FINDING OF NO SIGNIFICANT IMPACT/RATIONALE

DOI-BLM-NM-P010-2010-33-EA

FINDING OF NO SIGNIFICANT IMPACT: I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined the proposed action will not have significant impacts on the human environment and that preparation of an Environmental Impact Statement (EIS) is not required.

Rationale for Recommendations: The proposed action would not result in any undue or unnecessary environmental degradation. The proposed action will be in compliance with the 1007 Roswell Resource Management Plan and Record of Decision and the 2001 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management.

_/s/_J H Parman _____ _6/9/10____
J H Parman Date
Acting Assistant Field Manager Resources

Proposed Decision: It is my decision to implement the proposed action as described in DOI-BLM-NM-P010-2010-33-EA and issue grazing permits for allotments analyzed in this document. The mitigation measures identified in the attached EA have been formulated into terms and conditions that will be attached to the grazing permits. This decision incorporates, by reference, those conditions identified in the attached Environmental Assessment.

Rationale: Based on the rangeland health assessments (RHAs) and previous monitoring, resource conditions on these allotments are sufficient and sustainable to support the level of use outlined in the ten (10) year grazing permit.

The Proposed Action is in conformance with the 1997 Roswell Resource Management Plan, and the 2001 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management.

Right of Protest and Appeal: If you wish to protest this proposed decision, you are allowed 15 days from receipt of this notice within which to file a protest with the Field Manager, Bureau of Land Management, 2909 West 2nd, Roswell, NM 88201, under Sec. 43 CFR 4160.1 and 4160.2.

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, in accordance with 43 CFR 4160.3 (a). In accordance with 43 CFR 4160.3(b) upon a timely filing of a protest, after a review of protests received and other information pertinent to the case, the authorized officer shall issue a final decision.

Any applicant, permittee, lessee or other person whose interest is adversely affected by the final decision may file an appeal in accordance with 43 CFR 4.470 and 43 CFR 4160.4. The appeal must be filed within 30 days following receipt of the final decision, or within 30 days after the date the proposed decision becomes final as provided for in 43 CFR 4160.3(a). The appeal may be accompanied by a petition for a stay of the decision. The appeal and petition for a stay must be filed in the office of the authorized officer, as noted above. The appeal shall clearly and concisely state the reasons why the appellant thinks the final decision is in error, and otherwise complies with the provisions of 43 CFR 4.470.

Appeals can be filed at the following address:

Field Office Manager
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, NM 88201

ENVIRONMENTAL ASSESSMENT

GRAZING AUTHORIZATIONS

For

ALLOTMENTS 64007, 64011, 64070, 64019, 64018, 64029, 64030, 64032, 64036, 64025, 64024

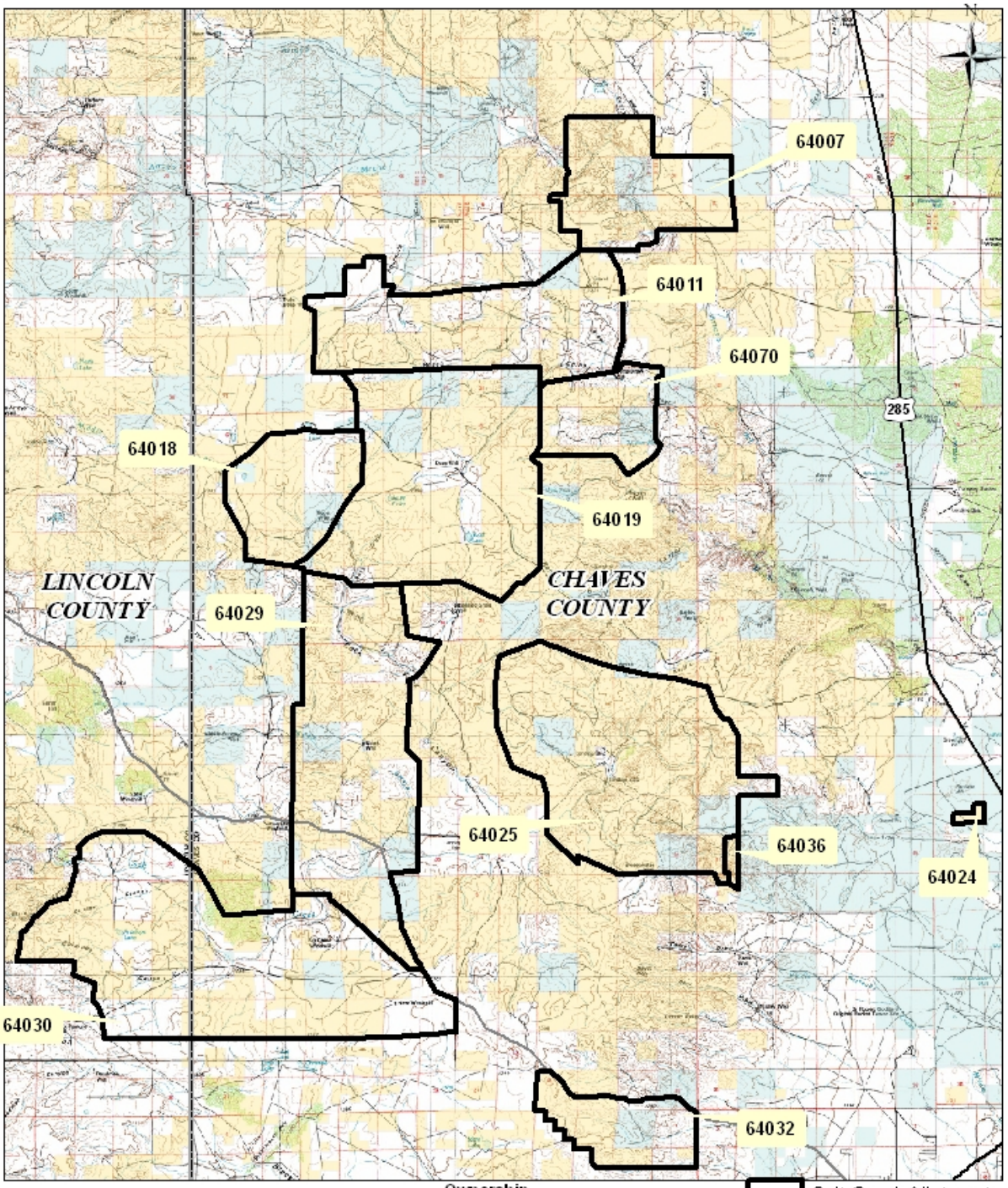
Salt Creek
(See Map)

