

**ENVIRONMENTAL ASSESSMENT FOR 7 BLM ALLOTMENTS  
LOCATED IN THE RIO CHAMA WATERSHED  
DOI-BLM-NM-F020-2010-0031-EA**

**PURPOSE AND NEED**

One of the major uses of public lands administered by the Bureau of Land Management (BLM) has traditionally been the grazing of cattle, sheep or horses for the benefit of individuals and communities throughout the western United States. This use is regulated by public land legislation, including the Taylor Grazing Act, the Endangered Species Act, the Federal Land Policy and Management Act, and the Public Rangelands Improvement Act. To ensure legislative compliance, the BLM needs to provide for livestock grazing in a manner that promotes healthy, sustainable rangeland ecosystems.

This document provides information necessary to determine whether, and under what conditions, the BLM should renew permits for cattle grazing on 7 allotments within the Rio Chama watershed for an additional 10 years. The 7 allotments are being analyzed in one document in order to address the cumulative effects of livestock on the BLM parcels within the Rio Chama watershed and to reduce the volume of paper involved in the public notification process. The allotments addressed in this Environmental Assessment include: #561 Esperanza, #570 Cebolla Sage, #579 Rio Nutrias, #855 La Joya, #860 Barronco, #864 Chico and #915 Abiquiu Lease. Individual allotment maps are available at the Taos Field Office or can be obtained by visiting [www.geocommunicator.gov](http://www.geocommunicator.gov).

**CONFORMANCE WITH PLANS**

The proposed permit renewals within this document are in conformance with the Taos Resource Area Management Plan (1988). Livestock grazing impacts were analyzed on a Resource Area wide basis in the Taos Resource Management Plan. An Allotment Evaluation (AE) document has been prepared for each allotment and is available for review at the Taos Field Office.

**SCOPE / IDENTIFICATION OF ISSUES**

In January of 2009 a meeting was held with the BLM interdisciplinary team to inform them that these permits needed to be renewed, and this warranted a field visit to determine if standards and guidelines are being met in the subject allotments. Also, a letter was sent to the affected lessees (05/04/09) and all interested publics (03/02/09) to inform them that the subject allotments were being visited to assess standards and guidelines. Field evaluations were conducted between 06/08/2009 and 07/09/2009. After the field evaluations were completed and Allotment Evaluations were prepared, the affected lessees and interested public were given an opportunity to provide comments on evaluations from July 12, 2010 through August 11, 2010.

Based on these efforts, the following issues have been determined relevant to the analysis of this action and are addressed in the Affected Environment / Environmental Impacts section:

- |   |   |                                   |
|---|---|-----------------------------------|
| • <b>Climate</b>                        | • <b>Noxious Weeds</b>                    | • <b>Social / Economic Issues</b> |
| • <b>Water Quality</b>                  | • <b>Wildlife</b>                         | • <b>Air Quality</b>              |
| • <b>Standards for Rangeland Health</b> | • <b>Threatened or Endangered Species</b> | • <b>Vegetation</b>               |
| • <b>Wetlands / Riparian Areas</b>      | • <b>Special Management Areas</b>         | • <b>Cultural Resources</b>       |
| • <b>Wilderness Study Areas</b>         |   |                                   |

The following issues were considered but dismissed from analysis:

- **Native American Religious Concerns:** There have been no areas of concern identified within the subject allotments. All tribes within the Field Office boundary will receive the opportunity to provide information on

any areas of concern in or near the subject allotments.

## PROPOSED ACTION AND ALTERNATIVES

### Proposed Action (same as No Action Alternative)

Re-issue a term grazing permit without any changes as outlined in Table 1. For additional information, refer to Allotment Evaluation documents available for each allotment at the Taos BLM Field Office.

Table 1. Outline of allotment guidelines for permit renewal

Allotment Number	Livestock Type	Livestock Number	Season of Use	Total Federal Acres	Pastures	Grazing System	Proposed Improvements
<b>561</b>	Cattle	103	5/01 - 10/31	6,612	5	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
		153	5/01 - 10/31				
		92	6/07 - 10/31				
<b>570</b>	Cattle	20	5/01 - 11/05	655	1	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
<b>579</b>	Cattle	92	5/01 - 6/06	607	1	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
<b>855</b>	Cattle Horse	25 2	11/01 - 3/15	1,191	1	Winter	None
<b>860</b>	Cattle	22	11/01 - 3/31	1,209	1	Winter	None
<b>864</b>	Cattle	6	5/01 - 9/30	78	1	Rotational	Possible vegetation manipulation by fire, herbicide, or mechanical means **
<b>915</b>	Cattle	28	11/01 - 1/06	529	1	Winter	None
<b>Monitoring:</b> BLM would continue the rangeland monitoring study program, continue to consult with the grazing permittee on placement of mineral and supplemental feed and continue monitoring for new populations of noxious weeds.							
** These will be addressed in a subsequent NEPA document if and when funding is available.							

