ENVIRONMENTAL ASSESSMENT

for

Section 3 Grazing Permit Authorization

on

Allotment 65019

Township 6 South, Range 26 East
Section 24 (part), 25 (part), 36 (all)

Township 6 South, Range 27 East
Sections 19 (part), 20 (part), 21 (part), 28 - 32 (all), 33 (part)

Township 7 South, Range 26 East
Sections 1 (part)

Township 7 South, Range 27 East
Sections 4 - 6 (part)

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I. BACKGROUND

A. Introduction

When authorizing livestock grazing on public range, the Bureau of Land Management (BLM) has historically relied on a land use plan and environmental impact statement to comply with the National Environmental Policy Act (NEPA). A recent decision by the Interior Board of Land Appeals, however, affirmed that the BLM must conduct a site-specific NEPA analysis before issuing a permit or lease 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 Allotment 65019 Cooper Pyeatt Ranch (Mark Cooper Estate - Carl Cooper, Personal Representative).

The scope of this environmental assessment is limited to the effects of issuing new grazing authorizations on Allotment 65019. Through consultation and coordination with the permittee, the need for subsequent management activities which relate to grazing authorization has been identified. These activities range improvement projects (e.g., fences, water developments), include vegetation treatments (e.g., prescribed fires, herbicide projects), and others.

Though this environmental assessment specifically addresses the impacts of issuing a grazing authorization on Allotment 65019, 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.

B. 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 Allotment 65019. 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, and 4130.3-2.

C. Conformance With Land Use Planning

The proposed action conforms with the Roswell Approved Resource Management Plan (RMP) and Record of Decision (BLM 1997) as required by 43 CFR 1610.5-3.

D. Relationships to Statutes, Regulations, or Other Plans

The proposed action and alternatives are consistent with the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (43 U.S.C. 315 et seq.), as amended; the Clean Water Act (33 U.S.C. 1251 et seq.), as amended; the Endangered Species Act (16 U.S.C. 1535 et seq.) as amended; the Public Rangelands Improvement Act of 1978 (43 U.S.C.

1901 et seq.); Executive Order 11988, Floodplain Management; and Executive Order 11990, Protection of Wetlands.

II. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action - Current Livestock Management

The proposed action is to issue the Cooper Pyeatt Ranch (Carl Cooper) a ten-year permit to graze cattle on Allotments 65019. Permitted use would be based on the 1996 grazing permit that authorizes grazing of 95 animal units (AUs) for the allotment, which corresponds to 638 animal unit months (AUMs)[1]. Cattle would be distributed yearlong on the allotment. The allotment is currently in the "M" (Maintain) management category.

Livestock management would be based on a four-pasture rest-rotattion system conducted by the permittee, and the continued upgrade of existing range improvements already in place. Interior fences between Big and South pastures would be rebuilt, including continuance of the fence to the southeast corner of the allotment (currently relying on the rough breaks as a physical barrier). Similarly, the south boundary fence between Cooper and Wagner allotments would be constructed rather than using the breaks as a barrier.

Once interior and exterior fences are rebuilt, 95 head of livestock would be managed as one herd and rotated beginning in West Pasture from January 1 through March 1, then moved to South Pasture from March 1 through May 1, and then wintered in Big Pasture from May 1 through January 1. The private grazing lands and corrals in Section 24 Pasture would be used in conjunction with Big Pasture.

Salt cedar would be targeted for eradication where it occurs throughout the allotment, but specifically in Bosque Draw and associated springs. Mesquite control would be proposed in the uplands.

Future projects or activities identified by the permittee or the BLM could still be considered for implementation. Rangeland monitoring would continue on the allotment and changes to livestock management would be made if necessary. If new information surfaces that livestock grazing is negatively impacting other resources, action would be taken to mitigate those impacts.

B. No Grazing Permit Alternative

Under this alternative a new grazing permit would not be issued for Allotment 65019. No grazing would be authorized on federal land on this allotment under this alternative.

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[1] For a cattle operation, an animal unit (AU) is defined as one cow with a nursing calf or its equivalent. An animal unit month (AUM) is the amount of forage needed to sustain that cow and calf for one month.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

A. General Setting

The allotment is located about 30 miles northwest of Roswell via Highway 70 and then Aztec County Road. It is situated on the east side of the Pecos River. The allotment is located entirely in Chaves County.

