DECISION RECORD
DOI-BLM-NM-P010-2015-0067 EA

Proposed Decision: It is my decision to implement the BLM-Preferred Alternative as described in DOI-BLM-NM-P010-2015-0067 and to issue the Cooperative Agreement Range Improvement Permit for the range improvement project analyzed in this document. The mitigation measures identified in the EA have been formulated into terms and conditions that will be attached to the Cooperative Agreement Range Improvement Permit. This decision incorporates, by reference, those conditions identified in the attached Environmental Assessment. A summary table follows:

Table 1. Animal Units/Animal Unit Months

Allotment Number	Allotment Name	Range Improvement Proposal
62071	Wire Lake	
	Construction of	1.75 miles of re-alignment and construction of 4 strand (3 Barbed & bottomwire smooth wire) fence

Rationale: Based on the rangeland health assessments (RHAs) and previous monitoring, resource conditions on this allotment are sufficient and sustainable to support the need and use of the range improvement outlined in the Environmental Assessment.

The Proposed Action will be in compliance with the 1997 Roswell Resource Management Plan and Record of Decision and the 2001 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management.

If you wish to protest this proposed decision in accordance with 43 CFR 4160.2, you are allowed 15 days to do so in person or in writing to the authorized officer, after the receipt of this decision. Please be specific in your points of protest.

The protest shall be filed with the Field Manager, Bureau of Land Management, 2909 West 2nd, Roswell, NM 88201. This protest should specify, clearly and concisely, why you think the proposed action is in error.

In the absence of a protest within the time allowed, the above decision shall constitute my final decision. Should this notice become the final decision, you are allowed an additional 30 days within which to file an appeal for the purpose of a hearing before the Interior Board of Land Appeals, and to petition for stay of the decision pending final determination on the appeal (43 CFR 4.21 and 4.410). If a petition for stay is not requested and granted, the decision will be put into effect following the 30-day appeal period. The appeal and petition for stay should be filed with the Field Manager at the above address. The appeal should specify, clearly and concisely, why you think the decision is in error. The petition for stay should specify how you will be harmed if the stay is not granted.

/s/ Kyle S. Arnold 09/08/2015

Kyle Arnold Date

Assistant Field Manager, Resources

DOI-BLM-NM-P010-2015-0067-EA
FINDING OF NO SIGNIFICANT IMPACT:

I have determined that the BLM Preferred Alternative (Alternative A), as described in the Environmental Assessment (EA) will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an environmental impact statement is not required. The NEPA handbook (p. 83) indicates that the FINDING OF NO SIGNIFICANT IMPACT (FONSI) must succinctly state the reasons for deciding that the action will have no significant environmental effects. It also recommends that the FONSI address the relevant context and intensity factors.

In making this determination, I considered the following factors:
1. The activities described in the BLM Preferred Alternative (Alternative A) do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)). The EA includes a description of the expected environmental consequences of issuing a 10 year term grazing permit on Allotments 62082 & 620182.

2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b)(2)).

3. The proposed activities would not significantly affect any unique characteristics (40 CFR 1508.27(b)(3)) of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, designated wilderness areas or wilderness study areas.

4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b)(4)).

5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).

6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)).

7. The effects of issuing a Cooperative Agreement Range Improvement Permit would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). The EA discloses that there are no other connected or cumulative actions that would cause significant cumulative impacts.

8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). Cultural resource surveys in the allotment have been generally limited to inspections ahead of oil and gas related activities, such as well locations and pipelines. Many areas of the allotment have been generally inventoried for cultural resources. The existing cultural data for the allotment and adjacent areas seems to be a good example of what can be reasonably expected to occur in the remainder of the allotment. No site-specific situations are known to exist where current grazing practices conflict with cultural resource preservation and management. Some mitigation is included in the proposed action to protect cultural resources from grazing practices, such as: “In the event that grazing practices are determined to have an adverse effect on cultural resources within the allotment, the BLM, in consultation with the permittee, will take action(s) to mitigate or otherwise negate the effects. This may include but is not limited to installing

physical barriers to protect the affected cultural resources, relocating the livestock grazing practice(s) that is (are) causing the adverse effect(s), or any other treatment as appropriate. Pages 19-20 of the EA describe the affected environment and impacts of the proposed action and alternatives on cultural resources.

9. The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)). Within the allotment there are no known populations of threatened and endangered species, or designated critical habitat within the allotment.

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Page 6 of the EA describes the conformance with land use plans and relationships to statutes, regulations, or other plans.

APPROVED:

/s/ Kyle S. Arnold 09/08/2015
Kyle S. Arnold Date
Assistant Field Manager, Resources

United States Department of the Interior
Bureau of Land Management

Environmental Assessment DOI-BLM-NM-P010-2015-0067-EA

Wire Lake Fence
Realignment & Construction of 1.75 miles of Fence, Allotment Number 62071

U.S. Department of the Interior
Bureau of Land Management
Pecos District
Roswell Field Office
2909 West Second Street
Roswell, NM 88201-2019
Phone: (575) 627-0272
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BLM

Roswell Field Office

Confidentiality Policy
Any comments, including names and street addresses of respondents, that you submit may be made available for public review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

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1.0 Purpose and Need for Action

1.1 Introduction

The allottee on the Wire Lake Allotment, Allotment Number 62071 has submitted a project proposal to realign and construct 1.75 miles of interior fence on their allotment. This project would improve livestock grazing distribution and management and therefore improve or maintain the rangeland health of the grazing allotment.

The Bureau of Land Management, Roswell Field Office (BLM) will contract the fence installation, and will provide oversight during the construction of the fence. The allottee will be responsible for the removal of 1.75 miles of the old net wire fence.

The federal permittee on this allotment will sign Cooperative Range Improvement Agreements which will contain any additional mitigation measures that are developed as a result of the environmentatl assessment in addition to the standard stipulations established for fence or pipeline construction and repair the road on public land.

Preparing Office:
Pecos District, Roswell Field Office
2909 W. Second Street
Roswell, NM 88201

1.2 Purpose and Need for Action

The purpose and need for the action is established by BLM's responsibility to respond to an application for a range improvement in accordance with 43 CFR 4120.3-3(a) which in part states, "*Any permittee or lessee may apply for a range improvement permit to install, use, maintain, and/or modify removable range improvements that are needed to achieve management objectives for the allotment in which the permit or lease is held.*" The fence and pipeline construction is needed to improve livestock distribution in order to ensure that the New Mexico Standards for Rangeland Health are being met on the allotment. The road repair is to allow management of the grazing stock without creating a wider impact area and additional erosion.

1.3 Decisions to be Made

The Decisions to be made upon the completion of this Environmental Assessment are: to authorize fence installation on Allotment 2071.

1.4 Conformance with Applicable Land Use Plan(s)

The proposed action conforms to the 1997 Roswell Approved Resource Management Plan (RMP) and Record of Decision as amended; 2008 Special Status Species Resource Management Plan Amendment

(2008 RMPA), and the 2000 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management and Record of Decision as required by 43 CFR 1610.5 3.

