan will integrate existing initiatives and prioritize areas with outstanding problems. A timeline for correcting problem areas will be included, as will a strategy for assigning adequate personnel to address the issue. Unless other resources can be brought to bear on the problem, additional time devoted to compliance may reduce personnel available for reviewing new projects. Key aspects of the Compliance Plan will include the following:

- All new surface disturbing actions will be in compliance with established standards. FFO will complete compliance checks on all new surface disturbance until the compliance rate achieves 95 percent.
- The New Mexico State Office legacy compliance strategy, currently under development, will serve as a guideline for addressing many outstanding compliance issues. The compliance goal for old (pre-2003) actions will be to achieve full compliance to Gold Book (BLM and USFS 1989) standards for collector roads within 10 years.
- The planning area will be subdivided into geographic units. Within each unit, the priority for pre-2003 actions will be assigned in the following order:
 1. Compliance on all actions within designated SDAs (with special emphasis on Angel Peak ACEC, Angel Peak Scenic Area, Glade Run Recreation Area, and Simon Canyon ACEC) and other vulnerable areas (close proximity to Navajo Reservoir, rivers, major washes, areas of high cultural significance, close proximity to T&E species habitat).
 2. Compliance on all actions within close proximity of residences and towns, critical big game areas, areas of high watershed concern, areas of known past non-compliance issues.
 3. Inspection for Final Abandonment Notices and revegetation of plugged and abandoned well sites, roads, and ROWs.
 4. Compliance on all actions within remaining areas of watershed or other resource concerns.
 5. Compliance on all remaining actions.

A database for compliance will be maintained by the BLM and progress toward meeting compliance objectives will be presented in an annual report available for public review.

ROAD IMPROVEMENT

The program to improve existing roads and the development of transportation planning are based on road maintenance agreements. A total of 13 road management units (see Map 2-3 of the OHV Management Units) have been established in the FFO area. The AFO will create a similar unit in the Lindrith area.

Transportation plans will be developed for each transportation unit. The goal for road improvement is to have all collector roads meet Gold Book standards within 10 years. An ongoing Department of Energy study in the AFO is examining potential new road standards specific to the geology and soils of the Lindrith area. If this study generates improved, practical standards with applicability elsewhere in the Basin, the FFO will work with the San Juan Basin Roads Committee to incorporate the new standards for appropriate areas.

An additional goal will be to bring all local roads into compliance with appropriate standards within 20 years. This will include identifying, closing, and reclaiming unneeded roads. Problem roads will be addressed first, even if a transportation plan has not been completed for the unit in which the road occurs.

ACTIVITY PLANS FOR VARIOUS RESOURCE MANAGEMENT PROGRAMS

The following activity plans have been identified for development by other resource management programs. Other activity plans may be added as needed to meet management objectives and goals.

Recreation

OHV activity plans will be completed for each of 13 OHV Management Units within 15 years.

Soils and Water

Coordinated Resource Management Plans will be encouraged and developed as needed.

Air Quality

BLM may develop future air quality mitigation plans based on recommendations provided by NMAQB and the Four Corners Ozone Task Force.

Wildlife

Habitat Management Plans will be developed for Cereza Canyon, East La Plata, Ensenada Mesa, Gonzales Mesa, Laguna Seca Mesa, Middle Mesa, and Rosa Mesa Wildlife Areas.

Special Status Species

Habitat Management Plans will be developed for the Bald Eagle, The Hogback, Mexican Spotted Owl, and River Tracts ACECs, and the Reese Canyon RNA.

Riparian

A Habitat Management Plan will be developed for the Ephemeral Wash Riparian Area.

CHAPTER 5 PLAN EVALUATION/ADAPTIVE MANAGEMENT

A plan evaluation report will be prepared every 5 years. The first report will be completed by January 1, 2008. The evaluation will contain a summary of activities to accomplish plan goals, a list of accomplishments, and an analysis of existing or potential impediments to plan implementation. Based on the analysis contained in plan evaluations, recommendations for changing schedules and the use of new or different techniques or strategies may be made.

