Sacramento Allotment
Ongoing Grazing and Proposed Infrastructure Activities
Associated with the New Mexico Meadow Jumping Mouse

Biological Assessment

Sacramento Ranger District
Lincoln National Forest Service
Otero County, New Mexico

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Introduction

The intent of this document is to analyze the continued implementation of ongoing grazing activities in adequate detail in order to determine its effects on the newly federally listed New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*) (NMMJM) and its designated critical habitat (CH) on the Lincoln National Forest (LNF) of the Sacramento Ranger District. This assessment will determine if formal consultation with the United States Fish and Wildlife Service (USFWS) is required under section 7(a)(2) of the Endangered Species Act (16 U.S.C. 1536(a)(2)). The duration of this consultation will consist of three years. After that, the Lincoln National Forest will re-consult with the USFWS. The implementation of additional mitigation measures have been considered in determining the effects findings. These additional mitigation measures include constructing temporary exclosures in Wills and Rio Peñasco Canyons, reconstructing existing handling facilities, and constructing a new handling facility.

The continuation of ongoing grazing in NMMJM habitat and any management measures may create affects to other federally listed species, which will be considered in this analysis.

Location of Ongoing Grazing

The analysis area is located entirely within the boundary of the Sacramento Grazing Allotment located on the Sacramento Ranger District of the Lincoln National Forest, Otero County, New Mexico. The allotment is located approximately 8 miles south of Cloudcroft, New Mexico.

Analysis Area and Ongoing Grazing Activities

Table 1. Allotment Name and acreages of each allotment

Allotment Name	Total acres of Allotment within National Forest System Lands
Sacramento	111,125

The Sacramento Allotment contains 111,484 acres of National Forest System lands and the elevation ranges from 4,500 feet to 9,700 feet. The allotment consists of summer and winter pastures that have vegetation types such as; mixed-conifer forest (e.g. white fir (*Abies concolor*), Douglas fir (*Psuedotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), oak (*Quercus* spp.), aspen (*Populus* spp.), pinyon-juniper woodlands, and desert shrublands along with various forbs and grasses. Riparian vegetation occurs along seeps, springs, and perennial streams within the allotment.

Ongoing Grazing Management:

- The current Term Grazing Permit authorizes 200-412 cow/calf pairs for the Summer Range between April - October and 200-335 on the Winter Range from November - May.
    - Summer Pastures: North, South, Rio Peñasco Trap, Wills Trap, Atkinson, and Nelson
    - Winter Pastures: Mule, Alamo, Pasture Ridge, and Grapevine

    - Dry Canyon Allotment is managed in conjunction with the Sacramento Allotment and used as Winter Range with respect to season of use to allow this grazing strategy to occur.
- Five horses, which are used for management purposes, are authorized to graze on the allotment from March - February.
- Livestock will be managed by fencing, herding, salting, supplementing, and use of other water sources to disperse the livestock throughout the allotment.
- North and South Pastures will be grazed simultaneously during the summer season.
- Grazing is not authorized in the exclosures located within the allotment.
    - There are several exclosures throughout the allotment that have been constructed to protect the threatened populations of Sacramento Mountains thistle (*Circium vinaceum*) and to protect riparian habitat. These exclosures were administratively removed from the allotment.

<u>Additional Management Measures:</u>

- Install temporary exclosures in Wills and Rio Peñasco Canyons, reconstructing existing livestock traps with associated handling facilities in Wills Canyon and Wright's springs, and constructing a new livestock trap and associated handling facility in Atkinson Canyon. No heavy equipment or any sort of vehicle will be used in NMMJM habitat. Limited personnel will stay out of habitat as much as possible during installation. The temporary exclosures will consist of electric wire, plastic stakes and a few t-posts (corner post).
- Maintain temporary and existing exclosures. No heavy equipment or any sort of vehicle will be used in habitat. Limited personnel will stay out of habitat as much as possible during maintenance.
- All acres of NMMJM habitat outside of exclosures including the Rio Peñasco and Wills Traps will be grazed to 35% utilization. NMMJM habitat monitoring protocols will be implemented to determine if agency action (e.g. fencing) is needed for additional protection of NMMJM. This protocol will combine various monitoring methods used to capture information on a variety of attributes such as ground cover, plant utilization, frequency, species identification, soil moisture, etc. If utilization is exceeded re-initiation of consultation with USFWS will be conducted to determine the best course of action.
- The Wright's springs and Atkinson livestock traps and associated handling facilities will be authorized for a utilization of greater than 70%. Neither of these traps are found in NMMJM habitat.
- NMMJM inventory surveys will be implemented to locate additional populations. If additional populations are found, protection measures will be implemented (e.g. fencing).
- Compliance checks will be conducted throughout the summer on handling facilities and permanent and temporary exclosures within NMMJM habitat.