1.5 Relationship to Statutes, Regulations or Other Plans

The construction of range improvements, either under Cooperative Agreement or Range Improvement Application is addressed under the 43 Code of Federal Regulations, Part 4100, Grazing Administration, Exclusive of Alaska, Subpart 4120.3.

The proposal to authorize range improvements on these allotments is in conformance with the Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (TGA) (43 U.S.C. 315 et seq.); the Public Rangelands Improvement Act of 1978 (PRIA) (43 U.S.C. 1901 et seq.); Federal Cave Resources Protection Act of 1988; The National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).

1.6 Scoping, Public Involvement, and Issues

Appropriate scoping helps identify issues, resources, and resource uses that could be impacted, reducing the chances of overlooking a potentially significant issue or reasonable alternative. Scoping takes place both internally within the BLM via meetings with resource specialists, as well as externally where the public is invited to comment.

The BLM's interdisciplinary team of resource specialists conducted internal scoping on the Proposed Action February 2015. After an initial review of the proposed action, the team decided that the project should be considered under the NEPA process.

2.0 Proposed Action and Alternative(s)

Under Alternative A, the proposed action is to authorize the construction and realignment of 1.75 miles of interior barbed wire fence on Allotment 62071, between North & South Burro Pastures, and removal of the existing net wire fence which currently separates these two pastures.

The four strand fence (3 barbed wire, bottom smooth wire) to be installed would provide a new division fence between North & South Burro Pastures.

All fence installed will be wildlife friendly and constructed to current BLM standards. The fence will be constructed using the standard construction methods. These requirements would be written into the cooperative agreements as special conditions.

Table 1.1 Legal Description of Proposed Range Improvements

Name	Legal Description
Wire Lake North/South Burro Pasture Division Fence Realignment & Construction	T. 2 S., R. 21 E., Section 33; T. 3 S., R. 21 E., Sections 5 & 6

See Attached Maps.

Standard measures that will be included in the authorization for these projects are:

No blading will occur on public land, unless authorized by the Authorized Officer.

Fences shall be flagged to warn big game of the new structures. White topped fence posts may be used along with flagging.

Fence post spacing shall be up to 15 feet.

BLM reserves the right to alter any fence on federal land should it be necessary for wildlife purposes.

Wire spacing will be at 16”, 6”, 8” and 12” measuring from the ground up.

No road is authorized as a part of this project for construction or maintenance.

Gates or cattle guards will be installed on existing roads to ensure public access.

Brush will be cleared by hand with hand tools.

The co-operator shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public land under this authorization.

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the co-operator/contractor or any person working on the co-operator's/contractor behalf, on public or Federal land shall be immediately reported to the authorized officer. The co-operator/contractor shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The co-operator/contractor shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the co-operator/contractor.

The co-operator/contractor is hereby obligated to comply with procedures established in the Native American Grave Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of the implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes.

The co-operator/contractor shall be responsible for maintaining the site in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

The approval of the Permit/Agreement does not convey the right to prevent other lawful uses from occurring. The applicant/cooperator understands that other lawful users with proper authorizations may pass over, under, or through the range improvement authorized by the Permit/Agreement. Appropriate stipulations by the BLM to other users will protect the stability and purpose of this improvement.

Any cave or karst feature, such as a deep sinkhole, discovered by the co-operator/contractor or any person working on the co-operator's/contractor behalf, on BLM-managed public land shall be

immediately reported to the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate action(s). Any decision as to the further mitigation measures will be made by the Authorized Officer after consulting with the co-operator/contractor.

Due to the threat of White Nose Syndrome and in compliance with current cave closures, entry of any cave is not allowed without prior approval by the Roswell Field Manager.

2.1 Alternatives Considered by Not Analyzed in Detail

This alternative would re-route the entire proposed fence. The alternatives would:

- add length to the fence line;
- would cause more impact to the affected resources on the alternate route or
- would not be economical to install, maintain or use.

To re-route the fence line to any further extent would cause a concentration of the livestock use to one side of the pastures or the other. This alternative will not be given further consideration in this report; fewer environmental impacts would result from the action as proposed.

2.2 No Action Alternative

Under this alternative, the BLM would not authorize or approve the request to install 1.75 miles of barbed wire fence, on Allotment 2071 nor the removal of the existing net wire fence.

3.0 Affected Environment, Environmental Consequences, and Cumulative Impacts

The No Action Alternative reflects the current situation within the project area and will serve as the baseline for comparing the environmental impacts of the analyzed alternatives.

During the analysis process, the interdisciplinary team considered several resources and supplemental authorities. The interdisciplinary team determined that the resources discussed below would be affected by the proposed action.

The following resources or values are not present or would not be affected by the authorization of livestock grazing on these allotments: Areas of Critical Environmental Concern, Prime or Unique Farmland, Minority/Low Income Populations, Public Health and Safety, Hazardous or Solid Wastes, Solid Mineral Resources, Fluid Mineral Resources, Recreation, Rights-of-Way, Wild and Scenic Rivers, and Wilderness.

Affected resources and the impacts resulting from the proposed range improvements are described below.

3.1 Soil / Water / Air

➢Climate

Affected Environment

Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. GHG's and the potential effects of GHG emissions on climate are not regulated by the EPA, however climate has the potential to influence renewable and non-renewable resource management.

Greenhouse gases, including carbon dioxide (CO2) and methane (CH4), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA's Inventory of US Greenhouse Gas Emissions and Sinks found that in 2006, total US GHG emissions were over 6 billion metric tons and that total US GHG emissions have increased by 14.1% from 1990 to 2006. The report also noted that GHG emissions fell by 1.5% from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation.

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

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

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures.

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

In New Mexico, a recent study indicated that the mean annual temperatures have exceeded the global averages by nearly 50% since the 1970's (Enquist and Gori). Similar to trends in national data, increases in mean winter temperatures in the southwest have contributed to this rise. When compared to baseline information, periods between 1991 and 2005 show temperature increases in over 95% of the geographical area of New Mexico. Warming is greatest in the northwestern, central, and southwestern parts of the state.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Climate change analyses are comprised of several factors, including greenhouse gases (GHGs), land use management practices, the albino effect, etc. The tools necessary to quantify climatic impacts from the Proposed Action are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined. Additionally, specific levels of significance have not yet been established. Therefore, climate change analysis for the purpose of this document is limited to accounting and disclosing of factors that may contribute to climate change. Qualitative and/or quantitative evaluation of potential contributing factors within the planning area is included where appropriate and practicable.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to climate if a no action alternative is selected.