### Alternative 1, No Grazing:

Do not issue grazing permits for these allotments, thereby suspending livestock grazing (No Action).

### Location and Maps

**561** - Located approximately 10 miles west of Cebolla, in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 6,500 and 7,400 feet. The allotment is located on the USGS El Vado and Navajo Peak 7.5 minute series topographic maps. T. 26 N., R. 02 E. Sec 1-3, 13, 23 and 24; T. 26 N., R. 03 E. Sec 5-9, 18 and 19; T. 27 N., R. 02 E. Sec 25, 35 and 36; T. 27 N., R. 03 E. Sec 30-32.

**570** - Located approximately 3 miles south of Cebolla, in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 7,500 and 7,800 feet. The allotment is located on the USGS Canjilon Quadrangle 7.5 minute series topographic map. T. 26 N., R. 04 E. Sec 14, 23, 25 and 26

**579** - Located approximately 10 miles west of Cebolla, in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 6,850 and 7,100 feet. The allotment is located on the El Vado Quadrangle 7.5 minute series topographic map. T. 27 N., R. 02 E. Sec 24 and 25.

**855** - Located approximately 2 miles north northeast of Cañones in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 6,400 and 7,500 feet. The allotment is located on the USGS Cañones

Quadrangle 7.5 minute series topographic map. T. 23 N., R. 05 E. Sec 19, 20, 29 and 30.

**860** - Located approximately 3 miles north northeast of Cañones in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 6,100 and 7,500 feet. The allotment is located on the USGS Cañones Quadrangle 7.5 minute series topographic map. T. 23 N., R. 05 E. Sec 16-18, 20 and 21.

**864** - Located approximately 4 miles northwest of Cebolla in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 7,200 and 7,300 feet. The allotment is located on the USGS Las Nutrias Quadrangle 7.5 minute series topographic map. T. 27 N., R. 04 E. Sec 19.

**915** - Located approximately 4 miles north northeast of Cañones in Rio Arriba County, New Mexico. Elevation on this allotment is roughly between 6,100 and 7,500 feet. The allotment is located on the USGS Cañones Quadrangle 7.5 minute series topographic map. T. 23 N., R. 05 E. Sec 4 and 9.

See Figure 1 for a map of the subject allotments.

## **AFFECTED ENVIRONMENT / ENVIRONMENTAL IMPACTS**

### **Special Management Areas**

A portion of allotment 561 is within the Rio Chama Special Management Area (SMA). In accordance with the management prescriptions for these areas no increase in grazing preference is proposed in **either alternative**. Thus, there would be no adverse affect to the Sabinoso SMA area by **either alternative**.

### **Wilderness Study Areas**

A portion of allotment 561 is within the boundary of the Rio Chama Wilderness Study Area (WSA). Livestock grazing is one of the grandfathered uses within the WSA. In accordance with the management prescriptions for these areas no increase in grazing preference is proposed in **either alternative**. Thus, there would be no adverse affect to wilderness by **either alternative**.

### **Air Quality**

The Clean Air Act Amendments in 1990 required that all federal actions conform to State Implementation Plans for air quality. One non-attainment area has been designated in New Mexico, but is not located on or near the subject allotments.

Although the subject allotments are not within a non-attainment area, greenhouse gas emissions from non-renewable sources often occur from ranching operations. Greenhouse gases (GHG), including carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>), and the potential effects of GHG emissions on climate, are not regulated by the EPA under the Clean Air Act. However, greenhouse gas emissions are linked to climate change.

Under the **proposed action**, GHG emissions are expected to be generated primarily from vehicles used to manage cattle operations and may be estimated to be about 10 tons of relevant emission. The BLM recommends using best management practices to reduce these emissions, such as reducing number of trips, keeping vehicles well maintained and purchasing more fuel efficient vehicles. There would be no effect under the **no grazing alternative**.

### **Climate**

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. It is not, however, possible at this time to predict with any certainty the causal connection of site specific emissions from the **proposed action** or the **no grazing alternative** in this EA to impacts on the global/regional climate.

Mean annual temperatures have risen across New Mexico and the southwestern U.S. since the early 20th century. 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. Recurrent research has indicated that predicting the future effects of climate change and subsequent challenges of managing resources in the Southwest is not feasible at this time (USFS, 2008). However, it has been noted that 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 affected by climate change (Enquist and Gori).

We anticipate that monitoring efforts will help indicate vegetation shifts, allowing for management modifications to address global climate change.