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GLOSSARY

Abandonment—Termination of fluid minerals operations, production operations, removal of facilities, plugging of the well bore, and reclamation of surface disturbances.

Affected Environment—Surface or subsurface resources (including social and economic elements) within or adjacent to a geographic area that potentially could be affected by gas development and production activities. The environment of the area to be affected or created by the alternatives under consideration (40 CFR 1502.15).

A-weighted—A weighting function applied to the noise spectrum, which approximates the response of the human ear.

Allotment (range)—A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under management of an authorized agency.

Alternative—A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis as expressed in goals and objectives. One of a number of plans or projects proposed for decision-making.

Ambient (air)—The surrounding atmospheric conditions to which the general public has access.

Animal Unit Months (AUM)—Amount of forage required to sustain a cow/calf unit (one cow and one calf) for one month.

Application for Permit to Drill (APD)—A written request, petition, or offer to lease lands for the purpose of fluid minerals exploration and/or right-of-extraction.

Aquifer—A water-bearing layer of permeable rock, sand or gravel. A formation, group of formations, or part of a formation that contains sufficient saturated permeable material to conduct groundwater and yield large quantities of water to wells and springs.

Area of Critical Environmental Concern (ACEC)—A BLM designation pertaining to areas where specific management attention is needed to protect and prevent irreparable damage to important historical, cultural, and scenic values, fish or wildlife resources, or other natural systems or processes, or to protect human life and safety from natural hazards.

Arroyo—A term applied in the arid and semiarid regions of the southwestern United States to the small, deep, flat-floored channel or gully of an ephemeral stream or of an intermittent stream usually with vertical or steeply cut banks of unconsolidated material at least 2 feet (60 centimeters) high; it is usually dry, but may be transformed into a temporary watercourse or short-lived torrent after heavy rainfall.

Aspect—The direction in which a slope faces.

Basin—See **San Juan Basin**.

Bentonite—A naturally occurring clay used to keep the cuttings in suspension as they move up the borehole.

Best Management Practices (BMPs)—Measures that are installed on the land to reduce erosion and sedimentation before starting and during ground-disturbing activities.

Big Game—Large species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn antelope.

Biodiversity—The diversity of living organisms considered at all levels of organization including genetics, species, and higher taxonomic levels, and the variety of habitats and ecosystems, as well as the processes occurring therein.

Cambrian—The oldest of the periods of the Paleozoic Era; also the system of strata deposited during that period.

Carbonaceous—Coaly; pertaining to, or composed largely of, carbon.

Casing—Steel pipes of varying diameter and weight, joined together by threads and couplings, "inserted" into the well bore for the purpose of supporting the walls of the well and preventing them from caving in. Surface casing is inserted from the ground surface to approximately 250 feet (76 metres), production casing is inserted to the total depth of the well (smaller diameter pipe than surface casing), cemented in place and latter perforated for production.

Clean Air Act—Federal legislation governing air pollution. The Clean Air Act established National Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, ozone, particulate matter, sulfur dioxide, and lead.

Coal—A readily combustible rock containing more than 50 percent weight and more than 70 percent by volume of carbonaceous material including inherent moisture, formed from compaction and induration of variously altered plant remains similar to those in peat. Differences in the kinds of plant materials (type), in degree of metamorphism (rank), and in the range of impurity (grade) are characteristic of coal and are used in classification.

Coalbed Methane—A gas associated with a coal seam.

Completion—The activities and methods to prepare a well for production. Includes installation of equipment for production from an oil or gas well.

Compressor (large)—Range from 500 to 10,000 horsepower, located on oil and gas distribution pipelines.

Compressor (small) —About 100 horsepower, generally located at the wellhead.

Compressor Station—Any location along an oil and gas trunk line with one or more large compressors.