Cumulative Impacts of all Alternatives

The incremental impact of the fence construction project on climate resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: fence construction projects on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

Mitigation Measures and Residual Impacts

A rangeland health assessment has been completed and the allotment meet the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

➢Soils

Affected Environment

The Soil Conservation Service, now the Natural Resource Conservation Service (NRCS), has surveyed the soils in DeBaca County. Complete soil information is available in the Soil Survey of DeBaca County, New Mexico, (USDA Soil Conservation Service 1986) and online at http://websoilsurvey.nrcs.usda.gov/app/. The soil map units represented in the project area are:

Deama-Darvey association, 1 to 10 percent slopes (69) Permeability of the pasture soil is moderate. Runoff is slow to medium, and the hazard of water erosion is slight to moderate. The hazard of soil blowing is moderate to high.

Hollowman-Reeves Complex, 1 to 15 percent slopes (26) Permeability of this complex is moderate. Runoff is medium to rapid, and the hazard to water erosion is moderate to high. The hazard of soil blowing is moderate.

Poquita very fine sandy loam, 0 to 5 percent slope (68) Permeability of this soil is moderate, Runoff is medium and the hazard of water eroision is moderate. The hazard of soil blowing is high.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

The construction of the project would physically disturb topsoil during the placement of the fenceline, posts and gates. Direct impacts resulting from the construction of the project include removal of vegetation along the fenceline, exposure of the soil, compaction by livestock trailing along the new fence, loss of top soil productivity and susceptibility to wind and water erosion. Wind erosion would be expected to be a minor contributor to soil erosion with the possible exception of dust from vehicle traffic. These impacts could result in increased indirect impacts such as runoff, erosion and off-site sedimentation.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to soils if the no action alternative is selected.

Cumulative Impacts of All Alternatives

There will be no cumulative impacts to soils if a no action alternative is selected.

Roads, fences, stock trails and water well development have occurred in the past and may contribute to the cumulative impacts of the area. This is in addition to oil and gas field development in the area. The proposed actions will not contribute significantly to the cumulative impacts of the area.

Mitigation Measures and Residual Impacts

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities. The disturbed area should naturally re-vegetate within two growing seasons or less with adequate precipitation, resulting in cessation of project related erosion or runoff.

➢Floodplains

Affected Environment

Portions of the proposed project is located in the 100-year floodplain. For administrative purposes, the 100-year floodplain serves as the basis for floodplain management on public lands. It is based on Flood Insurance Rate Maps prepared by the Federal Emergency Management Agency which describes a Zone A as the "Area of the 100-year flood". Current development on the floodplain consists of two-track roads and several miles of boundary fences located in the area.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Surface disturbance from the proposed project can result in impairment of the floodplain values from removal of vegetation, removal of wildlife habitat, impairment of water quality, decreased flood water retention and decreased groundwater recharge.

Under the Proposed Action rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the floodplain values. Low/moderate forage quality plants provide protection to the floodplain values. Cumulative long-term monitoring data reflect the floodplain values are being adequately protected.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to floodplains if the no action alternative is selected.

Cumulative Impacts of All Alternatives

There will be no cumulative impacts to floodplains if a no action alternative is selected.

Roads, fences, and stock trails have occurred in the past and may contribute to the cumulative impacts to floodplains in the area. This is in addition to oil and gas field development in the area. The proposed actions will not contribute significantly to the cumulative impacts to floodplains the area.

Mitigation Measures and Residual Impacts

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from from allotment management activities. The disturbed area should naturally re-vegetate within two growing seasons or less with adequate precipitation, resulting in cessation of project related erosion or runoff and impacts to floodplain values.

➢ Air Quality

Affected Environment

BLM is required to comply with the Clean Air Act, as amended, and State Implementation Plans. The proposed area has not been identified as a non-attainment area. Additionally, throughout most of the year the air quality throughout Chaves County is very good and is considered clean. Air quality will be temporarily impacted only during the dry spring months, windstorms and blowing dust can become a problem throughout the area.

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

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Air quality would temporary be directly impacted with pollution from exhaust emissions, chemical odors, and dust that would be caused by the motorized equipment used to construct the project. Dust dissemination would discontinue upon completion of the construction phases of the project. Air pollution from the motorized equipment would discontinue at the completion of the project. The winds that frequent the southeastern part of New Mexico generally disperse the odors and emissions. The impacts to air quality would be greatly reduced as the construction of the project is completed. Other factors that currently affect air quality in the area include dust from livestock herding activities, dust from recreational use, and dust from use of roads for vehicular traffic.

There would be some impact to air resources in the short term resulting from construction activities. The construction activities would cause temporary increase in dust concentrations in construction areas. The use of standard construction dust mitigation procedures would help control emissions.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to air quality if a no action alternative is selected.

Cumulative Impacts of all Alternatives

There will be no cumulative impacts to air quality if a no action alternative is selected.

The incremental impact of the fence construction project on climate resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: fence construction projects on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

Mitigation Measures and Residual Impacts

A rangeland health assessment has been completed and the allotment meet the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

➢ Watershed Hydrology

Affected Environment

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on the location, extent, timing and the type of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater pumping and also oil and gas developments such as well pads, permanent roads, temporary roads, pipelines, and power lines.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Construction and surface disturbance activities from construction of the project can result in long and short-term alterations to hydrologic regime. Peak and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from construction of this fenceline. Potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision, and disconnection from the floodplain.

Potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. Direct impacts would be that hydrologic processes may be altered where perennial, ephemeral, and intermittent river and stream systems respond by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long-term direct and indirect impacts to watershed and hydrology would continue for the life of the project and would decrease once natural re-vegetation of the project has taken place. Short-term direct and indirect impacts to the watershed and hydrology from the fenceline would occur and would likely decrease in time due to natural re-vegetation. The disturbed area should naturally re-vegetate within two growing seasons or less with adequate precipitation.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to watershed hydrology if a no action alternative is selected.

Cumulative Impacts

There will be no cumulative impacts to watershed hydrology if a no action alternative is selected.

Roads, fences, stock trails and water well development have occurred in the past and may contribute to the cumulative impacts to watershed hydrology in the area. This is in addition to oil and gas field development in the area. The proposed actions will not contribute significantly to the cumulative impacts to watershed hydrology in the area.

Mitigation Measures and Residual Impacts

No new roads would be authorized as a part of this project for construction or maintenance. No blading would occur on public land, unless authorized by the Authorized Officer. Brush would be cleared by hand with hand tools. Vegetation, soil and rocks left as a result of construction or maintenance activity would be randomly scattered over the project area and would not be left in rows, piles or berms, unless otherwise approved by the Authorized Officer.

The disturbed area should naturally re-vegetate within two growing seasons or less with adequate precipitation.

➢ Water Quality - Surface

Affected Environment

Surface: Surface water within the area is affected by geology, precipitation and water erosion. Factors that currently affect surface water resources include livestock grazing management, recreational use and brush control treatments. Ephemeral surface water within the area may be located in tributaries, playas, alkali lakes and stock tanks. No perennial surface water is found on public land in this area.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Potential impacts to water resources during construction would be primarily associated with surface disturbing activities, but could also be a result of accidental spills and handling and storage of hazardous chemicals.