DOI-BLM-NM-P010-2010-33-EA

January 20, 2010

U.S. Department of the Interior
Bureau of Land Management
Roswell Field Office
Roswell, New Mexico

Salt Creek Allotments



Ownership

Surface Ownership

Bureau of Land Management

Private

State

Salt Creek Allotments

0 1.25 2.5 5 Miles

No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by the BLM. Spatial information may not meet National Map Accuracy Standards. This information is subject to change without notification.

Printing Date: 10/13/2009 Prepared By: pwatts File: V:\CONFLICT_MAP\RFO Conflict 091609.mxd

I. BACKGROUND

Purpose and Need for the Proposed Action

The purpose of issuing a new grazing permit would be to authorize livestock grazing on public range on Allotments [64007, 64011, 64070, 64019, 64018, 64029, 64030, 64032, 64036, 64025, and 64024]. When authorizing livestock grazing on public range, the Bureau of Land Management (BLM) must conduct a site-specific NEPA analysis before issuing a permit to authorize livestock grazing. This environmental assessment fulfills the NEPA requirement by providing the necessary site-specific analysis of the effects of issuing a new grazing permit on these allotments. The permit would be needed to specify the types and levels of use authorized, and the terms and conditions of the authorization pursuant to 43 CFR §§4130.3, 4130.3-1, 4130.3-2, and 4180.1.

The scope of this environmental assessment is limited to the effects of issuing a new grazing permit on these allotments. Over time, the need could arise for subsequent management activities which relate to grazing authorization. These activities could include vegetation treatments (e.g., prescribed fires, herbicide projects), range improvement projects (e.g., fences, water developments), and others. Future rangeland management actions related to livestock grazing would be addressed in project-specific NEPA documents as they are proposed.

Though this environmental assessment specifically addresses the impacts of issuing a grazing permit on these allotments, it does so within the context of overall BLM management goals. Allotment management activities would have to be coordinated with projects intended to achieve those other goals. For example, a vegetation treatment designed to enhance watershed condition or wildlife habitat may require rest from livestock grazing for one or more growing seasons. Requirements of this type would be written into the permit as terms and conditions.

Conformance with Land Use Planning

The proposed action conforms to the 1997 Roswell Approved Resource Management Plan (RMP) and Record of Decision; 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.

Relationships to Statutes, Regulations, or Other Plans

The proposal to renew the livestock grazing permit on this allotment is in conformance with the 1994 Environmental Impact Statement for Rangeland Reform; 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.).

II. PROPOSED ACTION AND ALTERNATIVES

No Action (Proposed Action) - Current Livestock Management

The proposed no action is to issue a ten-year permit to graze cattle on all allotments; horses on all allotments except 64036 and 64024; goats on allotments 64070 and 64030; and sheep on allotments 64070, 64018, 64030, and 64025. Current permitted use is based on long term monitoring and rangeland conditions. Additionally rangeland health assessments have been

completed and all allotments meet the Standards for Public Land Health. See Table 1 below for details of the individual allotments.

Table 1. Animal Units/Animal Unit Months

Allotment Number	Allotment Name	Acres of Public Land	Percent Public Land	Animal Units Authorized	Animal Unit Months Authorized	Livestock	Livestock Number
64007	Pierce Ranch	5380	73%	160	1402	Cattle	159
						Horse	1
64011	Four Mile	6534	53%	303	1927	Cattle	300
						Horse	3
64070	China Draw	2258	55%	251	601	Goat	100
						Sheep	225
						Cattle	26
64019	Deep Well Ranch	13,509	73%	484	4240	Cattle	483
						Horse	1
64018	South Brown Lake	4095	72%	168	1418	Cattle	162
						Sheep	5
						Horse	1
64029	Will Johnson Tank	10,164	63%	411	3107	Cattle	407
						Horse	4
64030	Chimney Canyon	6031	54%	694	3952	Cattle	584
						Goat	100
						Sheep	5
						Horse	5
64032	L-X Ranch	2152	57%	67	458	Cattle	66
						Horse	1
64036	Salt Creek Flat	210	100%	2	24	Cattle	2
64025	Upper Salt Creek	14,882	85%	1425	3519	Cattle	71
						Horse	4
						Sheep	1350
64024	Salt Cr. Farm & Ranch	177	100%	3	36	Cattle	3
Totals		**65,392**		**3,968**	**20,684**		**20,684**

There would be no changes from current livestock management as conducted by the permittee, or to existing range improvements already in place. Future projects or activities identified by the permittee or the BLM can still be considered for implementation. Rangeland monitoring would continue on the allotment and changes to livestock management would be made as necessary. If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken to mitigate those impacts.

No Grazing Alternative

Under this alternative a new grazing permit would not be issued for these allotments. No grazing would be authorized on federal land on this allotment under this alternative. Under this alternative and based on the land status pattern within the allotment, approximately 221.4 miles of new fences would be required to exclude grazing on the federal land.