Conditions of Approval (COA)—Conditions or provisions (requirements) under which an Application for a Permit to Drill or a Sundry Notice is approved.

Controlled Surface Use (CSU)—A fluid minerals leasing constraint under which use and occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational limitations that may modify lease rights.

Corridor—For purposes of this environmental assessment, a wide strip of land within which a proposed linear facility could be located.

Council on Environmental Quality (CEQ)—An advisory council to the President of the United States established by the national Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the president on environmental matters.

Critical Habitat—An area occupied by a threatened or endangered species “on which are found those physical and biological features (1) essential to the conservation of the species, and (2) which may require special management considerations or protection” (16 USC 1532 [5][A][I]1988). Unoccupied by suitable habitat for the threatened or endangered species is not automatically included unless such areas are essential for the conservation of the species (50 CFR 424.12(e)).

Cultural Resources—Remains of human activity, occupation, or endeavor, as reflected in districts, sites, buildings, objects, artifacts, ruins, works of art, architecture, and natural features important in human events.

Cumulative Impact—The impact on the environment that results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Dewatering—The act of removing water.

Directional Drilling—The intentional deviation of a wellbore from vertical to reach subsurface areas off to one side from the drilling site.

Discretionary Closure—Those lands where the BLM has determined that fluid minerals leasing, even with the most restrictive stipulations, would not adequately protect other resources, values, or land uses.

Disposal Well—A well into which produced water from other wells is injected into an underground formation for disposal.

Diversity—The relative abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area.

Drilling Fluids—The circulating fluid used to bring cuttings out of the wellbore, cool the drill bit, provide hole stability, and pressure control.

Drilling Rig—The derrick, draw-works, and attendant surface equipment of a drilling or workover unit.

Drilling—The operation of boring a hole in the earth, usually for the purpose of finding and removing subsurface formation fluids such as oil and gas.

Dry Hole—Any well incapable of producing oil or gas in commercial quantities. A dry hole may produce water, gas, or even oil, but not enough to justify production.

Easement—A right afforded a person or agency to make limited use of another's real property for access or other purposes.

Emission—Effluent discharge into the atmosphere, usually specified by mass per unit time.

Endangered Species—Any animal or plant species in danger of extinction throughout all or a significant portion of its range.

Environmental Impact Statement (EIS)—A document prepared to analyze the impacts on the environment of a proposed action and released to the public for review and comment. An EIS must meet the requirements of NEPA, CEQ, and the directives of the agency responsible for the proposed action.

Erosion—The group of processes whereby earthy or rocky material is worn away by natural sources such as wind, water, or ice and removed from any part of the earth's surface.

Ephemeral Stream—A stream that flows only in direct response to precipitation.

Exploration Well—A well drilled in the area where there is no oil or gas production (also known as wildcat well).

Federal Candidate Species—Sensitive wildlife species currently under consideration for inclusion to the list of federal threatened or endangered species.

Federal Listed Species—Animal or plant species listed by the USFWS as threatened or endangered.

Floodplain—The flat ground along a stream that is covered by water when the stream overflows its banks at flood stages.

Fluid Minerals—In this case, oil, gas, and geothermal resources.

Forage—All browse and herbaceous foods available to grazing animals, which may be grazed or harvested for feeding.

Foreground View—The landscape area visible to an observer within a mile.

Formation—A body of rock identified by lithic characteristics and stratigraphic position; it is prevailing, but not necessarily tabular, and is mappable at the earth's surface or traceable in the subsurface (NACSN, 2984, Art. 24).

Fossil—Any remains, trace, or imprint of a plant or animal that has been preserved by natural processes in the earth's crust since some past geologic time.

Fractured—Fissured, broken, or cracked. See also Hydraulic Fracturing.

Fragmentation—See Habitat Fragmentation.

Fugitive Dust—Airborne particles emitted from any source other than through a stack or vent.