### Standards for Rangeland Health

Field crews completed the Rangeland Health Evaluation Summary Worksheet for all the subject allotments, with subdivision by parcel or distinct ecological site. Results are summarized in Table 2 by Soil/Site Stability, Hydrologic Function and Biotic Integrity and averages by site. In Table 2 each percent is a percent similar indicator score. The indicator score is created by multiplying an assigned value for departure from site descriptions/reference areas by the number of indicators at the level. Departure scores are categorized as: none to slight = 5, slight to moderate = 4, moderate = 3, moderate to extreme = 2 and extreme = 1, thus giving the most similar sites the highest score. For example, if all indicators under Soil/Site Stability were rated none to slight (5), the equation would be: (score) (nine indicators) / 45 X 100 = 100% similarity, or what is expected based on an Ecological Site Description.

Table 2. Summary of indicators by allotment.

Allotment Number	Observers	Survey Date	Percent of Soil/Site Stability	Percent of Hydrologic Function	Percent of Biotic Integrity	Average Percentage
561	Williams, Young	6/08/2009	78%	78%	91%	82%
570	Young	7/09/2009	72%	72%	82%	75%
579	Williams, Young	6/08/2009	92%	92%	93%	92%
855	Young	7/09/2009	90%	90%	93%	91%
860	Young	6/22/2009	90%	90%	95%	92%
864	Young	6/16/2009	100%	98%	95%	98%
915	Young	6/22/2009	88%	90%	95%	91%

The Standards are a tool for assessing range condition and are not analyzed under **either alternative** here. If an allotment or pasture falls below 80% in the Soil Site Stability, Hydrologic, or Biotic indicators, monitoring should be established to determine the cause/s of the low rating. When the casual factor is determined to be livestock, grazing will be manipulated and/or range improvements will be implemented to improve conditions. The BLM, in consultation with the permittee and various other agencies, through an interdisciplinary effort, would develop goals and objectives for the areas that are falling below 80% to improve the condition.

## Soils

The following soils are identified as occurring on the allotments analyzed in the watershed:

Amal silt loam, 2 to 8 percent slopes. This soil consists of silty loams, with rooting depths over 60 inches. Parent materials of alluvium and eolian material derived from shale comprise these soils. Hazards for erosion are slight to moderate. Average annual precipitation ranges between 14 and 16 inches. Vegetation is characterized by pinyon, juniper, blue grama, squirreltail, June grass, oak and sagebrush.

Berryman-Ruson association, 1 to 8 percent slopes. The soil consists of silt loams, with rooting depths over 60 inches. Parent materials of alluvium derived from limestone and shale comprise this soil. Hazards for erosion are moderate. Average annual precipitation ranges between 14 and 16 inches. Vegetation is characterized by western wheat, squirreltail, blue grama, alkali sacaton and sagebrush.

Chita loam, 0 to 5 percent slopes. These soils consist of loams, with rooting depths over 60 inches. Parent material of alluvium and eolian sediments derived from sandstone and igneous rocks comprise these soils. Average annual precipitation in this area ranges from 13 to 16 inches. Hazards for erosion are slight. Vegetation is characterized by western wheat, blue grama, Indian ricegrass, galleta, needleandthread, fourwing saltbush and sagebrush.

Calendar gravelly loam, 5 to 35 percent slopes. The soil consists of loams, with rooting depths around 40 inches. Parent materials of alluvium from shale comprise this soil. Average annual precipitation ranges between 14 and 17 inches. Hazards for erosion are moderate. Vegetation is characterized by pinyon, juniper, oak, june grass, muttongrass and sagebrush.

Elpedro silt loam, 1 to 5 percent slopes. This soil consists of silty clay loams, with rooting depths over 60 inches. Parent materials of eolian sediments and alluvium derived from sandstone and shale comprise these soils. Average annual precipitation ranges between 12 and 14 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by western wheat, blue grama, galleta, Indian ricegrass, and sagebrush.

Florita-Rock outcrop complex, 15 to 45 percent slopes. These soils consist of gravelly and sandy loams with rooting depths over 60 inches and sandstone outcrops. Parent material of alluvium and eolian derived from sandstone comprise these soils. Average annual precipitation in this complex ranges from 10 to 12 inches. Hazards for erosion are moderate to severe. Vegetation is characterized by pinyon, juniper, sideoats grama, black grama, blue grama, needle and thread and muttongrass.

Fruitland sandy loam, 0 to 3 percent slopes. This soil is a sandy loam with rooting depths greater than 60 inches. Parent materials include stream alluvium derived from sandstone and/or fan alluvium derived from sandstone. Average annual precipitation ranges between 8 to 10 inches. Hazards for erosion are slight to severe. Vegetation is characterized by blue grama, western wheatgrass, Indian ricegrass, bottlebrush squirreltail, dropseed and needleandthread.

Fruitland sandy loam, 3 to 5 percent slopes. This soil is a sandy loam with rooting depths greater than 60 inches. Parent materials include stream alluvium derived from sandstone and/or fan alluvium derived from sandstone. Average annual precipitation ranges between 8 to 10 inches. Hazards for erosion are moderate to severe. Vegetation is characterized by blue grama, western wheatgrass, bottlebrush squirreltail, dropseed and needleandthread.