Alternatives Considered But Not Analyzed

Grazing with reduced numbers – BLM considered authorizing grazing with reduced numbers on these allotments. Grazing with reduced numbers would produce impacts similar to the proposed action. Additionally, these allotments meet the Standard for Public Land Health and monitoring studies do not indicate changes are necessary. Therefore, BLM will not analyze this alternative.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

General Setting

These allotments are located in the Salt Creek and Middle Arroyo drainages, in Chaves County between 10 and 30 miles Northwest of Roswell. See Location Map.

Elevations range from about 3300 feet in the Southeast part of the allotments along Highway 285 up to about 4200 feet along Northwest boundary.

The climate is semi-arid with normal annual temperatures ranging from 20^0F to 95^0F at Bitter Lake National Wildlife Refuge. Average annual precipitation is approximately 12.6 inches, primarily as rainfall. Annual precipitation has ranged from 3.11 inches to 21.08 inches.

Affected Resources

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, Cultural Resources, Floodplains, Native American Religious Concerns, Visual Resources, Prime or Unique Farmland, Minority/Low Income Populations, Hazardous or Solid Wastes, Wild and Scenic Rivers, and Wilderness. Prior to authorizing range improvements, a Class III Cultural Survey must be completed ensuring cultural resources will not be affected. Affected resources and the impacts resulting from livestock grazing are described below.

Vegetation this is a test

<u>Affected Environment</u>
The allotments are comprised of several vegetation community types arranged in a mosaic over the allotments. Grasslands, shrubs, and half shrub communities dominate. There are small inclusions of the Drainages, Draws and Canyons (DDC) associated with the draws running through the allotment.

General objectives or guidelines for each vegetation community are described in the Roswell Approved RMP and Record of Decision (BLM 1997) and the Roswell Draft RMP/EIS (BLM 1994).

Grassland and shrub communities are intermixed with all community types. Sand dropseed, three-awn, tridens, black grama, burrograss, blue grama, sideoats grama, vine mesquite, New

Mexico feather grass, burrograss, and tobosa are common throughout the allotments. Alkali sacaton is the dominant species in the bottomlands. Shrub communities contain catclaw mimosa, beargrass, ephedra, white thorn acacia, skunkbush, and feather plume.

The DDC Community is comprised of the major drainages crossing the allotment, including Salt Creek which is the largest drainage.

The Rangeland Health Assessments indicate a problem with invasive plants, most notably mesquite, cholla, creosote, and snakeweed. The Rangeland Health Assessments for these allotments can be viewed by the public at the website: www.blm.gov/nm/st/en/fo/Roswell_Field_Office/roswell_document_library.html

Rangeland monitoring studies have been established in key areas within the allotments. Table 2 below lists the key areas, identified by the vegetation ID number, within each allotment as well as the ecological site associated with each key area. These permanent sites are used to track vegetation changes and to determine proper stocking rates.

Table 2.

ALLOTMENT NAME AND NUMBER	KEY AREA	ECOLOGICAL SITE
64007—Pierce Ranch	191	Gravelly—CP3
	190	Limestone Hills—CP3
	188	Loamy—CP2
64011—Four Mile	135	Loamy—CP3
	089	Gravelly—CP3
	090	Very Shallow—CP4
	136	Shallow—CP3
64070—China Draw	625	Limestone Hills—SD3
64019—Deep Well Ranch	040 & 042	Very Shallow—CP4
	043	Loamy—CP2
	041	Loamy—CP3
64018—South Brown Lake	039	Loamy—CP3
64029—Will Johnson Tank	205, 206, 204	Very Shallow—CP4
	207, 278, 303, 202	Loamy—CP2
	279	Shallow—CP2
64030—Chimney Canyon	170, 167, 168, 176	Loamy—CP2
	171	Shallow Sand—CP2
	174, 177, 172	Very Shallow—CP4
	162	Deep Sand—CP2
	175	Loamy—CP3
64032—L-X Ranch	280	Shallow—SD3
64036—Salt Creek Flat	157	Limestone Hills—SD3
64025—Upper Salt Creek	091, 094, 095	Shallow—SD3
	092 & 093	Very Shallow—CP4
	096	Loamy—CP2
	097	Loamy—SD3
64024—Salt Creek Farm and Ranch	153	Loamy—SD3

The description for these ecological sites was developed by the Soil Conservation Service (now referred to as the National Resource Conservation Service) in their ecological site guides. Ecological site descriptions are available for review at the Roswell BLM office, any Natural Resources Conservation Service office or accessed at www.nm.nrcs.usda.gov.

From 1978 to 1999 agencies were using the traditional range condition methodology to depict range condition. This compared collected rangeland monitoring information with the potential vegetation community in terms of species composition by weight. The rating is based on a scaled of 0 to 100 with 100 being the actual representative site.

In 1999 the National Resource Conservation Service (NRCS) revised the methodology for comparing the existing vegetation community with the potential vegetation community and to aid in the determination of ecological condition. This methodology is called the Similarity Index (SI). The BLM is currently incorporating this revision into the monitoring and evaluation processes. The SI compares existing vegetation data (collected from rangeland monitoring) with the potential vegetation community described in the NRCS ecological site guide for that site. The index is based on a scale of 0 to 100 with 100 being the actual representative site. For the Loamy SD-3 ecological (range) site, the normal year production is about 925 pounds per acre. The index takes into account vegetation species present and the relative amount of production for each species when compared to the potential for the range site.

The Roswell Field Office is currently in the process of integrating the revised methodology into current monitoring and evaluation processes. The traditional range condition rating method (used from 1980 to 1998) is retained for comparison purposes.