Habitat—A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

Habitat Fragmentation—The disruption (by division) of extensive habitats into smaller habitat patches. The effects of habitat fragmentation include loss of habitat area and the creation of smaller, more isolated patches of remaining habitat.

Habitat Management Plan (HMP)—A written and officially approved plan for a specific geographical area of public land that identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

Habitat Type—An aggregation of all land areas potentially capable of producing similar plant communities at climax.

High Development Area—An area of approximately 7,000 square miles located in northwest New Mexico with a high level of oil and gas production, as delineated by the New Mexico Institute of Mining and Technology in the RFDS study for the San Juan Basin.

Historic—Archaeological and archivally known sites related to the activities of non-native peoples, whether they are of Euro-American, Afro-American or Asian-American origin, in the period after the European discovery of the New World (ca. A.D. 1492).

Hummocky—Like a hummock, full of hummocks (a low, rounded hill, knoll, hillock; a tract of wooded land higher than a nearby swamp or marsh).

Hydraulic Fracturing—A method of stimulating production by increasing the permeability of the producing formation.

Hydrocarbons—Organic compounds of hydrogen and carbon, whose densities, boiling points, and freezing points increase as their molecular weights increase. Although composed mostly of carbon and hydrogen, hydrocarbons exist in a great variety of compounds, owing to the strong affinity of the carbon atom for other atoms and itself. The smallest molecules are gaseous; the largest are solids. Petroleum is a mixture of many different hydrocarbons.

Impact—A modification of the existing environment caused by an action (such as construction or operation of facilities).

Increments—Maximum allowable increases over legally established baseline concentrations of pollutants covered by the Prevention of Significant Deterioration (PSD) provisions designated as Class I, II, and III areas.

Indirect Impacts—Secondary effects that occur in locations other than the initial action or later in time.

Infrastructure—The facilities, services, and equipment needed for a community to function including roads, sewers, water lines, police and fire protection, and schools.

Injection—The forcing, under abnormal pressure, of material (downward from above, upward from below, or laterally) into a pre-existing deposit or rock, either along some plane or weakness or into a pre-existing crack or fissure.

Injection Well—A well used to inject fluids into an underground formation to increase reservoir pressure.

Insignificant or Nonsignificant Impacts—Impacts that are perceptible or measurable relative to those occurring naturally or due to other actions, and would not exceed significance criteria.

Intermittent Stream—A stream or reach of a stream that is below the local water table for at least some part of the year.

Jurisdiction—The legal right to control or regulate use of land or a facility. Jurisdiction requires authority, but not necessarily ownership.

Landscape—An area composed of interacting ecosystems that are repeated because of geology, landform, soils, climate, biota, and human influences throughout the area. Landscapes are generally of a size, shape, and pattern that are determined by interacting ecosystems.

Landscape Character—Particular attributes, qualities, and traits of a landscape that give it an image and make it identifiable or unique.

Leasable Minerals—Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulphur, potassium, and sodium minerals, and oil, gas, and geothermal.

Lease—(1) A legal document that conveys to an operator the right to drill for oil and gas; (2) the tract of land, on which a lease has been obtained, where producing wells and production equipment are located.

Lease Notice—Provides more detailed information concerning limitations that already exist in law, lease terms, regulations, and operational orders. A Lease Notice also addresses special items the lessee would consider when planning operations, but does not impose new or additional restrictions.

Lease Stipulation—A modification of the terms and conditions on a standard lease form at the time of the lease sale.

Lithic Scatter—A scatter of chipped stone materials, which may include fragments, flakes, or stone tools.

Management Situation Analysis—Assessment of the current management direction. It includes a consolidation of existing data needed to analyze and resolve identified issues, a description of current BLM management guidance, and a discussion of existing problems and opportunities for solving them.

Middleground View—One of the distance zones of a landscape being viewed. This zone extends from the limit of the foreground to three to five miles from the observer.

Migration (oil and gas)—the movement of liquid and gaseous hydrocarbons from their source or generating beds, through permeable formations into reservoir rocks.