Hagerman-Silver fine sandy loams, 2 to 7 percent slopes. This soil consists of sandy loams with a rooting depth between 20 to greater than 60 inches. Parent materials include: alluvium derived from sandstone and shale. Average annual precipitation in that area ranges from 10 to 13 inches. Hazards for erosion are moderate to severe. Vegetation is characterized by blue grama, western wheat, needlegrass, spike muhly, sand dropseed, galleta, fourwing saltbush and winterfat.

Jocity-Gilco complex, 1 to 3 percent slopes. These soils consist of sandy loams and loamy sands, with rooting depths greater than 60 inches. Parent materials alluvium derived from igneous and sedimentary rock. Hazards for erosion are slight to severe. Average annual precipitation in this area ranges from 8 to 10 inches. Vegetation is characterized by western wheat, blue grama, galleta, bottlebrush squirreltail, sand dropseed, big sagebrush and fourwing saltbush.

Losmarios extremely cobbly sandy clay loam, 10 to 35 percent slopes. This soil consists of sandy clay loams and silty clay with a rooting depth greater than 60 inches. Parent materials include: alluvium derived from sandstone and shale. Average annual precipitation in that area ranges from 10 to 13 inches. Hazards for erosion are slight to severe. Vegetation is characterized by blue grama, black grama, New Mexico feathergrass, little bluestem, sideoats grama western wheatgrass and winterfat.

Maia-Manzano complex, 0 to 5 percent slopes. These soils consist of loam and sandy loams, with rooting depths over 60 inches. Parent materials of alluvium derived from volcanic rock comprise these soils. Average annual precipitation ranges between 13 and 16 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, fourwing saltbush and sand dropseed.

Menefee channery loam, 2 to 35 percent slopes. This soil consists of clay loams, with rooting depths between 20 and 40 inches. Parent materials of colluvium derived from shale comprise this soil. Average annual precipitation ranges between 12 and 14 inches. Hazards for erosion are severe. Vegetation is characterized by western wheat, bottlebrush squirreltail, prairie junegrass and sagebrush.

Pena gravelly loam, 2 to 15 percent. This soil consists of gravelly loams, with rooting depths over 60 inches. Parent materials of alluvium derived volcanic rock comprise this soil. Average annual precipitation ranges between 13 and 16 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by juniper, piñon, western wheatgrass, blue grama, muhly, bottlebrush squirreltail, muttongrass and mountain mahogany.

Peney-Ransact association, 1 to 20 percent slopes. These soils consist of silty loams, with rooting depths between over 60 inches. Parent materials of alluvium and colluvium derived from limestone comprise these soils. Hazards for erosion are moderate to severe. Average annual precipitation ranges between 15 and 17 inches. Vegetation is characterized by pinyon, juniper, oak, prairie junegrass, bottlebrush squirreltail, mountain mahogany and Indian ricegrass.

Sparham clay loam, 0 to 3 percent slopes. These soils consist of clay loams, with rooting depths over 60 inches. Parent materials consist of stream alluvium derived shale. Average annual precipitation in this complex ranges from 13 to 16 inches. Hazards for erosion are slight to severe. Vegetation is characterized by western wheatgrass, sand dropseed, alkali sacaton, galleta and fourwing saltbush.

Teromote-Ruson association, 1 to 8 percent slopes. These soils consist of loam and clay loams, with rooting depths between over 60 inches. Parent materials of alluvium derived from shale comprise these soils. Average annual precipitation ranges between 14 and 17 inches. Hazards for erosion are moderate. Vegetation is characterized by blue grama, western wheat, galleta, Indian ricegrass, needle and thread, squirreltail and sagebrush.

Tinaja-Rock outcrop complex, 45 to 75 percent slopes. These soils consist of loam and sandy clay loams, with

rooting depths between over 60 inches. Parent materials of colluvium derived from sandstone comprise these soils. Average annual precipitation ranges between 13 and 15 inches. Hazards for erosion are slight to severe. Vegetation is characterized by pinyon, juniper, blue grama, sideoats grama, muttongrass and mahogany.

Walrees-Abiquiu complex, 0 to 2 percent slopes. These soils consist of clay loam and sandy loams, with rooting depths over 60 inches. Parent materials consist of stream alluvium derived from sandstone and shale. Average annual precipitation ranges between 8 and 10 inches. Hazards for erosion are slight to severe. Vegetation is characterized by Rio Grande cottonwood, western wheatgrass, alkali sacaton, obtuse panicgrass, rubber rabbitbrush and fourwing saltbush.