The percent bare ground and rock found on the allotments fall within the parameters established by the RMP/EIS for this vegetative community. Copies of the monitoring data and the analysis of the data are available at the Roswell Field Office.

Rangeland Health Assessment data has been collected in fiscal years 2007, 2008, and 2009. Analysis of the rangeland health assessments indicates that all three indicators (biotic, hydrology, and soils) have been met for all allotments. For a detailed analysis please refer to the data sheets listed at the following web address. The long term vegetative production, ground cover and trend data for these allotments are also available at the following website address: http://nm.blm.gov/rfo/index.htm.

Noxious and Invasive Weeds: 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. The noxious weed African rue has been documented in allotment 64025.

Environmental Impacts

Under the proposed action the vegetation in the Grassland community will continue to be grazed and trampled by domestic livestock as well as other herbivores. The area has been grazed by livestock since the early part of the 1900's, if not longer. Ecological condition and trend is expected to remain stable and/or improve over the long term at the permitted number of livestock.

Upland sites would reflect a static ecological condition trend at the existing permit level. Some grassland areas would remain static due to a higher composition of mesquite, creosote, broom snakeweed, and cholla. In the long term, upland vegetation would continue to improve in all pastures from the implementation of a rest-rotation system.

Range monitoring data indicate that the vegetation is sustainable to meet multiple resource requirements and forage at the permitted use level under the Proposed Action. Data indicate that livestock grazing is compatible with vegetation cover and composition objectives. In addition to the upward trend in ecological condition, monitoring data show the vegetative resources have been improved and sustained since monitoring began in 1981.

Under the No Grazing Alternative, no impacts to vegetation resources would occur on public lands from authorized livestock grazing. Vegetation cover would increase over the long term in some areas. Grasslands in the uplands would increase in cover and composition, but composition would be tempered by invasive species somewhat dominating the shrub component. Alkali sacaton in the bottomlands would, in the short term, increase in cover and composition but would then taper off in the long term, becoming decadent from the lack of standing vegetation removal by grazing.

Soils

Affected Environment

The ecological site descriptions were used to describe and analyze impacts to soils on these allotments. There are 21 soil map units represented on the allotments: The soil units covering the most area are described below in Table 4. More in-depth information can be found in the soil survey.

Table 4.

ECOLOGICAL SITES	SOIL DESCRIPTIONS
Gravelly—SD3 **Toriorthents-Philder-rock outcrop**	Very Shallow and Shallow; well drained; moderate permeabilities with a low water holding capacity; water is commonly held available by the indurated caliche layer for short periods for plant use.
Loamy—SD3 **Reakor**	Mostly deep to moderately deep and well drained; permeability is moderately slow; and available water-holding capacity is high to moderate
Limestone Hills—SD3 **Ector rock outcrop**	Very shallow and well drained; available water holding capacity is low; moderate permeability; and during periods of rainfall, moisture runs off the stones and rock outcrops and accumulates in the soil or on the surface of the limestone bedrock.
Shallow—SD3 **Ector very cobbly loam**	Shallow to very shallow; permeability is moderate and moderately rapid and water holding capacity is low. All water is stored above the caliche layer in the shallow soil profile.
Loamy—SD3 **Alama Poquita**	Moderately deep and well drained; surface runoff is medium; the permeability is slow to moderately rapid; and the infiltration rate is medium to moderately slow.
Sandy Plains—CP2 **Ima-Blakeney**	Deep and well drained; moderate permeability; the available water capacity is moderate or high; and because of the coarse surface textures, the soils, if unprotected by plant cover and organic residue, becomes windblown and low hummocks or dunes are formed around shrubs.
Sand hills—SD2 **Roswell**	Deep and excessively drained; rapid permeability; available water capacity is low; and if unprotected by plant cover and organic residue, becomes windblown and converts rapidly to unstabilized dunes.
Shallow Sand—CP2 **Conger-Reagan**	Well drained; shallow and very shallow over hard caliche; permeability is rapid; and the available water capacity is very low.
Gypsum Uplands—CP2 **Hollomex**	Shallow and very shallow over gypsum; the available water capacity is very low; and permeability is moderate.
Shallow Limestone-CP2 **Deama**	Well drained; very shallow to shallow over limestone; permeability is moderate to moderately slow; available water capacity is very low; and water and wind erosion hazard is moderate.
Limestone Hills—CP3 **Alama Silt Loam**	Shallow over limestone, although pockets of deep soil exist; water intake is moderate to moderately rapid; and the water holding capacity is generally low due to the depth of the soil.
Loamy—CP3 **Threadgill-Asparas**	Moderately deep to deep and well drained; soil permeability is moderate to moderately slow; available water holding capacity is moderately high to high; as vegetative cover decreases, the intake rate and holding capacity also decreases; and if the soil is not adequately covered, wind and water erosion can be severe
Shallow—CP3 **Pastura-Darvey**	These soils are usually less than 20 inches deep over a petrocalcic layer, weakly cemented caliche or unweathered bedrock; water intake is moderate to rapid and water holding capacity is usually low.