Mineral Estate (Mineral Rights) – The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

Mineral Reserves—Known mineral deposits that are recoverable under present conditions but are as yet undeveloped.

Mineral Rights—Mineral rights outstanding are third-party rights, an interest in minerals not owned by the person or party conveying the land to the United States. It is an exception in a deed that is the result of prior conveyance separating title of certain minerals from the surface estate.

Reserved mineral rights are the retention of ownership of all or part of the mineral rights by a person or party conveying land to the United States. Conditions for the exercising of these rights have been defined in the Secretary of the Interior’s “Rules and Regulations to Govern Exercising of Mineral Rights Reserved Conveyance to the United States” attached to and made a part of deeds reserving mineral rights.

Mitigation—The abatement or reduction of an impact on the environment by (1) avoiding a certain action or parts of an action, (2) employing certain construction measures to limit the degree of impact, (3) restoring an area to preconstruction conditions, (4) preserving or maintaining an area throughout the life of a project, or (5) replacing or providing substitute resources to the environment or (6) gathering archaeological and paleontological data before disturbance.

Modification—A fundamental change in the provisions of a lease stipulation, either temporarily or for the term of the lease. A modification may, therefore, include an exemption from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which restrictive stipulation applies.

Multiple Use—Multiple use as defined by the Multiple Use—Sustained Yield Act 1960 means the management of all the various renewable surface resources so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

National Ambient Air Quality Standards (NAAQS)—The allowable concentrations of air pollutants in the air specified by the federal government. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and

allowing an adequate margin of safety and requisite to protect the public welfare) from any unknown or expected adverse effects of air pollutants.

National Environmental Policy Act of 1969 (NEPA)—An Act that encourages productive and enjoyable harmony between man and his environment and promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enriches the understanding or the ecological systems and natural resources important to the Nation, and establishes the Council on Environmental Quality.

National Register of Historic Places (National Register, NRHP)—A listing of architectural, historical, archaeological, and cultural sites of local, state, or national significance. The list of sites was established by the Historic Preservation Act of 1966 and is maintained by the National Park Service.

Negligible Impact—Impact that is small in magnitude and importance and are difficult or impossible to quantify relative to those occurring naturally or due to other actions.

Nondiscretionary Closure—Those lands that must be closed to leasing for reasons beyond the discretion of the BLM. These are lands specially precluded from fluid minerals leasing by law, regulations, Secretarial or Executive Order, or that otherwise have been closed formally by decisions reached beyond the scope of the BLM.

No Surface Disturbance—In general, this applies to an area where an activity is allowed so long as it does not disturb the surface.

No Surface Occupancy (NSO)—A fluid minerals leasing constraint that prohibits occupancy or disturbance on all or part of the lease surface to protect special values or uses. Lessees may exploit the fluid mineral resources under the leases restricted by this constraint through use of directional drilling from sites outside the NSO area.

Notice to Lessees (NTL)—A written notice issued by the BLM to implement regulations and operating orders, and serve as instructions on a specific item(s) of importance within a state, district, or area.

Noxious Weed—An undesirable weed species that can crowd out more desirable species.

Off-Highway Vehicle (OHV)—A vehicle (including four-wheel drive, trail bikes, all-terrain vehicles, and snowmobiles but excluding helicopters, fixed-wing aircraft, and boats) capable of traveling off road over land, water, ice, snow, sand, marshes, and other terrain.

Off-Highway Vehicle (OHV) Designations

- **Closed**—Applies to areas and trails where the use of OHVs is permanently or temporarily prohibited. Emergency use of vehicles is allowed.
- **Limited**—Applies to areas and trails where the use of OHVs is subject to restrictions such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, or limiting use to designated roads or trails. Under the designated roads and trails designation, use is allowed only on roads and

trails that are signed or designated for use. Combinations of restrictions, such as limiting use to certain types of vehicles during certain times of the year, are possible.

- **Open**—Applies to areas and trails where OHVs may be operated subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343.