Use of construction equipment would cause compaction of near surface soils that could result in increased runoff and, subsequently, increased sedimentation. Clearing and grading during construction would expose the soils to erosion. Construction activities could also temporarily alter the overland flow and consequently the groundwater recharge patterns. The alteration of the natural soils strata by earthworks could reduce the soils ability to absorb water resulting in ponding and/or alter existing groundwater pathways for groundwater. These effects, if they occurred, would be temporary and minor.

Potential direct impacts that would occur due to construction of the project include increased surface water runoff and off-site sedimentation brought about by soil disturbance and increased salt loading and water quality impairment of surface waters. The magnitude of these impacts to water resources would depend on the proximity of the disturbance to the drainage, channel, slope aspect and gradient, degree and area of soil disturbance, soil character, duration and time within which construction activity would occur, and the timely implementation and success or failure of mitigation measures.

Direct impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to natural stabilization, and reclamation efforts. Construction activities would occur over a relatively short period; therefore, the majority of the disturbance would be intense but short lived. Direct impacts to surface water quality would be minor, short-term impacts which may occur during storm flow events.

Impacts from the No Action Alterative
Direct and Indirect Impacts

There will be no direct or indirect impacts to surface water quality if a no action alternative is selected.

Cumulative Impacts

There will be no cumulative impacts to surface water quality if a no action alternative is selected.

Roads, fences, stock trails and water well development have occurred in the past and may contribute to the cumulative impacts to surface water quality in the area. This is in addition to oil and gas field development in the area. The proposed actions will not contribute significantly to the cumulative impacts to surface water quality in the area.

Mitigation Measures and Residual Impacts

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities. The disturbed area should naturally re-vegetate within two growing seasons or less with adequate precipitation, resulting in cessation of project related erosion or runoff.

➢ Water Quality - Ground

Affected Environment

Ground: Groundwater within this area is affected by geology and precipitation. Factors that currently affect groundwater resources in this area include livestock grazing management, groundwater pumping and possible impacts from brush control treatments. The approximate depth to groundwater ranges from 40 to 850 feet in the area (New Mexico Office of the State Engineer Data).

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Potential impacts to water resources during construction would be primarily associated with surface disturbing activities, but could also be a result of accidental spills and handling and storage of hazardous chemicals. The alteration of the natural soils strata by earthworks could reduce the soils ability to absorb water resulting in ponding and/or alter existing groundwater pathways for groundwater. These effects, if they occurred, would be temporary and minor.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to ground water quality if a no action alternative is selected.

Cumulative Impacts

Roads, fences, stock trails and water well development have occurred in the past and may contribute to the cumulative impacts to groundwater in the area. This is in addition to oil and gas field development in the area. The proposed actions will not contribute significantly to the cumulative impacts to groundwater in the area.

Mitigation Measures and Residual Impacts

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities. The disturbed area should naturally re-vegetate within two growing seasons or less with adequate precipitation, resulting in cessation of project related erosion or runoff.

3.2 Archaeology

➢ Cultural and Historical Resource

Affected Environment

The allotment falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 12,000-8,000 B.C.), Archaic (ca. 8000 B.C. –A.D. 950), Ceramic (ca. A.D. 600-1540) Protohistoric and Spanish Colonial (ca. A.D. 1400-1821), and Mexican and American Historical (ca. A.D. 1822 to early 20th century). Sites representing any or all of these periods are known to occur within the region. A more complete discussion can be found in Living on the Land: 11,000 Years of Human Adaptation in Southeastern New Mexico; An Overview of Cultural Resources in the Roswell District, Bureau of Land Management published in 1989 by the U.S. Department of the Interior, Bureau of Land Management.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

A cultural resource inventory was conducted for the area of effect (14-033A). No historic properties were identified; therefore, no direct or indirect impacts are anticipated.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to cultural resources if a no action alternative is selected.

Cumulative Impacts

No cumulative impacts are anticipated.

Mitigation Measures and Residual Impacts

There are no mitigation measures at this time.

➢ Native American Religious Concerns

Affected Environment

Native American groups may have places that can be described as Traditional Cultural Properties or other places that are important to their religions or cultures. The BLM uses the New Mexico Department of Cultural Affairs list of tribes/nations/pueblos concerned for individual counties to determine which of these groups may have concerns. To date, the areas to be affected have not been identified by interested tribes as being of tribal concern.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

The BLM conducts tribal consultation for many projects while preparing planning documents such as the Resource Management Plan and Resource Management Plan Addendums. A review of existing information indicates the proposed action is outside any known Traditional Cultural Property.

Impacts from the No Action Alternative
Direct and Indirect Impacts

There will be no direct or indirect impacts to locations of Native American religious concern if a no action alternative is selected.

Cumulative Impacts

Cumulative impacts are unknown.

Mitigation Measures and Residual Impacts

There are no mitigation measures at this time.

3.3 Range

➢ Vegetation

Affected Environment

The proposed fence location falls within two major community types; the Grassland Community and the PJ Community.

In the Grassland Community is generally flat to moderately rolling topography with 75 percent and higher composition of grasses in the description of potential plant community.

Grassland is the climax vegetative aspect for large portions of the resource area. The grassland community type is the most widespread. It can be further subdivided into grass rolling upland, grass hill, grass flat, and mesquite grassland subtypes, depending on topographic relief or seral stage. In many areas the subtypes may overlap. Vegetation is primarily dominated by warm season short- and

midgrasses. Large areas of grassland climax communities have dropped in successional stage due to misuse and have become a dis-climax mixed shrub community.

The grass rolling uplands is the predominant shortgrass habitat subtype in the resource area. It is found on broad, nearly level or gently undulating plains to rolling hills at elevations between 3800 feet to 5000 feet. Slopes are 0 to 9 percent. Vegetation is dominated by blue grama, black grama, galleta, tobosa, sideoats grama, dropseeds, muhlys, threeawns, burrograss and fluffgrass.

Woody shrub species are scarce but include mesquite, fourwing saltbush, wolfberry, sumac, and cactus species such as yucca and cholla. Invasions of broom snakeweed, a halfshrub, is common in some areas. Forbs are a minor component of the subtype except following periods of rainfall. Ground cover may be too sparse in much of this subtype to provide the cover requirements of certain small mammals or ground-nesting birds.

Grass hills are found primarily on hills, low mountains, or lower foot slopes of higher mountains. Slopes are rolling to steep and average about 25 percent. Elevations range from 4500 feet to 6000 feet. Short- and mid-grasses dominate this subtype, including hairy grama, fluffgrass, three-awn, and red lovegrass. Shrubs, halfshrubs and cacti include little leaf sumac, beargrass, ocotillo, hedgehog cactus, cholla and broom snakeweed. The structured diversity of the vegetation in this subtype provides more diverse bird nesting habitat than adjacent grasslands. This is the preferred habitat for mule deer, which also use the brushy draws for browse and cover.