Gravelly—CP3 Hogadero-Pena	Soils are very deep; permeability is moderate to moderately rapid; the water holding capacity is moderate; due to the elevated position on the landscape, this soil is subject to scouring by high winds; and the soils on this site cause quick plant response to light showers since gravels in the soils concentrate available moisture.
Limestone Hills—CP4 Ector rock outcrop	Complex soils with rocky outcrops with interspaces from very shallow to deep; well drained; permeability is moderate to moderately slow; and the water holding capacity is low except at seams and cracks in the limestone bedrock.
Very Shallow—CP4 Ector Very Cobbly Loam	Well drained, very shallow to shallow over unfractured limestone; permeability is moderate to moderately slow; available water holding capacity is low; and water and wind erosion hazard is moderate.
Limestone Hills—CP3 Deama-Rock outcrop	Soils are typically over limestone, although pockets of deep soil exist. Water intake is moderate to moderately rapid. Water holding capacity is generally low due to depth of soil.
Loamy—CP2 Hodgins-Ranstein	Moderately deep and deep well drained soils on uplands and alluvial fans. The surface runoff is medium. The permeability is slow to moderately rapid. Infiltration rate is medium to moderately slow.
Loamy—CP2 Reagan-Conger	This soil is deep and well drained. Permeability is moderate. Available water capacity is high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high.
Shallow—SD3 Upton	This soil is shallow and well drained. Permeability is moderate and available water capacity is very low. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is moderate.
Deep Sand—CP2 Roswell	The soils are deep and excessively drained. The soils have rapid permeability. Available water capacity is low. Because of the coarse textures and rapid drying of the surface, the soil, if unprotected by plant cover and organic residue, becomes wind blown and hummocks or dunes are formed around shrubs.

Environmental Impacts

Under the Proposed Action, livestock would remove some of the cover of standing vegetation and litter, and compact the soil by trampling. If livestock management were inadequate, these effects could be severe enough to reduce infiltration rates and increase runoff, leading to greater water erosion and soil losses (Moore et al. 1979, Stoddart et al. 1975). Producing forage and protecting the soil from further erosion would then be more difficult. The greatest impacts of removing vegetation and trampling would be expected in areas of concentrated livestock use, such as trails, waters, feeders, and shade.

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

Under the No Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Water Quality

Affected Environment - Ground Water
Fresh water sources are in the Glorieta Aquifer and the San Andres Aquifer. Depth to water in nearby wells in the Glorieta Aquifer range from 590 to 634 feet. Depth to water in nearby wells in the San Andres Aquifer range from 442 to 596 feet (New Mexico Office of the State Engineer Groundwater Data).

Environmental Impacts – Ground Water
Direct impacts to surface water quality would be minor, short-term impacts during stormflow. Indirect impacts to water quality related resources, such as fisheries, would not occur. The proposed action would not have a significant effect on ground water. Livestock would be dispersed over the allotment, and the soil would filter potential contaminants.

Affected Environment – Surface Water
No perennial surface water is found on the Public Land on this allotment.

Environmental Consequences – Surface Water
No impacts.

Wildlife

Affected Environment
The area of analysis is inclusive of 7 contiguous grazing allotments spanning an area about 24 miles north-south and about 12 miles east-west, and 3 allotments not contiguous with the main area of analysis. The range of wildlife habitat include open gently undulating grasslands, rolling limestone hills with shrubby species and various sizes of draws and swales that may also support large woody species such as hackberry and black walnut. All allotments are within the Macho Wildlife Habitat Area (WHA) with management emphasis on pronghorn antelope and wintering raptors. The WHA lies west of Highway 285 which serves as the eastern boundary of the WHA.

In general, the allotments provides a variety of habitat types for terrestrial wildlife species. 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 in an area topographically characterized by open, gently undulating terrain to hilly limestone terrain with numerous drainages throughout the landscape basically trending east toward the Pecos Valley.

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.

The following table provides a brief description of main wildlife and habitat concerns on the allotments.

TABLE 5 –

Allotment Number	Allotment Name	Description
64007	Pierce Ranch	Predominantly rolling limestone hills with Arroyo del Macho being the main drainage in the west half; east half is more rolling grasslands; potential habitat for desert mule deer and pronghorn antelope. Habitat is beginning to show impacts from oil and gas developments. Potential habitat improvement for pronghorn in the east half.
64011	Four Mile	Open grasslands; a major pipeline ROW and County Road bisects the allotment; comprised of several pastures. More hilly topography along the western portion of the allotment. Karst and caves higher density in southeast portion, including Torgac Cave with associated biota. Potential habitat for pronghorn antelope and occasional desert mule deer. Potential for habitat improvement for pronghorn movement due to mostly cattle grazing.
64070	China Draw	Predominantly rolling limestone hills China Draw in the north half; west half has more open grassland habits favoring pronghorn antelope; east half more hilly with potential habitat for desert mule deer, habitat in draws and drainages providing cover. The northeast portion of the allotment has impacts from oil and gas development. Continued grazing by sheep would occur, limiting potential habitat improvement for pronghorn and areas somewhat marginal due to roughness of terrain.
64019	Deep Well Ranch	Open and hilly grasslands with a major county road bisecting the allotment. This allotment is heavily involved with replacing netwire fence to barbed wire fence to support their cattle operation and improve habitat for pronghorn antelope. Several miles of netwire fence have been removed and two pronghorn antelope transplants have recently been conducted. Further improvement can be accomplished along boundary fences to enhance pronghorn movement across the landscape.