<u>Rio Peñasco Canyon</u>:

- In April/May small groups of up to 40 head will be trailed through Rio Peñasco Exclosure to the Rio Peñasco Trap on County Road C17; livestock will not be authorized within the Exclosure for more than 24 hours and Trap for more than 48 hours within a two week designated period.

- Livestock use, within Rio Peñasco Trap, will be limited to the area outside of electric fence.
- As many livestock as possible will be worked at other existing facilities on the Winter Range prior to entry onto the Summer Range.
- There may be instances throughout the summer months (April/May-October) where sick or injured livestock (5-10 head) may need to be placed temporarily in the Rio Peñasco Trap. Livestock will not be authorized to stay within the trap for more than 24-48 hours. Close communication between Forest Service and permittee will be necessary to ensure compliance.
- In October livestock will be moved through the Rio Peñasco Trap (reverse of how they enter the Rio Peñasco/similar to how they come on in April/May) and livestock will be sorted into shippers and keepers. Shippers will be within the corral and small trap to south of corral and held for up to 7 days, when they will be removed by a shipping truck.
- Once the new facility in Atkinson is constructed, as many livestock as possible will be worked there to alleviate pressure within NMMJM CH and Sacramento Mountains thistle habitat.
- The previous authorized 70% utilization for Rio Peñasco trap and handling facilities will now adhere to 35% utilization.

Wills Canyon:

- Livestock will be distributed through the North and South Pastures.
- Livestock use within Wills Canyon Trap will be limited to the area outside of electric fence.
- Livestock will be worked in small groups of up to 40 within the corral, sorted and separated according to shipping status. Shippers will be trailed to the Rio Peñasco Trap in October to be processed for shipping. All others are pushed through the Wills Canyon to the Sacramento River to Winter Range. The working facility at Wright Springs in the Pasture Ridge pasture will be reconstructed to reduce the pressure within the Wills Canyon Trap.
- There may be instances throughout the summer months (April/May-October) where sick or injured livestock (5-10 head) may need to be placed temporarily in the Wills Canyon Trap. Livestock will not be authorized to stay within the trap for more than 24-48 hours. Close communication between Forest Service and permittee will be necessary to ensure compliance.
- Two study plots (40 ft. x 40 ft.) have been established in Wills Canyon. The plots are designed to exclude not only livestock, but elk and deer from the sites. These are to measure any differences in vegetation height due to grazing or non-grazing by elk and also to measure any differences in stream bank stabilzation.
- The previous authorized 70% utilization for Wills Canyon trap and handling facilities will now adhere to 35% utilization.

Species Selection and Identification

The recent listing of the NMMJM and its CH warrants that this species be addressed through consultation. In addition, ongoing grazing and management measures proposed for the management of the NMMJM and its CH have the potential for measurable effects on the

Sacramento Mountains thistle, and the Mexican Spotted Owl and its CH. Therefore, these species will be also be addressed in detail. There are no other federally listed species found on the Sacramento Allotment that are affected by the proposed management measures for the NMMJM and its CH. Therefore, they will not be addressed in detail.

Federally Listed Species Analysis & Determinations

NEW MEXICO MEADOW JUMPING MOUSE (NMMJM)

Scientific Name: *Zapus hudsonius luteus*
Status: Federally listed as Endangered and Critical Habitat

The NMMJM was listed as an endangered species on June 10, 2014 with an effective date of July 10, 2014 (USDI 2014). Designation of Critical Habitat for NMMJM was proposed on June 20, 2013 (79 FR 33119). The final rule to designate Critical Habitat was submitted on March 15, 2016 and will become official April 16, 2016.

Summary of Life History, Distribution and Threats

The New Mexico meadow jumping mouse (NMMJM) is a habitat specialist (Frey 2006; Frey and Malaney 2009). It nests in dry soils, but uses moist, streamside, dense riparian or wetland vegetation up to an elevation of about 2743 m (9,000 ft.) (Frey 2006). The NMMJM appears to only utilize two riparian community types: 1) persistent emergent herbaceous wetlands (i.e., beaked sedge (*Carex rostrata*) and reed canary grass (*Phalaris arundinacea*) alliances); and 2) scrub-shrub wetlands (riparian areas along perennial streams that are composed of willows (*Salix* spp.) and alders (*Alnus* spp.) (Frey 2005). It especially uses microhabitats of patches or stringers of tall dense sedges on saturated soil along the edge of open, permanent water. In addition, individual jumping mice also need intact upland areas that are up gradient and beyond the floodplain of rivers and streams and adjacent to riparian areas and wetlands because this is where they build nests or use burrows to give birth to young in the summer and to hibernate over the winter. It is active only during the growing season of the grasses and forbs on which it depends. During the growing season, the jumping mouse accumulates fat reserves by consuming seeds. Preparation for hibernation (weight gain, nest building) seems to be triggered by day length. The NMMJM hibernates about 9 months out of the year, longer than most other mammals (Morrison 1990; VanPelt 1993; Frey 2005).