The grass flats subtype occurs on nearly level to gently sloping upland plains as broad swales between uplands, or as isolated pockets in shallow depressions, playas, along drainages or in sinks. These areas receive significant runoff from adjacent sites, which produces more dense and taller vegetation. Vegetation is dominated by mid- and tall-grasses with occasional shrubs or half shrubs. The primary grasses are tobosa and galleta, which may occur on large expanses between upland sites, and alkali and giant sacaton, which usually are found along drainages or in depressions. Shrubs sparsely associated with the sacaton type are mesquite and fourwing saltbush. A few scattered yuccas or cholla may be interspersed in the tobosa swales. Forb diversity and abundance is low due to the density of the grass cover.

The mesquite grassland type could best be described as a dis-climax stage in a desert shortgrass climax. The mesquite invasion results from disturbance of natural successional processes. The type is generally located between the grassy plains and the Pecos River, including the breaks adjacent to the floodplain. Terrain is level to gently undulating with slopes generally less than 5 percent, or hummocky with numerous sand dunes scattered throughout the area. The elevation varies from 3,000 feet to 6,000 feet.

Mesquite is found on most soil types, but the main invasion occurs on sandy soils. The predominant shrub is honey mesquite, which has invaded what at one time was a shortgrass dominated type. Few other shrub species are associated with mesquite, although some creosote, yucca and Opuntia occur.

Vegetation is dominated by black gama, blue grama, dropseed, muhly, tobosa and galleta, fluffgrass, and alkali sacaton on undulating terrain, with higher percentages of dropseed, three-awn and muhly on sandy sites. Halfshrubs include sand sage and broom snakeweed. Forbs may be abundant following periods of rainfall.

Grasslands is the most widespread of the community types found in the resource area. Approximately 30 percent (149) of the wildlife species found in the resource area use this community type.

The PJ Community's common factor is topography influenced by higher hills and mountains with juniper, pinon or mountain mahogany in the description of the potential plant community.

The pinon/juniper community type is typically found in the mountain slopes and rolling foothills in the west half of the resource area. Smaller areas are scattered in the lower elevations, intermingled with the shortgrass habitat type. Slopes range from 15 to 75 percent, averaging 20 to 30 percent. The average elevation is from 4,500 feet to 7,500 feet.

The overstory is dominated by oneseed juniper, pinon pine, and alligator juniper. Ponderosa pine can be found in protected canyons bottoms and along the draws. The shrubby understory includes wavyleaf oak, little leaf sumac, mountain mahogany, algerita and fourwing saltbush. Forbs and grasses are represented by such species as wild buckwheat, sagewort, greenthread, sideoats grama, blue grama, creeping muhly, wolftail, fescue and wheatgrass.

Approximately 29 percent (143) of the wildlife species in the resource area use this community type. Faunal diversity is high, reflecting the vegetational and structural diversity of the pinon/juniper complex contribution to the diversity of wildlife species.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Short term negative impacts would include vegetation disturbance that will be localized to the immediate are of the project. Vegetation will be destroyed where the fence posts are set, but the disturbed area will naturally revegetate within two growing seasons with adequate precipitation. Approximately 10 acres of vegetation on public land will be subject to disturbance during the construction of the fence, (based on the estimate of 1.75 miles * 50 ft. width). Positive long term impacts would include vegetation benefits due to the reduced stress caused by foraging animals. This will lead to more even utilization rates across the allotment.

Impacts from the No Action Alternative
Direct and Indirect Impacts

Under the No Action Alternative, the 4 strand (3 barbed wire, bottom wire smooth fence would not be constructed, and the associated impacts of that construction would not occur. The existing net wire fence would not be removed, and the small associated impacts of the removal would not occur. Impacts that would continue would be due tof the maintenance of the aging net wire fence.

Cumulative Impacts

The proposed action would not contribute significantly to the cumulative impacts of the area. The results of the proposed action will not substantially change the plant and animal communities of the project area.

Mitigation Measures and Residual Impacts

No additional mitigating measures will be needed if the standard operation procedures and design features previously discussed are adhered to.

Implementation of the proposed action would have potential for unavoidable temporary adverse environmental impacts.

➢ Livestock Grazing

Affected Environment

The Wire Lake Allotment 62071 is permitted to be grazed yearlong by cattle, sheep, goats and cattle. The permit for the allotment authorizes 1,968 Animal Units (AUs).

The allotment contains about 6,842 acres of public land (see Location Map), and 11,469 acres of private land. Public landownership is intermingled with private land. Current range improvement projects for the management of livestock include earthen tanks, wells, and several drinking troughs with associated pipelines, pasture and boundary fences and corrals.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Under Alternative A, Proposed Action Alternative, no increase in AUMs will result. Grazing systems dependent on existing pasture configuration will benefit by the more balanced area provided by the new fence location.

Impacts from the No Action Alternative
Direct and Indirect Impacts

Under the No Action Alternative, the barbed wire fence would not be constructed and the net wire fence would not be removed. Grazing systems would remain as they are.

Cumulative Impacts

The incremental impact of authorizing range improvements must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in the area, oil and gas activities on the uplands, rights-of-way crossing the area and recreational use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state or private lands.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activity began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future.

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the authorization of fence construction on Wire Lake, Allotment 62071. The cumulative impacts to this allotment and adjacent allotments are insignificant.

Mitigation Measures and Residual Impacts

No additional mitigating measures will be needed.

➢ Invasive, Non-Native Species

Affected Environment

A noxious weed is defined as a plant that causes disease or has other adverse effects on the human environment and is, therefore, detrimental to the public health and to the agriculture and commerce of the United States. Generally noxious weeds are aggressive, difficult to manage, parasitic, are carriers or hosts of harmful insects or disease, and are either native, new to, or not common, the United States. In most cases, noxious weeds are non-native species.