64018	South Brown Lake	Open and hilly grasslands due west of Deep Well Ranch with potential for supporting pronghorn antelope and expanding range due to the existing herd on Deep Well. Limited numbers of sheep on the allotment may allow for some fence modification along the common boundary of the two allotments.
64029	Will Johnson Tank	Open and hilly grasslands with numerous drainages including Salt Creek and Middle Arroyo. This allotment is oriented north-south about 10 miles across the landscape and encompasses many east-trending drainages and various habitat types. Comprised of 9 pastures and associated water developments. A cattle-only livestock operation. State Road 246 (Pine Lodge Rd) also bisects the ranch. Potential habitat for pronghorn antelope and existing habitats for desert mule deer. Adjacent to the Deep Well Ranch with potential for habitat improvement concerning pronghorn movement due to non-sheep use across the landscape and between pastures. Concern for fence maintenance and built to standards friendly to wildlife due to the number of pastures fences on the ranch.
64030	Chimney Canyon	Open and hilly grasslands, scattered juniper stands with Salt Creek located in the north half of the ranch supporting black walnut and other xeroriparian species. Comprised of 14 main pastures with associated water developments. Mostly cattle with goat included in the operation. East portion of the ranch grades into more hilly terrain to the west (foothills of the Capitan Range) and north (Salt Creek). Habitat for wildlife is diverse on this ranch due to topography and range ecosites. Potential for habitat improvement concerning pronghorn movement due to non-sheep use across the landscape and between pastures although goats may limit some activities in certain pastures. Desert mule deer habitat mostly is rougher country on the ranch. Concern for fence maintenance and built to standards friendly to wildlife due to the number of pastures fences on the ranch.
64032	L-X Ranch	Hilly grasslands with numerous small swales, contains the “breaks” between the foothills of the Capitan Range and the Pecos Valley. The State Highway Department has reconstructed right-of-way fences in this area to meet BLM standards on public land unless a request by rancher was for other fencing due to the kind of livestock being run on the ranch. This ranch has netwire along the right-of-way although the ranch across the road now has barbed wire. Potential for habitat improvement concerning pronghorn movement due to mostly cattle grazing.
64036	Salt Creek Flat	A small parcel of public land adjacent to the No. 5 Pasture in the extreme southeast corner of the Upper Salt Creek 64025 described below. Very limited potential for improvement for wildlife due to the acreage involved.

64025	Upper Salt Creek	Open and hilly grasslands, breaks, and Salt Creek running through the width of the ranch; a major pipeline bisects the ranch; oil and gas developments occur on the ranch. Comprised of 5 main pastures developed with a similar layout as a Savory grazing system. Habitat for wildlife is diverse on this ranch due to topography and range ecosites. Continued grazing by sheep would occur, limiting potential habitat improvement for pronghorn and areas somewhat marginal due to roughness of terrain. Concern for fence maintenance and built to standards friendly to wildlife due to the number of pastures fences on pulbic land on the ranch. Potential for habitat improvements for desert mule deer and upland game species.
64024	Salt Cr. Farm & Ranch	A small parcel of public land surrounded by State Trust Land. Very limited potential for improvement for wildlife due to the acreage involved.

Environmental Impacts

Under the Proposed Action and No Action, livestock grazing management and range improvement projects designed with consideration for wildlife would generally enhance the quality of wildlife habitat. Vegetation condition, forage production, and habitat diversity would improve, and wildlife species distribution and abundance would increase. The construction of livestock waters in previously unwatered areas would promote increased wildlife distribution and abundance, but may potentially increase grazing pressure in those same areas. Short-term impacts of range improvement projects would be the temporary displacement of wildlife species during construction activities.

The permitted use as described in the Proposed Action and No Action is not anticipated to have any adverse impacts to wildlife forage and availability. It is expected that no new impacts to wildlife habitat would occur from authorized livestock grazing with cattle. A long term benefit to wildlife movement would occur as netwire fencing would no longer be needed and would eventually be replaced, in part or all, with 4-strand barbed wire/smooth wire fences and passes. Grazing permits which continue to authorize sheep animal units would continue to impact wildlife movement patterns, specifically for pronghorn antelope, due to the continued use of restrictive netwire fencing.

Under the No Grazing Alternative, there would no longer be direct competition between livestock and wildlife for forage, browse and cover. Wildlife habitat would moderately improve. The limitation for improvement would continue to be the existing invading species component (e.g., mesquite, snakeweed) affecting plant composition. Since livestock grazing would not be permitted, range improvement projects that benefit wildlife, such as water developments, would be abandoned. New range improvement projects that would also benefit wildlife habitat, such as brush control, may not be implemented because these projects are primarily driven and funded through range improvement efforts.

Special Status Species, Including Threatened and Endangered Species

Affected Environment

Livestock grazing as a result of the grazing permit, may affect, but not likely adversely affect the bald eagle. With this determination, consultation with the US Fish and Wildlife Service is not required. It is expected that habitat and range condition would be maintained or improved by authorizing grazing conducive with vegetation production goals. Habitat for wintering bald eagles would not have significant negative impacts by livestock grazing since there is no presence of riparian habitats nearby, and no active or suitable nesting habitat. Positive impacts may result to the bald eagle from the proposed action by increasing the amount of carrion during the late winter and early spring on sheep allotments in the vicinity.

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.

As mountain plovers prefer short vegetation and actually seek out grazed pastures, the cumulative impacts from grazing are not anticipated to adversely affect the bird. Grazing practices which maintain or improve ground cover to the greatest extent possible could decrease mountain plover habitat. The preferred alternative will continue to emphasize proper watershed management, but is unlikely to adversely affect this species or its habitat in the mixed desert shrub area.

Since no known wintering locales or breeding sites have been found and no known prairie dog towns are located within this allotment, proper grazing management is not likely to jeopardize, destroy or adversely modify the habitat for the mountain plover or the black-tailed prairie dog (the black-tailed prairie dog has been removed from the listing).

Environmental Impacts

Under any of the alternatives, there would be no change to habitat of special status species.

Air Quality

Affected Environment

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility.

The area around the allotments 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. Air quality in the area is generally good and is not located in any of the areas designated by the Environmental Protection Agency as “non-attainment areas” for any listed pollutants regulated by the Clean Air Act.

The allotments are in a Class II area for the Prevention of Significant Deterioration of air quality as defined by the federal Clean Air Act. Class II areas allow a moderate amount of air quality degradation.