Operator—Any person who has taken formal responsibility for the operations conducted on the leased lands.

Paleontology—A science dealing with the life of past geological periods as known from fossil remains.

Particulate Matter—Particulate matter is regulated under the Clean Air Act. PM_{10} is particulate matter that is 10 microns or less than in effective diameter (also called Fine Particulate Matter). $PM_{2.5}$ is particulate matter that is 2.5 microns or less in effective diameter.

Patent—A grant made to an individual or group conveying fee simple title to public lands.

Perennial Stream—A stream receiving water from both surfaces and underground sources that flows throughout the entire year.

pH—A numeric value that gives the relative acidity or alkalinity of a substance on a 0 to 14 scale with the neutral point at 7. Values lower than 7 show the presence of acids, and values greater than 7 show the presence of alkalis.

Planning Area—Located in northwest New Mexico, encompasses an area of about eight million acres, including all of San Juan County, most of McKinley County, western Rio Arriba County, and northwestern Sandoval County.

Plan of Development—A mandatory plan, developed by an applicant of a mining operation or construction project, that specifies the techniques and measures to be used during construction and operation of all project facilities on public land. The plan is submitted for approval to the appropriate federal agency before any construction begins.

Plug—Any object or device that serves to block a hole or passageway, as a cement plug in a borehole.

Prehistoric—Archaeological sites resulting from the activities of aboriginal peoples native to this region, and because dating is often difficult, extending up to the reservation era (ca. A.D. 1868).

Prevention of Significant Deterioration (PSD)—A regulatory program based not on the absolute levels of pollution allowable in the atmosphere but on the amount by which a legally defined baseline condition will be allowed to deteriorate in a given area. Under this program, geographic areas are divided into three classes, each allowing different increases in nitrogen dioxide, particulate matter, and sulfur dioxide concentrations. Prevention of Significant Deterioration above legally established levels include the following:

- Class I—minimal additional deterioration in air quality (certain national parks and wilderness areas).
- Class II—moderate additional deterioration in air quality (most lands).

- Class III—greater deterioration for planned maximum growth (industrial areas).

Prime Farmland—Land that is best suited for producing food, feed, forage, fiber, and oilseed crops. The inventory of prime agricultural land is maintained by the USDA Natural Resources Conservation Service (formerly the Soil Conservation Service).

Production Well—A well drilled in a known field that produces oil or gas.

Proposed Action—Construction activities, alignments, and other activities proposed by the applicant.

Quaternary—The younger of the two geologic periods or systems in the Cenozoic Era.

Rangeland—Land used for grazing by livestock and big game animals on which vegetation is dominated by grasses, grass-like plants, forbs, or shrubs.

Raptor—Bird of prey with sharp talons and strongly curved beak; e.g., hawk, owl, vulture, eagle.

Rare or Sensitive Species—Species that have no specific legal protection under the Endangered Species Act as threatened or endangered species, but are of special concern to agencies and the professional biologic community due to low populations, limited distributions, ongoing population decline, and/or human or natural threats to their continued existence.

Reasonable Foreseeable Development Scenario (RFDS)—The prediction of the type and amount of oil and gas activity that would occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

Reclamation—The process of converting disturbed land to its former use or other productive uses.

Recreation and Public Purposes (R&PP) Act—This act authorizes the Secretary of the Interior to lease or convey public lands for recreational and public purposes (R&PP), under specified conditions, to states or their political subdivisions and to nonprofit corporations and associations.

Resource Management Plan (RMP)—A land use plan that establishes land use allocations, multiple-use guidelines, and management objectives for a given planning area. The RMP planning system has been used by the BLM since 1980.

Record of Decision—A document separate from, but associated with, an environmental impact statement that publicly and officially discloses the responsible official's decision on the proposed action.

Reserve Pit—(1) Usually an excavated pit that may be lined with plastic that holds drill cuttings and waste mud. (2) Term for the pit that holds the drilling mud.