The list currently includes the following weeds: 1) African rue *(Peganum harmala)*, 2) black henbane *(Hyoscyamus niger)*, 3) bull thistle *(Cirsium vulgare),* 4) camelthorn *(Alhagi pseudalhagi),* 5) Canada thistle *(Cirsium arvense),* 6) dalmatian toadflax *(Linaria genistifolia ssp. Dalmatica)*, 7) goldenrod, *(Solidago Canadensis)* 8) leafy spurge *(Euphorbia esula),* 9) Malta starthistle *(Centaurea melitensis),* 10) musk thistle *(Carduus nutans),* 11) poison hemlock *(Conium maculatum),* 12) purple starthistle *(Centaurea calcitrapa),* 13) Russian knapweed *(Centaurea repens),* 14) Scotch thistle *(Onopordum acanthium),* 15) spotted knapweed *(Centaurea maculosa),* 16) teasel *(Dipsacus fullonum)*, 17) yellow starthistle *(Centaurea solstitialis),* 18) yellow toadflax *(Linaria vulgaris),* 19) Russian olive *(Elaeagnus angustifolia),* 20) Saltcedar *(Tamarix* spp.*),* 21) Siberian elm *(Ulmus pumila).*

Of the noxious weeds listed, the ones with known populations in the Roswell Field Office are African rue, non-native thistles *(Cirsium* spp.) such as bull thistle and Canada thistle, leafy spurge, poison hemlock, teasel, musk thistle, goldenrod, Malta starthistle, Russian knapweed, tamarix species, Siberian elm, Russian olive and Scotch thistle. Also "problem weeds" of local concern are cocklebur *(Xanthium* spp.*)*, buffalobur *(Curcurbita foetidissima)* and spiny cocklebur *(Xanthium spinosum)*. "Problem weeds" are those weeds which may be native to the area but whose populations are out of balance with other local flora. Infestations of noxious weeds can have a disastrous impact on biodiversity and natural ecosystems. Further, noxious weeds can negatively affect livestock and dairy producers by increasing their feed and animal health care costs. Increased costs to operators are eventually borne by consumers. Noxious weeds also affect recreational uses, and reduce realty values of both directly influenced and adjacent properties.

Recent federal legislation has been enacted requiring state and county agencies to implement noxious weed control programs using funds generated from the federal tax base. Therefore, all citizens and taxpayers of the United States are directly affected when noxious weed control prevention is not exercised.

There are no known populations of noxious weeds within the boundaries of Allotment 62071.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Noxious weeds affect both crops and native plant species in the same way, by out-competing for light, water and soil nutrients. Losses are attributed to decreased quality and quantity of agricultural products due to high levels of competition from noxious weeds and infestations. Noxious weeds can negatively affect livestock productivity by making forage unpalatable to livestock thus decreasing livestock productivity and potentially increasing producer's feed costs.

Impacts from the No Action Alternative
Direct and Indirect Impacts

While the vector of construction equipment would be removed under this alternative, noxious weed populations would still have the potential to become established, generally through vehicular traffic or seed movement carried by wildlife, wind or dust. Once established, noxious weeds would compete with the vegetation, reducing the habitat for wildlife.

Cumulative Impacts

Infestations of noxious weeds can have a potentially disastrous impact on biodiversity and natural ecosystems. In order to combat the negative effects of noxious weeds on crop lands, grazing lands and waterways, herbicidal and other weed control strategies can be implemented at further costs to producers and government agencies. Such costs would then likely be passed down to consumers, who would pay more for products due to increased producer costs.

Mitigation Measures and Residual Impacts

There is an opportunity for noxious weeds to become established within the proposed range improvement route. Noxious weeds could be introduced by the equipment used for construction and fence removal. Monitoring the area after installing and removal will be conducted to ensure that weeds do not become established. If new populations are discovered, they will be aggressively treated.

3.4 Wildlife Biology

➢ Wildlife

Affected Environment

In general, the allotment provides a variety of habitat types for terrestrial wildlife species, including big game such as pronghorn antelope and desert mule deer. The diversity and abundance of wildlife species in the area is due to the presence of a mixture of grassland habitat and mixed desert shrub vegetation. The present distribution of pronghorn antelope varies within the area of analysis from the inability of pronghorn to move freely across their historical range. Movement patterns and distribution is affected by net-wire fences associated with sheep ranching. Re-introduction efforts are ongoing along with fence modifications on those allotments with cooperating allottees.

Numerous avian species use the area during spring and fall migration, including non-game migratory birds. Common bird species are mourning dove, mockingbird, white-crowned sparrow, black-throated sparrow, blue grosbeak, northern oriole, western meadowlark, Crissal thrasher, western kingbird, northern flicker, common nighthawk, loggerhead shrike, and roadrunner. Raptors include northern harrier, Swainson's hawk, American kestrel, and occasionally golden eagle and ferruginous hawk.

Common mammal species using the area include mule deer, pronghorn, coyote, gray fox, bobcat, striped skunk, porcupine, raccoon, badger, jackrabbit, cottontail, white-footed mouse, deer mouse, grasshopper mouse, kangaroo rat, spotted ground squirrel, and woodrat.

A variety of herptiles also occur in the area such as yellow mud turtle, box turtle, eastern fence lizard, side-blotched lizard, horned lizard, whiptail, hognose snake, coachwhip, gopher snake, rattlesnake, and spadefoot toad.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

There would be short-term disruptions to widlife during the installation phase. The removal of net wire fence and conversion to 4-strand wildlife friendly fence would help the movement of wildlife especially pronghorn and mule deer.

Impacts from the No Action Alternative
Direct and Indirect Impacts

Net wire fences would continue to be a barrier to certain species of wildlife.

Cumulative Impacts

Netwire fences have a huge impact on pronghorn as well as mule. The more netwire fence the more barriers and obstacles these species face. The more fence converted to 4-strand wildlife friendly fence the more an area becomes accessible for wildlife.

Mitigation Measures and Residual Impacts

Build a BLM approved 4-strand wildlife friendly fence.

➢Threatened or Endangered Species

Affected Environment

There are no known threatened or endangered species of plant or animals on Allotment 62071. A list of federal threatened, endangered and candidate species reviewed for this EA can be found in Appendix 11 of the Roswell Approved RMP (AP11-2). There are no designated critical habitat areas within this allotment. Habitat for wintering bald eagles would not have significant negative impacts by the proposed action, and continued livestock grazing, since riparian habitats and suitable or active roosting sites are present in the nearby areas.

Surveys have been conducted in New Mexico for the mountain plover in 1995, for the New Mexico Department of Game and Fish. No known breeding populations or wintering locales were found in the Roswell Field Office area. In addition, mountain plover surveys were conducted in 1998 at BLM selected sites by New Mexico Natural Heritage Program. No mountain plovers were observed at the sites.

3.5 Visual Resources

Affected Environment

The landscape at the location is flat with rolling hills. The affected environment presents a winter gray color pattern and in warms months, with foliage, a gray to gray-green color pattern. Wide-area landscape tends to be horizontal in line and flat in form, with a smooth texture.

The VRM attributes of form, line, color, texture are:
Form – flat to rolling
Line – generally horizontal
Color – brownish-grey in winter and grey-green in summer
Texture – smooth to the horizon.
The proposed action is located in an area designated VRM Class IV.

Class IV for visual resources management - VRM objective provide for management activities which require major modification of the existing landscape character...every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

The basic landscape elements of form, line color and texture would not change under any management alternative. Potential impacts to visual resources would be analyzed and mitigated as allotment management activities are proposed in the future.

Impacts from the No Action Alternative
Direct and Indirect Impacts

The basic landscape elements of form, line color and texture would not change under any management alternative. Fence installed under the proposed action would not be present under the no action alternative and thus create no additional impact.

Cumulative Impacts

There are no cumulative impacts to VRM if the fence is installed.