The allotment is situated between the Pecos River and the Haystack Mountain escarpment and is comprised of terraces dissected by numerous draws. Bosque Draw is the major drainage dissecting high terraces to the east. Elevations range from 4,050 feet along the escarpment on the east side of the allotment down to 3,800 feet to the west portion of the allotment.

The climate is semi-arid with normal monthly temperatures ranging from a minimum of 19°F in January to a maximum of 95°F in July at Bitter Lake National Wildlife Refuge (Owenby and Ezell 1992). Observed minimum and maximum temperatures were -22°F and 113°F, respectively (Kunkel 1984). Average annual precipitation is 11.6 inches, primarily as rainfall. Annual precipitation has ranged from 3.11 inches to 21.08 inches (Kunkel 1984).

Public lands on the allotment provide benefits for other users, as well as the permittee. These uses include recreation (e.g., hunting and wildlife viewing). There is active oil and gas development on the allotment.

B. Affected Resources

The following resources or values are not present or would not be affected by the authorization of livestock grazing on Allotment 65019: Cultural Resources, Native American Religious Concerns, Prime or Unique Farmland, Minority/Low Income Populations, Hazardous or Solid Wastes, Wild and Scenic Rivers, and Wilderness. Affected resources and the impacts resulting from livestock grazing are described below.

1. Livestock Management

Affected Environment

The allotment has been permitted to be grazed yearlong by cattle. The permit authorized 95 AUs, and stated that grazing will be in accordance with a 1996 livestock grazing permit. Grazing is by a cow/calf operation. Currently, the allotment is grazed yearlong without an established rest-rotation system. This stems from a recent change in operation from the original operator, Mark Cooper, who purchased the ranch in 1944, to the current personal representative for the Estate, Carl Cooper.

The total acreage of the allotment is approximately 7,393 acres. The allotment includes approximately 3,100 acres of federal land, 743 acres of state land, and 3,550 acres of private land,

of which 420 acres are uncontrolled by the permittee (i.e., not owned by the permittee, but not fenced apart from the allotment). The public range forms a mosaic throughout the allotment with the largest block in Big Pasture which also includes Bosque Draw, a major drainage to the Pecos River. The primary pastures considered in this EA are Big, South and West pastures.

Currently, livestock are generally run as two herds over entire the allotment. About 20 head are grazed in Big Pasture and 52 head in West Pasture for a total of 72 head, about half are calves. Heifers are moved from another Cooper ranch inholding (Allotment 65036) to the "Home Place", another name the ranch is referred to by the Coopers.

The headquarters for the allotment is located in the southeast quarter of Section 25 and serves as the common point between Big, South and West Pastures. Livestock in each of the pastures are able to water here by an electrically-powered well. Additional waters in Big Pasture are limited to natural waters in Bosque Draw and sandstone potholes on the breaks. Additional waters in South Pasture is limited sandstone potholes. The headquarters is the only water source for West Pasture. Section 24 is supplied by a pipeline from the headquarters which feeds troughs at the old corral.

Livestock are supplementally fed year-round in Section 24 Pasture and along a road in Big Pasture to keep them accustomed to being called. The headquarters in the only place to work cattle at this time. Cattle are called here to gather because it is too rough to work cattle in Big Pasture due to terrain (Bosque Draw).

The Big Pasture east boundary fence was rebuilt in 1998 by the adjacent ranch. The Cooper/Wagner south boundary fence was reconstructed in March 2000. Maintenance and reconstruction of the interior fence between all pastures is ongoing. The facilities in Section 24 Pasture are currently being rebuilt in order to work cattle in this pasture as well. Some cattle may move between pastures and the adjacent allotment on the south boundary by finding access through the rough breaks.

Table 1. Summary of Pastures		
Pasture Name	Acres*	Pasture Description
Big	900	Uplands; Bosque Draw; Little Haystack Mtn.; predominately BLM and State land
South	2400	Uplands; mixed BLM, private and state land
West	2300	Uplands; predominately State and private land
Section Twenty-four	1800	Uplands; private land
Allotment Total	7,400	The general topography is rolling uplands grading into the escarpment of the Pecos River valley

* Approximate acreage for proposed pastures

In 1985, Allotment 65019 was place in the "M" Category. Categorization was based on rangeland monitoring studies established by the BLM.