Reservoir (oil and gas)—A naturally occurring, underground container of oil and gas, usually formed by deformation of strata and changes in porosity.

Riparian—Situated on or pertaining to the bank of a river, stream, or other body of water. Normally used to refer to the plants of all types that grow along, around, or in wet areas.

Riverine—A system of wetlands that includes all wetland and deep-water habitats contained within a channel that lacks trees, shrubs, persistent emergents, and emergent mosses or lichens.

Roads—Vehicle routes that are improved and maintained by mechanical means to ensure relatively regular and continuous use. (A way maintained strictly by the passage of vehicles does not constitute a road.)

Rotation—A technique performed while cementing, whereby casing is rotated in the hole in order to move the cement slurry uniformly around the casing to eliminate channeling and provide an effective cement bond on the casing and formation walls.

Salinity—A measure of the amount of dissolved salts in water.

San Juan Basin—A large geologic basin located in northwestern New Mexico and southwestern Colorado that has been extensively drilled for oil and gas and is reportedly the second largest gas-producing basin in the continental United States.

Scoping—A term used to identify the process for determining the scope of issues related to a proposed action and for identifying significant issues to be addressed in an EIS.

Sediment—Soil or mineral transported by moving water, wind, gravity, or glaciers, and deposited in streams or other bodies of water, or on land.

Sediment Yield—The amount of sediment produced in a watershed, expressed in tons, acre feet, or cubic yards, of sediment per unit of drainage area per year.

Sedimentary Rock—Rock resulting from consolidation of loose sediment that has accumulated in layers.

Sensitive Plant Species—Those plant or animal species susceptible or vulnerable to activity impacts or habitat alterations.

Significant—An effect that is analyzed in the context of the proposed action to determine the degree or magnitude of importance of the effect, either beneficial or adverse. The degree of significance can be related to other actions with individually insignificant but cumulatively significant impacts.

Significance Criteria—Criteria identified for specific resources used to determine whether or not impacts would be significant.

Slope—The degree of deviation of a surface from the horizontal.

Soil Horizon—A distinct layer of soil, approximately parallel to the land surface, and different from adjacent, genetically related layers in physical, chemical, and biological properties or characteristics.

Soil Productivity—The capacity of a soil to produce a plant or sequence of plants under a system of management.

Soil Series—A group of soils having genetic horizons (layers) that, except for texture of the surface layer, have similar characteristics and arrangement in profile.

Soil Texture—The relative proportions of sand, silt, and clay particles in a mass of soil. Basic textural classes, in order of increasing proportions of fine particles, are: sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, and clay.

Split Estate—Refers to land where the mineral rights and the surface rights are owned by different parties. Owners of the mineral rights generally have a superior right.

Standard Lease Terms and Conditions (STC)—Areas may be open to leasing with no specific management decisions defined in a Resource Management Plan; however, these areas are subject to lease terms and conditions as defined on the lease form (Form 3100-11, Offer to Lease and Lease for Oil and Gas; and Form 3200-24, Offer to Lease and Lease for Geothermal Resources).

Stipulations—Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources and uses.

Stratigraphy—The arrangement of strata, especially as to geographic position and chronological order of sequence.

Suitability—As used in the Wilderness Act and the Federal Land Policy and Management Act, refers to a recommendation by the Secretary of the Interior or the Secretary of Agriculture that certain federal lands satisfy the definition of wilderness in the Wilderness Act. These lands have been found appropriate for designation as wilderness on the basis of an analysis of their existing and potential uses.

Sundry Notice—Standard form to notify of or propose change of approved well operations subsequent to an Application for Permit to Drill in accordance with 43 CFR 3162.3-2.

Syncline—A fold of stratified rock inclining upward in opposite directions from both sides of its axis (opposed to anticline).

Tertiary—The older of the two geologic periods comprising the Cenozoic Era; also the system of strata deposited during that period.