Under current management, soil indicators for the allotments point to good soil condition with the exception of a few allotments. The lowest Soil and Site Stability rating being 72% in allotment 570 (see the ‘Standards for Rangeland Health’ portion and Table 2). This lower rating in allotment 570 and in 561 has been attributed to influences of historic grazing coupled with the removal of sagebrush and subsequent seeding of crested wheatgrass in the late 1950’s. A vegetation manipulation in allotment 561 has increase ground cover and soil stability is on the upward trend. Currently the Cebolla Forest and Range Restoration Treatment Project Environmental Assessment (DOI-BLM-NM-F020-2009-0027-EA) includes allotment 570 in its proposal for vegetation manipulations to address vegetation as well as soil stability concerns. Current livestock management does not appear to be affecting soil conditions.

Based on current knowledge and current management practices, the **proposed action** would result in no impact or have a positive impact. The **no grazing alternative** would remove livestock from the area and eliminate both the positive and negative impacts of livestock.

## Water Quality

Surface – These allotments are located in Hydrologic Unit Code (HUC) 13020102, or the Rio Chama Watershed, which comprise 1,735,354 acres along the Rio Chama and its tributaries and is further divided into smaller HUCs. The allotments analyzed in this document occur in five of these smaller HUCs (Table 3).

Table 3. Summary of BLM allotments by 10 Digit HUC (subwatershed and NMED assessment unit).

NMED Assessment Unit	Subwatershed	Allotments	BLM Acreage	Percent of Subwatershed
NM-2113_00	El Rito - Rio Chama	855, 860, 915	1,948	1.9%
NM-2114_00	Abiquiu Reservoir	855, 860	939	0.6%
NM-2116.A_060	Rio Gallina - Rio Chama	561, 579, 864	2,453	1.6%
NM-2116.A_050	Rio Cebolla	561, 570	4,998	5.9%
NM-2116.A_030	Arroyo Seco	570	586	0.6%

The New Mexico Environment Department (NMED) surveyed and evaluated perennial reaches in the Rio Chama watershed in 2008 and identified impairments for stream reaches not meeting water quality standards for designated uses. The following impairments are identified for these units:

NM-2116.A\_060, Rio Nutrias (Rio Chama to headwaters) – Includes 2,453 acres of BLM in allotments 561, 579 ad 864. This unit was assessed in 2008 and categorized as not supporting high quality coldwater aquatic life. Probable cause was turbidity, with probable sources being loss of riparian habitat, rangeland grazing, stream bank modifications/destabilization and crop production (crop land or dry land).

NM-2116.A\_030, Canjilon Creek (Abiquiu Reservoir to headwaters) – Includes 586 acres of BLM in allotment 570. This unit was assessed in 2008 and categorized as not supporting high quality coldwater aquatic life. Probable causes were water temperature, specific conduction and turbidity, with probable sources being flow alterations from water diversions, loss of riparian habitat, agriculture and stream bank modification/destabilization.

NM-2114\_00, Abiquiu Reservoir – Includes 939 acres of BLM in allotments 855 and 860. This unit was assessed in 2008 and categorized as not supporting coldwater fishery. Probable causes were PBC(s) in fish tissue, with probable sources being contaminated sediments (legacy/historical pollutants) and inappropriate waste disposal (spills/dumping).

Based on Rangeland Health Evaluation surveys, there may be increased water quality impairments resulting from the **proposed action**. This conclusion is based on the site assessment showing some indicators of surface erosion as a factor to reduce water quality. Allotment 570 had the lowest ratings for Soil/Site Stability and Hydrologic Function, 72% and 72% respectively. The averages were 87% and 87%, respectively, across the allotments. It was identified that the most likely reason contributing to reduced similarity in allotment 570 as well as allotment 561 was the influence of historic grazing coupled with the removal of sagebrush and subsequent seeding of crested wheatgrass. This vegetation modification resulted in soil disturbance and a relative monoculture of crested wheatgrass with high amounts of bare ground. As mentioned in the above Soils section, a vegetation manipulation in allotment 561 has increase ground cover and soil stability is on the upward trend and currently the Cebolla Forest and Range Restoration Treatment Project Environmental Assessment (DOI-BLM-NM-F020-2009-0027-EA) includes allotment 570 in its proposal for vegetation manipulations to address vegetation as well as soil stability and hydrologic function concerns. Current grazing management does not appear to be adversely affecting water quality. The **no grazing alternative** may or may not reduce probable sources of impairment by removing livestock due to the underlying causes of sagebrush removal and crested wheatgrass seeding.

### **Wetlands / Riparian Areas**

Allotments 561 and 915 contain riparian areas associated with the Rio Chama (915), Rio Cebolla (561) and Lobo Canyon (561). In the riparian assessments allotment 561 was deemed as functioning at risk – upward trend, for Lobo Canyon and functioning properly for the Rio Cebolla. The functioning at risk – upward trend rating for the Lobo canyon was due to the system being so flashy with potential to unload large amounts of soil and rock debris from high flow events. Livestock grazing is restricted by gap fences in the Lobo Canyon and Rio Cebolla riparian areas. Allotment 915 was deemed properly functioning. Livestock grazing is restricted in the riparian areas and the floodplain except for a water gap that contains less than one-half acre of riparian vegetation. Due to the improvements that have been done and those proposed in the Cebolla Forest and Range Restoration Treatment Project Environmental Assessment, the functionality of the uplands and the nearly total exclusion of livestock grazing it is determined that the **proposed action** would not have an adverse affect on the riparian areas, while the **no grazing alternative** would remove any effect of livestock grazing the uplands.