Mitigation Measures and Residual Impacts

There are no mitigative measures to be taken.

3.6 Cave and Karst

Affected Environment

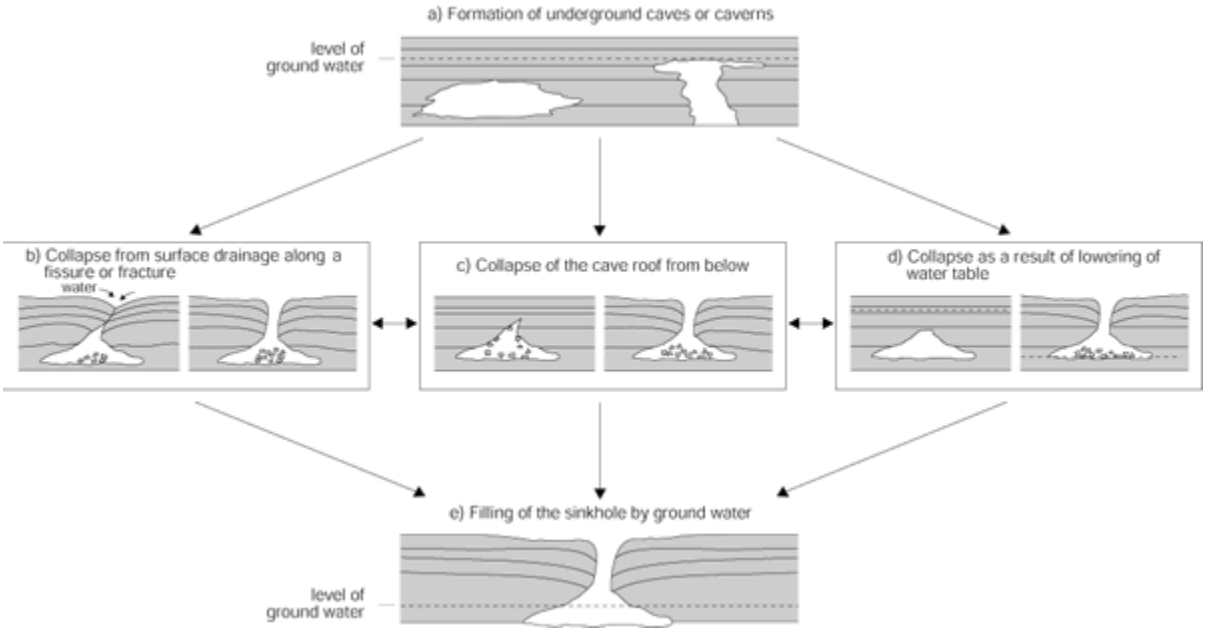
This proposed project is located in gypsum karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Gypsum karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region.

The BLM categorizes all areas within the Roswell Field Office as having either low, medium, high cave potential based on geology, occurrence of known caves, density of karst features, and potential impacts to fresh water aquifers. This project occurs within a High karst zone and is located within 1500 feet of known cave(s) or karst feature(s). A High karst zone is defined as an area in known soluble rock types and contains a high frequency of significant caves and karst features such as sinkholes, bedrock fractures that provide rapid recharge of karst aquifers, and springs that provide riparian habitat.

Unknown features may also exist. Due to these factors, this action is subject to mitigation measures designed to adequately protect known and potential cave/karst resources.

Sinkholes and cave entrances collect water and can accumulate rich organic materials and soils. This, in conjunction with the stable microclimate near cave entrances, support a greater diversity and density of plant life which provides habitat for a greater diversity and density of wildlife such as raptors, rodents, mammals, and reptiles.

The interior of the caves support a large variety of troglobitic, or cave environment-dependent species. The troglobitic species have adapted specifically to the cave environment due to constant temperatures, constant high humidity, and total darkness. Some of the caves in the area contain bat colonies. Many of the caves in this area contain fragile cave formations known as speleothems.



Sinkhole Development (http://geoinfo.nmt.edu/tour/state/bottomless_lakes/home.html)

White Nose Syndrome and Identified Hibernacula

Many Roswell Field Office caves are identified or potential hibernation sites and are optimum sites for White Nose Syndrome (WNS) establishment. Any karst area north of Roswell is subject to this situation. While WNS is still 500 miles from the area, it is still of great concern to the bat population in this area. White Nose Syndrome was first documented on hibernating bats at Howe caverns in 2006 in New York and by 2014 it had moved over 1300 miles across twenty eastern and southern states, and five Canadian provinces, and has killed well over 5 million bats. Infection is definitely bat-to-bat and humans are suspected of transporting the spores

http://whitenosesyndrome.org/ &
http://static.whitenosesyndrome.org/sites/default/files/resource/wnshumantransmissionposter.pdf

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

Cave and karst features provide direct conduits leading to groundwater. These conduits can quickly transport surface and subsurface contaminants directly into underground water systems and freshwater aquifers without filtration or biodegradation. In addition, contaminates spilled or leaked into or onto cave/karst zone surfaces and subsurfaces may lead directly to the disruption, displacement, or extermination of cave species and critical biological processes.

In cave and karst terrains, rainfall and surface runoff is directly channeled into natural underground water systems and aquifers. Changes in geologic formation integrity, runoff quantity/quality, drainage course, rainfall percolation factors, vegetation, surface contour, and other surface factors can negatively impact cave ecosystems and aquifer recharge processes. Blasting, heavy vibrations, and focusing of surface drainages can lead to slow subsidence, sudden collapse of subsurface voids, and/or cave ecosystem damage.

BLM maintains up to date locations and surveys of known cave and karst features. Projects will be located away from these features whenever possible. Fences and pipelines will be routed around cave and karst features at an adequate distance to mitigate adverse impacts

Highly sensitive cave and karst areas with critical freshwater aquifer recharge concerns may have a number of special surface and subsurface planning and construction requirements based upon the risk of adverse impacts created by a specific location or process.

Impacts from the No Action Alternative
Direct and Indirect Impacts

Under the No Action Alternative, no impacts to cave and karst resources would occur on public lands.

Cumulative Impacts

The incremental impact of authorizing surface disturbing impacts on cave and karst resources must be analyzed in the context of impacts from cumulative actions. Other BLM actions that could have impacts on the identified resources include: livestock authorization on other allotments in the area, oil and gas activities on the uplands, rights-of-way crossing the area and recreational use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state or private lands.

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the construction of a fence on this allotment. The cumulative impacts to cave and karst resources from the construction of this project are minimal.

Mitigation Measures and Residual Impacts

Livestock grazing could be affected by the presence of karst features if livestock became entrapped in deep sinkholes, which has occurred with sheep grazing on karst land north of Roswell. This could be prevented by creating exclosures around identified karst features that pose a hazard to livestock. In the event that range improvement projects are proposed, the presence of karst features would be further analyzed in related environmental assessments.

If new information surfaces that livestock grazing is negatively impacting cave and karst resources, action will be taken at that time to migrate those impacts.