Since 1981, ecological condition, as shown by the data collected from 1981 through 1999, indicate a change from 50 to 55, and is currently in a mid seral ecological condition (BLM 2000).

Range improvements for the management of livestock include two corrals, drinking troughs with associated pipelines, an electrically-powered well at the headquarters, boundary fences, and old pasture fences. There are two non-operational troughs as well. The majority of the range improvements are privately owned.

There is one historical spring location on the allotment based on USGS topographic maps located in the south fork of Bosque Draw. Use of the spring as water sources is crucial during dry periods. Otherwise, the only other natural waters are the sandstone potholes along the escarpment.

Treatments for mesquite, broom snakeweed, or goldenrod have not been conducted by the BLM on the allotment to date. Mesquite was grubbed in Section Twenty-four Pasture (entirely private lands) in the 1970's.

Environmental Impacts

Under the Proposed Action, livestock would continue to graze public lands within the allotment. The allotment would remain as a four-pasture configuration. Livestock grazing would be more intensively managed and would be run as one herd. The implementation of a four-pasture rest rotation system would allow for livestock management flexibility so that alternating pastures receive adequate rest to maintain vegetation resources. The number of livestock and time spent in each pasture would be determined by available forage and by the production capability of the pastures.

Livestock management would be left to the discretion of the permittee who has coordinated with the BLM to develop and implement the new grazing system.

Water developments would be improved for a more reliable yearlong source. There would be no impacts to the current livestock grazing management scheme. The draw bottoms would continue to provide forage and water during dry periods when it is unavailable on the uplands. When in Big Pasture, livestock will use the upland sites but naturally congregate in the bottomlands because of the availability of food, water and shade.

Generally, pastures would be grazed three to four months out of the year, allowing for either yearlong rest or growing season rest in the ungrazed pastures. Annual rest-rotation schemes for the allotment would depends on precipitation and forage production.

Livestock would be deferred as necessary in pastures that receive vegetation treatments. Rangeland monitoring could become more intense to include additional vegetation monitoring, actual use figures and precipitation information.

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 lands (43 CFR 4140.1(b)(1)). The expense of fencing would be borne by the private landowner. Range improvements on public land would not be maintained.

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.

2. Vegetation

Affected Environment

The allotment is comprised of several vegetation community types arranged in a mosaic over the unit: (1) Grassland; (2) Mixed Desert Shrub; and (3) Drainages, Draws and Canyons (DDC). Riparian vegetation, primarily found within Bosque Draw, is discussed in the Riparian/Wetland section of this environmental assessment.

Grasslands are intermixed with all community types. Alkali sacaton is common in the gyp uplands, and bottomlands where it is interspersed with saltcedar and scattered cottonwood. Tobosa is dominant on sandy loam soils. Several upland grassland sites have a mesquite or broom snakeweed shrub component. Blue grama is primarily found on loamy soils and black grama on gravelly soils.

The Mixed Desert Shrub community is found primarily on the uplands and rough breaks above the bottomlands. This community type supports a larger percentage of shrub species than the other

types. Broom snakeweed and mesquite are the common shrubs with a black grama understory.

Rangeland monitoring studies have been established in key areas within the allotment. These studies are permanent sites to track vegetation changes and to determine proper stocking rates. Soil Conservation Service range site descriptions, used in conjunction with range monitoring data collected by the BLM, serve as the basis for range trend analysis and ecological condition ratings. Range study sites contain black grama, dropseed and tobosa grass, which are the key species for range condition determinations. Trend and ecological condition are determined from monitoring data collected every five years. Information about actual use is provided by the allottee, and includes the number of cattle, period, and pastures grazed. Utilization, production, and climatic studies are conducted by BLM specialists. Range condition for the pastures in 1999 are shown in Table 2.

Table 2. 1999 Range Condition By Pasture

Pasture	Rating[2]
Big	63.84 (LATE)
South	46.25 (MID)
West	69.07 (LATE)
Section 24	40.81 (MID)

General objectives or guidelines for each vegetation community (except for riparian/wetlands) are described in the Roswell Approved RMP and Record of Decision (BLM 1997) and the Roswell Draft RMP/EIS (BLM 1994). Table 3 summarizes the general vegetation resource objectives and monitoring data averages from 1981 to 1999.