### **Vegetation**

Vegetation expected for the soils identified in the allotments include: pinyon, juniper, blue grama, squirreltail, June grass, oak, sagebrush, alkali sacaton, Indian ricegrass, galleta, needleandthread, fourwing saltbush, muttongrass, sideoats grama, black grama, needlegrass, spike muhly, sand dropseed, winterfat, New Mexico feathergrass, little bluestem, mountain mahogany, obtuse panicgrass, Rio Grande cottonwood, willow, and other species in smaller amounts.

Grazing may impact vegetation under adverse climate conditions or under poor grazing management. Other impacts to vegetation have been the lack of natural disturbance, such as fire. It has been determined that the current grazing systems within the subject allotments are not adversely effecting the vegetation. The lowest biotic integrity rating for the subject allotments was 64% similarity to the Ecological Site Description (See section ‘Standards for Rangeland Health and Table 2). The low rating was in allotment #567 due to the same reasons for the low ratings in soils and hydrology discussed earlier, namely historic grazing coupled with the removal of sagebrush and subsequent seeding of crested wheatgrass. But, again, current livestock management does not appear to be adversely affecting the vegetation. Residual impacts of livestock grazing would not

change under the **proposed action** due to the moderate removal of current year's growth on forage species. Therefore, under the **proposed action**, no additional impacts to vegetation are expected. Under the **no grazing alternative**, there would be no measurable vegetative removal from the allotment.

## Noxious Weeds

Any time livestock are grazed in other areas and then returned to the allotment or fed non-certified feed there is a risk of introducing exotic or noxious plant species to the allotment. The **proposed action** would not pose additional risks of introduction or spread of noxious weeds beyond those already occurring. Under both the **proposed action** and **no grazing alternative**, weeds could be introduced by road maintenance equipment or recreational activities.

Under the **proposed action**, weeds could be introduced to the allotment through livestock feces, emergency feed, watering equipment or vehicles associated with the management of livestock. The **no grazing alternative**, would limit the risk of new infestation to those caused by human activities and wildlife.

## Cultural Resources

In the Cebolla area a reconnaissance inventory was carried out in 1999 and 2009 where some of the subject allotments were visited by archaeologists, and the other allotments only were visited by an interdisciplinary team. In allotment 561 a lithic scatter and one-hand mano was found. Allotment 855 was inventoried for a proposed line extension in which 10 sites, artifact scatters, which are dated to the Archaic and Anasazi Periods. Allotment 915 has two known sites; one being a sherd and lithic scatter dating to the Pueblo Period and a lithic scatter dating to the Late Archaic Period. It was determined that the area of the subject allotments was most likely used for hunting, gathering and periodic camping.

Under the **proposed action**, grazing intensity would remain at current levels. Some grazing impacts to prehistoric gravel-mulched gardens have been recognized and trampling of Pueblo sites. Since the fencing of four Pueblos - with more fencing planned for the future - trampling affects have been nearly eliminated. Natural erosion due to ground disturbance could damage sites; these effects may be slightly less under the **no grazing alternative** than the **proposed action**.

## Fish and Wildlife

The allotments are located in the Intermountain Basins Big Sagebrush Shrubland, Riparian, and Rocky Mountain Montane Mixed Conifer Forest and Woodland, key wildlife habitat types as identified in the Comprehensive Wildlife Conservation Strategy of the New Mexico Department of Game and Fish (2005). Existing habitat with the allotments include; pinyon-juniper woodlands, open prairie, sagebrush savannahs, and riparian areas, and supports seasonal home ranges for elk, mule deer, mountain lion, black bear, bobcat, fox, coyote, rodents, bats, raptors, songbirds, amphibians, and a variety of insects. The allotments 561, 579 and 579 represent an important migration corridor and winter range for big game species such as elk and mule deer, while the riparian areas provide critical corridors of movement for all wildlife species.

Judicious grazing practices can have positive effects on wildlife and can be a beneficial management tool, including increases in vegetation composition diversity and improvement of forage availability and quality for early to mid-successional wildlife species; creation of patchy habitat with high structural diversity for feeding, nesting and hiding; opening up areas of dense vegetation to improve foraging areas for a variety of wildlife; removing rank, coarse grass that would encourage regrowth and improve abundance of high quality forage for wild ungulates; stimulating browse production by reducing grass biomass; and improving nutritional quality of browse by stimulating plant regrowth (NMDGF 2005).