Air quality in the region is generally good, with winds averaging 10-16 miles per hour depending on the season. Peak velocities reach more than 50 miles per hour in the spring. These conditions rapidly disperse air pollutants in the region.

Environmental Impacts

Air quality would temporarily be directly impacted with pollution from enteric fermentation (ruminant livestock), chemical odors, and dust. Dust levels resulting from allotment management activities would be slightly higher under the Proposed Action than the No Grazing Alternative. The cumulative impact on air quality from the allotment would be negligible compared to all pollution sources in the region.

The federal Clean Air Act requires that air pollutant emissions be controlled from all significant sources in areas that do not meet the National Ambient Air Quality Standard (NAAQS). 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 (USDI, BLM 2003b). At the present time, the counties that lie within the jurisdictional boundaries of the Roswell Field Office are classified as in attainment of all state and national ambient air quality standards as defined in the Clean Air Act of 1972, as amended (USDI, BLM 2003b).

The Environmental Protection Agency (EPA), on October 17, 2006, issued a final ruling on the lowering of the NAAQS for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM2.5, was lowered to 35 ug/m³ from the previous standard of 65 ug/m³. This revised PM2.5 daily NAAQS was promulgated to better protect the public from short-term particle exposure. The significant threshold of 35 ug/m³ daily PM2.5 NAAQS is not expected to be exceeded under the proposed action.

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.

Greenhouse gases (GHGs), 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 GHGs 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 lease parcels 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.

Environmental 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 or No Action Alternatives 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.

Livestock Management

Affected Environment

In the past, these allotments have been permitted to be grazed yearlong by cattle, sheep, goats, and horses. The permits authorized 3,968 AUs, and this use level was based on a Livestock Use Agreement.

The allotments contain about 91,857 total acres (see Location Map). Landownership consists of approximately 16,054 acres of private land, 65,392 acres of federal land, and 10,505 acres of state 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.

Environmental Impacts

Under the Proposed Action, livestock would continue to graze public lands within the allotments. Existing pasture configurations and water developments would remain the same. Livestock management would still follow the single-herd rotation system.

Under the No Grazing Alternative, there would be no livestock grazing authorized on public lands. The public lands would have to be fenced apart from the private lands or livestock would be considered in trespass if found grazing on public land (43 CFR 4140.1(b)(1)). Exclusion of livestock from the public land would require approximately 221 miles of new fence at an approximate cost of $994,500 ($4,500/mile). This expense would be borne by the private landowner. Range improvements on public land would not be maintained and the BLM would have to compensate the permittee if any of the improvements were cost shared at the time of their authorization.

Under the No Grazing Alternative, the overall livestock operation could be reduced by 3,968 AUMs (those attached to the public lands) to approximately 0 AUMs on public lands. This would have an adverse economic impact on the permittee.

Cumulative impacts of the grazing and no grazing alternatives were analyzed in Rangeland Reform '94 Draft Environmental Impact Statement (BLM and USDA Forest Service 1994) and in the Roswell Resource Area Draft RMP/EIS (BLM 1994). The no livestock grazing alternative was not selected in either document.

Recreation

Affected Environment

The allotment provides habitat for numerous game species including desert mule deer, pronghorn, mourning dove and scaled quail. Predator and feral pig hunting may occur on the allotment, as well as trapping for predators or furbearers.

General sightseeing, wildlife viewing and photography are non-consumptive recreational activities that may occur. Rock collectors can find various minerals unique to the area, such as Pecos diamonds.

Environmental Impacts

Game and non-game wildlife species could realize long-term benefits through the improvement of habitat. It is expected that hunter success and wildlife viewing opportunities would be enhanced.

Under the No Grazing Alternative, no conflicts between ranching activities and recreational use would occur on public lands. Success of hunts and non-consumptive opportunities would remain the same or slightly improve. Vandalism could still occur to range improvements. Conflicts with OHV use would continue.

Cave and Karst

Affected Environment
Karst features have been documented in allotments number 64011 and 64007. Karst features are derived from dissolved limestone and gypsum from which caves and sinkholes can form. If additional karst features are discovered the cave specialist will be contacted to analyze the impacts of the additional karsts.

Environmental Impacts
Livestock grazing will not be affected by the presence of karst features. In the event that range improvement projects are proposed, the presence of karsts will be analyzed further in those environmental assessments.

IV. CUMULATIVE IMPACTS

A cumulative impact is defined in 40 CFR 1508.7 as:

> "the impact on the environment which results from the incremental impact of the action when added to other past, present, and 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."

The analysis of cumulative impacts focuses on the geographical area defined as the set of the allotments within the Salt Creek drainage as illustrated on the attached map and listed under Table 1. The specific resources being impacted are limited to those that are most important in terms of impacts resulting from remedial actions needing to be implemented to improve current environmental conditions.

The incremental impact of issuing a grazing permit on these resources 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 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.

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the authorization of livestock grazing on these allotments. The cumulative impacts to these allotments and adjacent allotments are insignificant.

The Proposed Action would not add incrementally to the cumulative impacts to threatened and endangered species, or to water quality. The conclusions, that impacts to these resources from grazing authorization would not be significant, are discussed in detail in Section III of the EA.

If the No Grazing Alternative were chosen, some adverse cumulative impacts would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

While global and national inventories of GHG are established, regional and state-specific inventories are in varying levels of development. Quantification techniques are in development – for example, there is a good understanding of climate change emissions related to fuel usage; however measuring and understanding the effects are less comprehensive. Analytical tools necessary to quantify climatic impacts are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined.