Table 3. General Vegetative Community Objectives
(Monitoring Data Averages from 1981-99)

Component	Grassland		Mixed Desert Shrub	
	Percent Cover	Vegetative Cover by Percent Composition	Percent Cover	Vegetative Cover by Percent Composition
Grasses	**15 - 52** (14)	**30 - 85** (71)	**11 - 28** (15)	**55 - 75** (70)
Forbs		**10 - 15** (3)		**10 - 20** (9)

[2] The rating is the percentage of the plant community that is climax for the range site at the time of monitoring.

Shrubs	**3 - 12** (6)	**1 - 10** (25)	**6 - 15** (5)	**15 - 20** (21)
Trees		--		**1 - 10** (0)
Bare Ground	**14 - 60** (51)	--	**10 - 40** (60)	--
Small/Large Rock	**0 - 30** (<1)	--	**15 - 35** (4)	--
Litter	**8 - 44** (29)	--	**1 - 12** (16)	--

Environmental Impacts

Under the Proposed Action, grassland vegetation, primarily the key grass species in each range site, would continue to be grazed and trampled by livestock in all pastures. Annual seasonal impacts to bottomland plant species would continue in the River Pastures.

The Mixed Desert Shrub vegetation community found on the breaks would reflect slight vegetation use because primary forage species are not well represented in these drier areas, and livestock grazing in the pasture is of relatively short duration.

Upland sites would reflect an upward ecological condition trend at the existing permit level due to the recent addition of pastures included in the rest-rotation system. Some grassland areas in Smith Pasture would remain static due to the high composition of mesquite. In the long term, upland vegetation would continue to improve in all pastures from the implementation of a rest-rotation system.

Under the Proposed Action, range monitoring data indicate that the vegetation is sustainable to meet multiple resource requirements and forage at the permitted use level. Data in Table 3 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 over a number of years since monitoring began in 1982.

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 mesquite 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. Alkali sacaton composition would also be tempered by saltcedar dominating certain areas of the bottomlands.

3. Soils

Affected Environment

The *Soil Survey of Chaves County, New Mexico, Northern Part (USDA Soil Conservation Service, 1983)* was used to describe and analyze impacts to soils. Key soil map units represented on the allotment include: (1) Berino-Bluepoint complex and Faskin-Roswell complex on sand dune areas; (2) Hollomex-Reeves-Milner, dry loams on the west side of the allotment; (3) Pajarito-Bluepoint complex on alluvial sideslopes on the eastern part of the allotment; and (4) Torriorthents-Philder-Rock outcrop on elevation breaks on the east side of the allotment.

The soils are derived from calcareous alluvium and eolian deposits. They are typically deep and well-drained to excessively drained, with surface textures ranging from sandy clay loam to loamy fine sand. Generally, runoff is slow to medium, and the water erosion hazard ranges from slight to moderate. The Torriorthents-Philder-Rock outcrop soil, however, has rapid runoff and a high hazard of water erosion. The wind erosion hazard is high.

Ecological site descriptions are correlated to soil types and provide the basis for range trend analysis. The allotment is comprised of Bottomland SD-3 sites on the floodplain and adjacent areas, Gyp Upland SD-3 sites on the breaks, and Loamy SD-3and Sandy SD-3 sites on the upland.

Environmental Impacts

Under either alternative authorizing grazing, livestock would remove some of the cover of standing vegetation and litter, and compact the soil by trampling. If livestock management is 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 impacts of removing vegetation and trampling would be greatest in areas of concentrated livestock use, such as trails, waters, feeders, and shade.

Soils on the allotment are highly vulnerable to wind erosion. Removal of the vegetative cover increases the exposure of soils to the erosive force of wind. Monitoring data and allotment inspections indicate, however, that the current level of grazing should be sustainable, and should maintain an adequate vegetative cover to protect soils from wind erosion.

Under the No-Grazing Alternative, any risk of overgrazing would be eliminated. However, 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.

The level of grazing identified in the Proposed Action would continue to maintain an adequate ground cover for protection and development of the soils. The percentage of bare ground and rock fall within the parameters established by the Roswell RMP for the grassland vegetation community but is higher for bare ground in the Mixed Desert Shrub community.

4. Water Quality

Affected Environment

No perennial surface water is found on public lands on the allotment. Bosque Draw is an ephemeral draw with a drainage pattern to the Pecos River from east to west.