Threatened or Endangered Species—Animal or plant species that are listed under the federal Endangered Species Act of 1973, as amended (federally listed), or under the Colorado or New Mexico Endangered Species Act (state listed).

Threatened Species—Any plant or animal species likely to become endangered within the foreseeable future throughout all or part of its range.

Timing Limitation (TL) (Seasonal Restriction)—A fluid minerals leasing constraint that prohibits surface use during specified time periods to protect identified resource values. The constraint does not apply to the operation and maintenance of production facilities unless analysis demonstrates that such constraints are needed and that less stringent, project-specific constraints would be insufficient.

Total Suspended Particulates (TSP)—All particulate matter less than 70 microns in effective diameter.

Valid Existing Rights—Legal interests that attach a land or mineral estate and cannot be divested from the estate until those interests expire or are relinquished.

Vandalism—Willful or malicious destruction or defacement of public property (e.g., cultural or paleontological resources).

Vegetation Manipulation—Planned alteration of vegetation communities through use of prescribed fire, plowing, herbicide spraying, or other means to gain desired changes in forage availability or wildlife cover.

Vegetation Type—A plant community with distinguishable characteristics described by the dominant vegetation present.

Viewshed—Total visible area from a single observation point, or total visible area from multiple observation points. Viewsheds are accumulated seen-areas from viewer locations. Examples are corridors, feature, or basin viewsheds.

Visual Resources—the visible physical features of a landscape (topography, water, vegetation, animals, structures, and other features) that constitute the scenery of an area.

Visual Resource Management (VRM)—The inventory and planning actions taken to identify visual resource values and to establish objectives for managing those values. Also, management actions taken to achieve the established objectives.

Visual Resource Management Classes—VRM classes identify the Visual Quality Objectives (VQOs) as the degree of acceptable visual change within a particular landscape. A classification is assigned to public lands based on guidelines established for scenic quality, visual sensitivity, and visibility.

- VRM Class I—This classification preserves the existing characteristic landscape and allows for natural ecological changes only. Includes Congressionally authorized areas (wilderness) and areas approved through an RMP where landscape modification activities should be restricted.
- VRM Class II—This classification retains the existing characteristic landscape. The level of change in any of the basic landscape elements (form, line, color, texture) due to management activities should be low and not evident.
- VRM Class III—This classification partially retains the existing characteristic landscape. The level of change in any of the basic landscape elements due to management activities may be moderate and evident.
- VRM Class IV—This classification applies to areas where the characteristic landscape has been so disturbed that rehabilitation is needed. Generally considered an interim short-term classification until rehabilitation or enhancement is completed.

Visual Sensitivity—Visual sensitivity levels are a measure of public concern for scenic quality and existing or proposed visual change.

Waiver—Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

Wellbore—The hole made by the drilling bit.

Wellhead—The equipment used to maintain surface control of a well. It is formed of the casing head, tubing head, and ‘Christmas tree’. Also refers to various parameters as they exist at the wellhead, such as wellhead pressure, wellhead price of oil, etc.

Wetland—Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wilderness, Wilderness Area (WA)—An area formally designated by Congress as a part of the National Wilderness Preservation System. Qualities identified by Congress in the Wilderness Act of 1964, include: size; naturalness; outstanding opportunities for solitude or a primitive and unconfined type of recreation; and supplemental values such as geological, archaeological, historical, ecological, scenic, or other features.

Wilderness Study Area (WSA)—An area determined to have wilderness characteristics as described in section 603 of the Federal Land Policy and Management Act and Section 2C of the Wilderness Act of 1964 (78 Stat. 891). WSAs are subject to interdisciplinary analysis through the BLM’s land use planning system and public comment to determine their wilderness suitability. Suitable areas are recommended to the President and Congress for designation as wilderness.

Withdrawal—An action that restricts the use of public land and segregates it from the operation of some or all of the public land and mineral law. Withdrawals also are used to transfer jurisdiction of management of public lands to other federal agencies.

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