Studies in northern New Mexico have indicated that total elimination of grazing did not improve range

condition on upland or lowland sites when compared with adjacent moderately grazed areas (Holecheck and Stephenson 1985). Smith et al. (1996) found that lightly grazed climax rangelands and conservatively grazed late seral rangelands had similar songbird and total bird populations. They also concluded that wildlife diversity was higher on the conservatively grazed late seral than the lightly grazed climax rangeland. Studies in southeastern Arizona by Bock et al. (1984) support the hypothesis that conservatively to moderately grazed areas in mid or late seral condition supported greater diversity of wildlife than ungrazed areas in climax condition. Livestock grazing was also shown to enhance forage for elk and manage their distribution by increasing availability and nutritional value of preferred grasses in early growth stages (Holecheck et al. 2004).

Best management practices would ensure that forage production within this area can support fish, wildlife and livestock on a sustained basis. The functionality assessment of habitat components is outlined in Table 4.

Table 4. Functionality assessment for Biotic Fauna.

Allotment	Biotic Fauna Rating	Summary
561	Functioning at Risk – Upward Trend	N/A
570	Functioning at Risk-Downward Trend	Historic grazing and an old sagebrush treatment with crested wheatgrass seeding
579	Proper Functioning Condition	N/A
855	Proper Functioning Condition	N/A
860	Proper Functioning Condition	N/A
864	Functioning at Risk – Static	Piñon/juniper expansion and an old sagebrush treatment with crested wheatgrass seeding
915	Proper Functioning Condition	N/A

The **proposed action** would not have a notable adverse impact on wildlife. The **no grazing alternative** would remove all possible competition between wildlife and livestock.

### Threatened or Endangered Species

Federally listed threatened (T) and endangered (E) species in Rio Arriba County, New Mexico, include: black-footed ferret (*Mustela nigripes*) (E); Southwestern willow flycatcher (*Empidonax traillii extimus*) (E); interior least tern (*Sterna antillarum*) (E); Rio Grande silvery minnow (*Hybognathus amarus*) (E); and Mexican spotted owl (*Strix occidentalis lucida*) (T). There is a sub-species of the Gunnison’s prairie dog (montane) (*Cynomys gunnisoni*), listed as a federal Candidate species, that could occur on the western allotments (556, 563, 567, 568, 569 and 744), although no active prairie dog towns have been identified in the past several years. There is no designated critical habitat for any species listed by the U.S. Fish and Wildlife Service (USFWS) within the allotments.

The riparian area associated with the Rio Cebolla and Lobo Canyon has been classified as long term potential habitat for Southwestern willow flycatcher under the Taos Field Office Southwestern Willow Flycatcher Management Plan (1998), however, habitat does not currently exist. The Taos Field Office Riparian and Aquatic Habitat Management Plan (2000) calls for the these riparian zones to be managed for recovery of Southwestern willow flycatcher habitat. Although no survey information is available for this reach, it is possible the species may use the area as migratory stopover habitat, but no nesting habitat currently exists and no known populations of flycatchers are documented in the area.

There is one state-listed threatened species which may be found in riparian areas, the Bald eagle (*Haliaeetus leucocephalus*), during winter months.

It is determined that the **proposed action** and **no grazing alternative** will have no affect on federally listed

candidate, threatened or endangered species, and no affect on state-listed threatened or endangered species.

Migratory bird species of conservation concern that have the potential to occur on the allotment include burrowing owl, ferruginous hawk, prairie falcon, golden eagle, loggerhead shrike, mourning dove, pinyon jay, Brewer's sparrow, and sage sparrow. The **proposed action** has the potential to have a negative effect upon individual birds, eggs, young and/or the nesting habitat of ground nesting birds; however, there would be no noticeable impact to the population or to the species as a whole. The **no grazing alternative** could have either a beneficial or detrimental effect on individual migratory bird species of concern, depending on the response of range condition and individual species requirements, but affects at the population or species level would not be adverse.

## **Social / Economic Issues**

BLM permits/leases are transferred to qualified applicants at the request of the current permittee/lessee; the BLM has had no influence on the social characterization of those who currently hold these permits. Therefore, it has been determined that neither the **proposed action** nor the **no grazing alternative** would be likely to result in impacts which would occur disproportionately in low-income groups, minorities or Indian tribes. With regard to economics, the **proposed action** would allow the permittee to continue the lifestyle they have known and earn money from cattle operations on federal lands. Suspension of the grazing permit under the **no grazing alternative** would cause monetary losses to the permittee/lessee, in the form of increased costs to rent additional pasture or in purchasing feed.

## **Cumulative Impacts**

### **Cumulative Actions**

Livestock grazing is only one of several disturbance activities within the area. Other possible cumulative actions in conjunction with livestock grazing on BLM administered lands include: off-road vehicles use, other recreational use and road construction and maintenance.