The allotment lies at the northern end of the Roswell Basin (New Mexico State Engineer 1995). Ground water is found at depths ranging from 50 to 100 feet (Geohydrology Associates, Inc. 1978).

Environmental Impacts

In general, livestock grazing is considered a potential cause of nonpoint source pollution, with sediment as the primary contaminant. Livestock grazing on the allotment, however, is not expected to be significant cause of sediment loading to the Pecos River under any management alternative.

Cumulative impacts to Pecos River water quality from grazing on Allotment 65019 would not be expected to be significant.

Livestock grazing would not be expected to have a significant impact on ground-water quality. Livestock would be dispersed over the allotment, and the soil would filter potential contaminants. Cumulative impacts to ground-water quality from grazing on Allotment 65019 would be negligible. Grazing impacts would be insignificant when compared to other potential sources of contamination, such as mineral development and agriculture.

6. Riparian/Wetland Areas

Affected Environment

Riparian areas can be found along Bosque Draw in Big Pasture. Within this large draw, the riparian vegetation community is tied to spring seeps and is influenced by flooding events. The draw is comprised of steep-sided walls, exposed and stabilized sandy drawbottoms, seeps/springs, and side drainages. The width of the riparian area is fairly narrow. Saltcedar, an exotic species introduced for bank protection and flood control throughout the West, has invaded areas within the draw, growing in patches, strips or in dense thickets.

Riparian vegetation include Baltic rush, threesquare and cattail. Woody vegetation include seepwillow, coyote willow, saltcedar, cottonwood and Russian olive. Alkali sacaton, alkali muhly, and inland saltgrass are the most common grass species. Common forb species include goldenrod, ragweed, Douglas rabbitbrush, prairie sunflower, and white sweetclover. Adjacent upland vegetation is also found within the floodplain.

Environmental Impacts

Under the Proposed Action, livestock utilization of Bosque Draw would continue annually on a seasonal basis. The draw bottom would be afforded adequate rest. Alleviating annual grazing pressure would improve ground cover and help establish preferred plant species. The greatest vegetation impacts would occur at livestock concentration areas such as crossings, shaded areas, and accessible banks and terraces. Some bank sloughing may occur from trampling. Utilization of grass species such as alkali sacaton would be heavy due to annual use of the area, or when upland pastures do not provide adequate forage. Seasonal rest would continue to maintain the vigor of riparian species, and may allow for cottonwood regeneration. Reducing exotic species and seasonal grazing within the draw would improve the overall health of the of riparian areas. It is expected that riparian vegetation would improve in the long term.

Under the No-Grazing Alternative, vegetation condition within the draw bottom would moderately improve. Improvement would continue to be limited by flooding events (scouring) and existing exotic species that affect plant composition. Grasses would initially increase, but plant vigor could decline from lack of vegetation removal, making ground cover species rank. Since livestock grazing would not be permitted under this alternative, range improvement projects such as brush control and exotic species control would be less likely to be implemented through the range program.

7. Wildlife

Affected Environment

The allotment provides a variety of habitat types for terrestrial and aquatic wildlife species. The diversity and abundance of wildlife species in the area is due to the presence of water, the numerous drainages interconnecting upland habitats to the Pecos floodplain, a mixture of grassland habitat and mixed desert shrub vegetation, and the steep and rocky escarpment which divides the uplands from the Pecos River valley.

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 antelope, coyote, gray fox, bobcat, striped skunk, porcupine, racoon, 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.

Environmental Impacts

Under the Proposed Action, livestock grazing management and range improvement projects designed with consideration for wildlife would generally enhance the quality of wildlife habitat (e.g., spring protection, bottomland rest). 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.

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.

8. Threatened and Endangered Species

There are no threatened or endangered species populations or critical habitat areas within the allotment. There would be no impacts to listed species.

9. Visual Resources Management

Affected Environment

The entire allotment is in a Class III area for visual resources management. In a Class III area, contrasts to the basic elements caused by a management activity may be evident and begin to attract attention in the landscape. The changes, however, should remain subordinate to the existing landscape.

Environmental Impacts

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

10. Recreation

Affected Environment

A network of roads provide access to public, private, and state lands within the allotment, although legal public access is limited. Access to most of the private and state lands is currently controlled by fences and locked gates. The BLM has designated off-highway vehicle use on public lands the area as limited to existing roads and trails. Access is generally good on the west side of the Pecos River and poor on the east side.