3.7 Paleontology

Affected Environment

The BLM manages paleontological resources for their scientific, educational, and recreational values in compliance with the Paleontological Resources Preservation Act (PRPA) of 2009. The PRPA affirms the authority for many of the policies the Federal land managing agencies already have in place for the management of paleontological resources such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The statute provides authority for the protection of paleontological resources on Federal lands including criminal and civil penalties for fossil theft and vandalism.

The BLM classifies geologic formations to indicate the likelihood of significant fossil occurrence (usually vertebrate fossils of scientific interest) according to the Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands (IM 2008-011). These classifications, Classes 1 to 5, determine the procedures to be followed prior to granting a paleontological clearance to proceed with a project.

All paleontological resource stipulations will be followed as indicated in the attached COAs. These stipulations may include, but are not limited to, altering the location or scope of the project, permanent fencing or other physical, temporary barriers, monitoring of earth disturbing construction, project area reduction or specific construction avoidance zones, and fossil recovery. If the assessment of a proposed action indicates a reasonable expectation of adverse impacts to significant paleontological resources, a field survey will be necessary to properly document and recover any fossil material and associated data.

Upon review, a determination for final project clearance and stipulations shall be issued by the BLM RFO.

Most of the project area is designated as a Class 2 area (Quaternary piedmont and alluvial deposits). Ground disturbing activities are not likely to disturb paleontological resources in this area.

Impacts from the Proposed Action Alternative
Direct and Indirect Impacts

The Potential Fossil Yield Classification (PFYC) data indicate the Proposed Action is within an area designated as Class 2. The Proposed Action would not affect any known scientifically significant paleontological resources, however, surface disturbing activities and increased human access could produce unexpected discoveries and potential paleontological resource damage. Direct impacts could include damage or destruction during construction, with subsequent loss of information. Indirect impacts would include fossil damage or destruction by erosion due to surface disturbance.

Impacts from the No Action Alternative
Direct and Indirect Impacts

By not approving the project under the No Action Alternative, there would be no impact to paleontological resources in the area.

Cumulative Impacts

While it likely that there will be no significant cumulative impact from the proposed action, surface-disturbing activities in this area may potentially have negative cumulative impacts on paleontological resources.

Mitigation Measures and Residual Impacts

If previously undocumented paleontological sites are encountered during surface disturbing activities, the project proponent will immediately stop all surface disturbing activities in the immediate vicinity of the discovery. The proponent with then immediately notify the paleontological monitor (if required) or the BLM RFO paleontology resource staff. It is necessary to protect fossil material and their geological context upon discovery during surface disturbing activities. The BLM RFO paleontology resource staff would then evaluate the site. Should the discovery be evaluated as significant, it will be protected in place until mitigation measures can be developed and implemented according to guidelines set by the BLM. Mitigation measures such as data and fossil recovery may be required by the BLM to prevent impacts to newly identified paleontological resources.

4.0 Supporting Information

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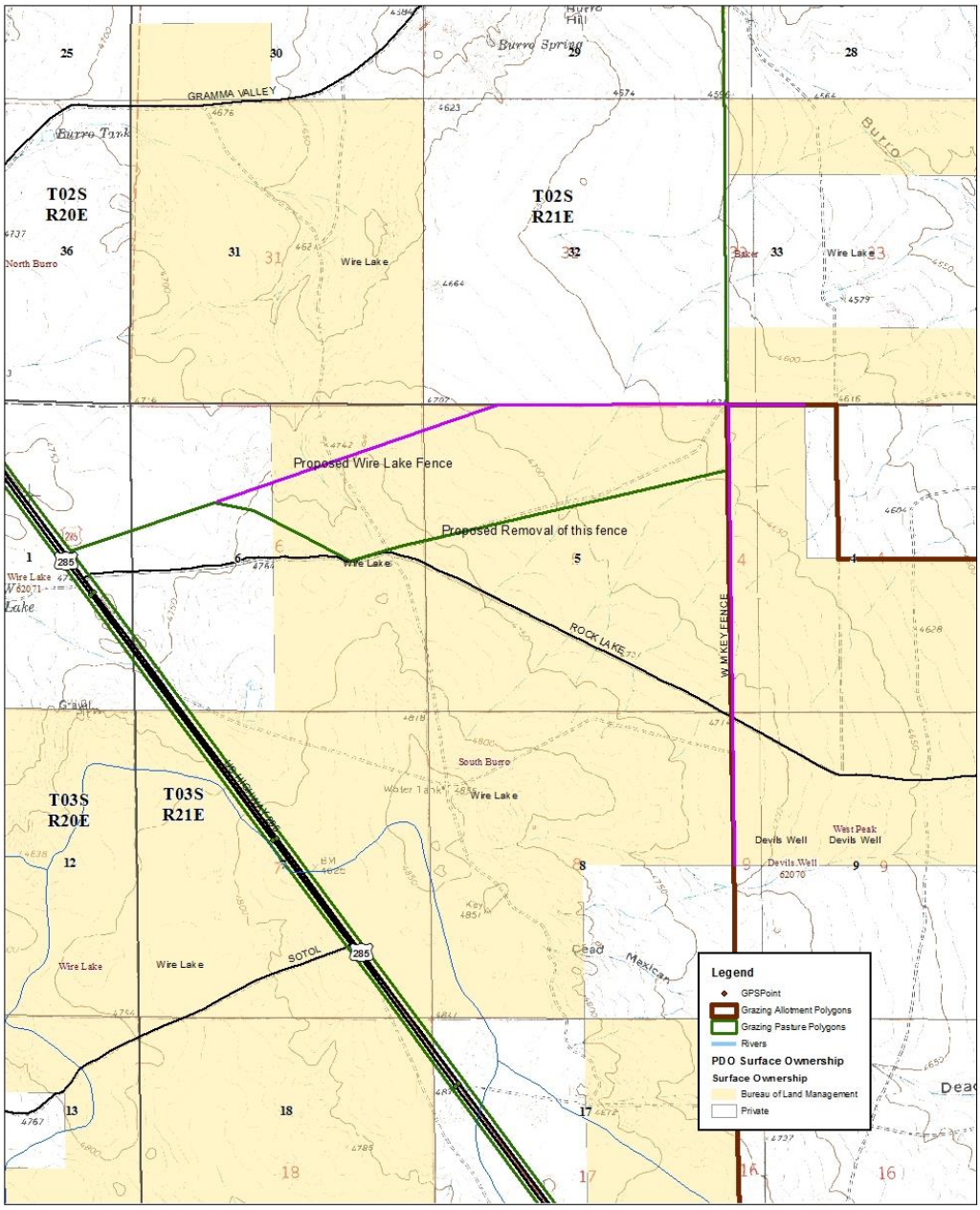
5.0 Map of the Proposed Project

Wire Lake Fence Construction (barbed wire) and Removal of net wire fence



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