### **Cumulative Effects**

Based on current management the land health standards are not all being met. The upland sites standards that are not being met in some of the subject allotments are contributed to the sagebrush treatments and subsequent crested wheatgrass seedings that were done in the 1950s. Also, steps are being taken to improve these areas through the Cebolla Forest and Range Restoration Treatment Project Environmental Assessment, Livestock is not directly contributing the standards not being met; therefore there would be no measurable cumulative impacts from the **proposed action** or the **no grazing alternative**. Also, BLM land comprises only a small portion of the watershed, roughly 6.2% of the area within the Rio Chama watershed (percentages are relative to lands within Taos Field Office). The subject allotments cover only roughly 0.6% of the total land mass of this watershed.

## **Consultation and Coordination**

This Environmental Assessment has been mailed to all individuals or organizations who have notified the Taos Field Office of their interest. These individuals or organizations are given 15 days to make comments on the accuracy of this document.

## **Preparers**

This document was prepared and reviewed by a team from the Taos Field Office. They include:  
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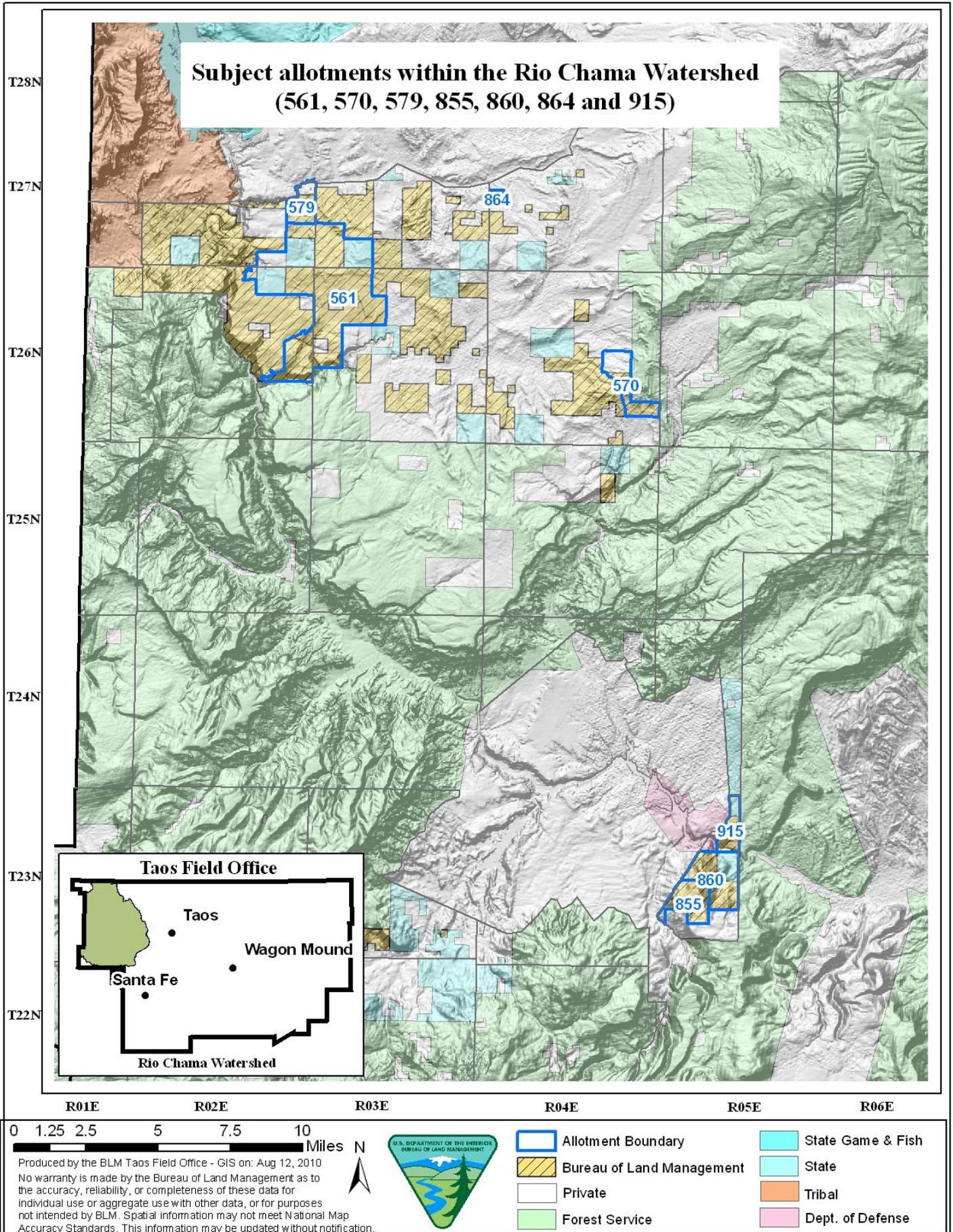


Figure 1. Map of subject allotments.