Due to the absence of regulatory requirements to measure GHG emissions it is not possible to accurately quantify potential GHG emissions in the affected areas as a result of renewing grazing permits. Some general assumptions however can be made: livestock, operating vehicles to support livestock grazing, and vehicles transporting livestock contribute to GHG emissions.

The New Mexico Greenhouse Gas Inventory and Reference Case Projection 1990-2020 (Inventory) states agricultural activities, including manure management, fertilizer use and livestock account for 7% of New Mexico's total GHG emissions. The Inventory estimates approximately 6.4 million metric tons GHG emission are projected by 2010 from all agricultural activities in the state. The Inventory states that GHG emissions from livestock, agriculture soil management and field burning were about 6.2 MMT of CO_2 equivalent in 2004. The Inventory makes the assumption that dairy cattle production will grow at the same rate as the general population and there will be no growth in the other categories within agriculture.

The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts. However, potential impacts to natural resources and plant and animal species due to climate change are likely to be varied, including those in the southwestern United States. For example, if global climate change results in a warmer and drier climate, increased particulate matter impacts could occur due to increased windblown dust from drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated.

Due to loss of habitat or competition from other species whose ranges may shift northward, the population of some animal species may be reduced or increased. Less snow at lower elevations would likely impact the timing and quantity of snowmelt, which, in turn, could impact water resources and species dependant on historic water conditions. Forests at higher elevations in New Mexico, for example, have been exposed to warmer and drier conditions over a ten year period. Should the trend continue, the habitats and identified drought sensitive species in these forested areas and higher elevations may also be more affected by climate change.

V. MITIGATION MEASURES

Vegetation monitoring studies will continue if a new grazing permit were issued under the Proposed Action. Changes to livestock management would be made if monitoring data showed adverse impacts to the vegetation.

If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken at that time to mitigate those impacts.

VI. RESIDUAL IMPACTS

Residual impacts are direct, indirect, or cumulative impacts that would remain after applying the mitigation measures. Residual impacts following authorization of livestock grazing would be insignificant if the mitigation measures are properly applied.

VII. SOCIO-ECONOMIC FACTORS

The proposed action, as outlined in this document, is not anticipated to alter the socio-economic conditions for either the permittees or Chaves County. Should the no livestock grazing alternative be adopted, economic impacts would occur. Chaves County would lose tax revenues on approximately 3,968 head of livestock annually.

Under the no livestock grazing alternative, it would be the responsibility of the permittees to prevent livestock from grazing on the public lands. To accomplish this, the permittees would most likely have to construct fences to exclude the public land. Approximately 221 miles of new fence would be needed at a cost of approximately $994,500 ($4,500/mile). BLM would also have to provide compensation to the permittees for their interest in authorized range improvements due to the exclusion of livestock grazing. These costs could be reduced or mitigated by land exchanges with either the state or the permittees to block up the public land.

IX. BLM Team Members

Helen Miller - Rangeland Management Specialist
Adam Ortega - Rangeland Management Specialist
Shane Trautner - Rangeland Management Specialist
Kyle Arnold - Rangeland Management Specialist
Mike McGee - Hydrologist
Rebecca Hill - Archaeologist
Howard Parman – Environmental Coordinator
Bill Murry – Outdoor Recreation Planner
Dan Baggao – Wildlife Biologist
Randy Howard - Wildlife Biologist
Jerry Dutchover – Geologist
John Simitz - Geologist
Jared Reese- Natural Resource Specialist

X. PERSONS AND AGENCIES CONSULTED

Chaves County Public Land Use Advisory Committee
Mark Marley - Permittee
New Mexico Department of Game and Fish
New Mexico Energy, Minerals, and Natural Resources Department
- Forestry and Resource Conservation Division
New Mexico Environment Department - Surface Water Quality Bureau
New Mexico State Land Office
U.S. Fish and Wildlife Service - Ecological Services
U.S. Fish and Wildlife Service - Fishery Resources Office

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Environmental Assessment Checklist, DOI-BLM-NM-P010-2010-33-EA

Resources	Not Present on Site	No Impacts	May Be Impacts	Mitigation Included	BLM Reviewer	Date
Air Quality			X	X	SWA Spec/Hydro. /s/ Michael McGee	2/23/10
Soils			X	X		
Watershed Hydrology			X	X		
Floodplains			X	X		
Water Quality - Surface			X	X		
Water Quality - Ground			X	X	Geologist/Hydrologist /s/ Michael McGee	2/23/10
Cultural Resources		X			/s/Rebecca L. Hill Archeologist	3Feb2010
Native American Religious Concerns	X					
Paleontology	X					
Areas of Critical Environmental Concern	X				/s/J H Parman Plan & Env. Coord.	1/26/10
Farmlands, Prime or Unique		X			Realty /s/Sanderford	2/11/10
Rights-of-Way		X				
Invasive, Non-native Species		X			/s/ Helen Miller Range Mgmt. Spec.	03/31/2010
Vegetation			X	X		
Livestock Grazing			X	X		
Wastes, Hazardous or Solid		X			/s/ Jared Reese Nat. Resource Spec.	3/29/2010
Threatened or Endangered Species	X				/s/ DBaggao Biologist	4/28/2010
Special Status Species	X					
Wildlife			X	X		
Wetlands/Riparian Zones	X					
Wild and Scenic Rivers	X				/s/Bill Murry Outdoor Rec. Plnr.	2/3/10
Wilderness	X					
Recreation		X				
Visual Resources		X				
Cave/Karst		X				
Environmental Justice	X				/s/ Jared Reese Nat. Resource Spec.	01/27/10
Public Health and Safety		X				
Solid Mineral Resources		√			/s/ Jerry Dutchover Geo/SPS	01/26/10
Fluid Mineral Resources		X			/s/ John S. Simitz Geo	02/02/2010