The allotment provides habitat for numerous game species including desert mule deer, pronghorn antelope, mourning dove and scaled quail. Predator and feral pig hunting may occur on the allotment, as well as trapping for predators or furbearers. The river is also accessible to the public for fishing or minnow seining from the west but lands east of the river are difficult to access by vehicle.

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

Environmental Impacts

Under the Proposed Action, there would be no direct negative impacts to recreational activities on public lands. There could be potential conflicts between recreationists and ranching activities, depending on hunting seasons and livestock use in a given pasture. Vandals could damage to range improvements by vandals. 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, there would be no conflicts with ranching activities and recreational use on public lands. Success of hunts and nonconsumptive opportunities would remain the same or slightly improve. Vandalism could still occur to range improvements.

11. Cave and Karst

Affected Environment

This allotment is located within a designated area of medium Cave or Karst Potential. A complete significant cave or karst inventory has not been completed for the public lands located in this grazing allotment. Presently, no known significant caves or karst features have been identified within this allotment.

Environmental Impacts

Since no caves have been identified on this grazing allotment, grazing would not affect the karst resources. If at a later date, a significant cave or karst feature is located on public lands within this allotment, that cave or feature may be fenced to exclude livestock grazing and Off-Highway Vehicle Use.

12. Air Quality

Affected Environment

The allotment is 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

Dust levels resulting from allotment management activities would be slightly higher under the Proposed Action. The cumulative impact on air quality from the allotment would be negligible compared to all pollution sources in the region.

IV. CUMULATIVE IMPACTS

A cumulative impact is defined 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" (40 CFR 1508.7).

The analysis of cumulative impacts is driven by major resource issues. The action considered in this environmental assessment is the authorization of livestock grazing on Allotment 65019. There were no major issues.

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 along the Pecos River; oil and gas activities on the river floodplain and on the uplands; rights-of way crossing the river; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and 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 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 Proposed Action would not add incrementally to the cumulative impacts to threatened and endangered species, or to Pecos River water quality. The conclusion that impacts to these resources

from grazing authorization would not be significant are discussed in detail in Section III of the EA. Incremental impacts to riparian/wetland habitat from livestock grazing are possible, however. Negative incremental impacts would be expected to be less because the allotment would be more intensively managed. These impacts are also discussed in Section III of the EA.

If the No-Grazing Alternative were chosen, some adverse cumulative impacts to riparian/wetland habitat 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. For example, alkali sacaton in the bottomlands would likely become decadent without livestock impact, and control of exotic plant species such as saltcedar would be less likely without allotment management.

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

The area has been grazed by livestock since the early part of the 1900s, if not longer. Recent vegetative monitoring studies have shown that grazing is sustainable at the current permitted numbers of animals. If the mitigation measures are enacted, then no residual impacts would be caused by implementation of the chosen management alternative.

VII. FUNDAMENTALS OF RANGELAND HEALTH

The fundamentals of rangeland health are identified in 43 CFR §§4180.1 and pertain to watershed function, ecological processes, water quality and habitat for threatened and endangered (T&E) species and other special status species. Based on the available data and professional judgment, the evaluation by this environmental assessment indicates that the conditions identified in the fundamentals of rangeland health exists on the allotment.

VIII. BLM TEAM MEMBERS

Dan Baggao, Jim Schroeder, John Spain, Joe Torrez, Irene Gonzales-Salas, Jerry Dutchover, Rand French, Pat Flannery, Tim Kreager and Howard Parman.

IX. PERSONS AND AGENCIES CONSULTED

Chaves County Public Land Use Advisory Committee

Forest Guardians
Mr. Carl Cooper - Permittee
New Mexico Department of Game and Fish
New Mexico State Land Office
U.S. Fish and Wildlife Service - Ecological Services

VIII. REFERENCES

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FINDING OF NO SIGNIFICANT IMPACT AND RATIONALE

EA No. NM-060-00-046

Finding of No Significant Impact:

I have reviewed this environmental assessment for Allotment 65019, including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action and alternatives 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 and alternatives would not result in any undue or unnecessary environmental degradation. The proposed action will be in compliance with the Roswell Approved Resource Management Plan and Record of Decision (October 1997).

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T.R. Kreager Date
Assistant Field Office Manager - Resources