Females breed shortly after emerging from hibernation and may give birth to 2 to 7 young after an average 19-day gestation. One litter is produced each year, usually between May and September. Young are fully developed and weaned at 4 weeks (Van Pelt 1993 cited in 78 FR 37363). The female provides all the care for their young until they are weaned and independent. Females born in the spring are sexually reproductive at 2 months of age.

Note: For more detailed information refer to the link below.

Life history, distribution, status of the species range-wide and listing factors are found in documents located on the USFWS website (http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A0BX).

USFWS (2014) found the primary threats to the species include cumulative habitat loss and fragmentation across the species' range from several sources. Primary sources of current and future habitat loss include:

1. Grazing pressure (which removes the needed vegetation)
2. Water management and use (which causes vegetation loss from mowing and drying of soils).
3. Lack of water due to drought.
4. Wildfires.

Additional sources of habitat loss are likely to occur from scouring floods, loss of beaver, highway reconstruction, residential and commercial development, coalbed methane development, and unregulated recreation.

Occupied Habitat

Occupied habitat is defined as all suitable habitat within a half-mile radius of a recent capture (i.e., since 2005) location and a half mile up and/or downstream. Suitable habitat contains the resources and conditions present in an area that is capable of supporting resident jumping mice, including survival and reproduction. Occupied habitat typically includes a core area, which is an area or patch of suitable habitat, sufficiently large enough to support resident jumping mice.

Table 2. Acres of Occupied Habitat.

Allotment Name	Total acres of Allotment within National Forest System Lands	NMMJM Occupied Habitat (ac) *
Sacramento	111,125	43

* Determining acres of NMMJM occupied habitat was based off ground truthing with a GPS unit along with GIS. These speculative estimates only provide a baseline for analysis purposes.

Critical Habitat

The NMMJM CH is composed of riparian communities along rivers and streams, springs and wetlands, or canals and ditches. It is characterized by two wetland vegetation community types:

1) Persistent emergent herbaceous wetlands dominated by beaked sedge or reed canary grass alliances; or
2) Scrub-shrub riparian areas that are dominated by willows or alders;

The Critical Habitat Primary Constituent Elements (PCEs) consist of the following:

- Flowing water that provides saturated soils throughout the New Mexico meadow jumping mouse's active season supports tall (average stubble height of herbaceous vegetation of at least 69 cm (27 inches) and dense herbaceous riparian vegetation (height averaging at least 61 vertical cm (24 inches) composed primarily of sedges (*Carex* spp. or *Schoenoplectus pungens*) and forbs, including, but not limited to one or more of the

following associated species: spike rush (*Eleocharis macrostachya*), beaked sedge, reed canary grass), rushes (*Juncus* spp. and *Scirpus* spp.), and numerous species of grasses such as bluegrass (*Poa* spp.), slender wheatgrass (*Elymus trachycaulus*), brome (*Bromus* spp.), foxtail barley (*Hordeum jubatum*), or Japanese brome (*Bromus japonicas*), and forbs such as water hemlock (*Circuta douglasii*), field mint (*Mentha arvense*), asters (*Aster* spp.), or cutleaf coneflower (*Rudbeckia laciniata*).

- Sufficient areas of 9 to 24 km (5.6 to 15 mi) along a stream, ditch, or canal that contains suitable or restorable habitat to support movements of individual New Mexico meadow jumping mice; and
- Include adjacent floodplain and upland areas extending approximately 100 m (330 ft.) outward from the water's edge (as defined by the bankfull stage of streams).

Table 3. Total Acres of Critical Habitat within the Allotment.

Allotment Name	Total acres of Allotment within National Forest System Lands	NMMJM Critical Habitat (ac)*
Sacramento	111,125	295

* Within the critical hábitat boundary, we determined acres of critical hábitat by ground truthing with a GPS unit and GIS. These speculative estimates only provide a baseline for analysis purposes. These acres consist of occupied and unoccupied hábitat.

Data Sources, Including Surveys Conducted

Research assistant Joan L. Morrison, from the New Mexico Department of Game and Fish, conducted surveys for this species from 1985 to 1989. Dr. Jennifer Frey, from New Mexico State University, conducted surveys for this species from 2005 to 2006. Surveys were conducted specifically for this species in 2009, 2012 and 2013 field seasons by the Sacramento Ranger District Wildlife Crew. On the Sacramento Allotment surveys were conducted in and outside of livestock exclosures in both canyons. Occupancy has been determined at two locations in Wills Canyon, in both the Upper and Lower Mauldin exclosure sites, confirmed in Lower Mauldin in 2012 and confirmed in Upper Mauldin 2013.

Analysis of Effects

Existing Condition of Occupied and Critical Habitat

The Occupied and/or CH, within the Sacramento allotment, can be found within the Wills and Rio Peñasco Canyons. Wills and Rio Peñasco Canyons have perennial streams that have intermittent stretches during dry periods. The CH subunit (4B) area in the Rio Peñasco Canyon is not known to be occupied by the NMMJM and there are no recent capture sites. There are two recent capture sites found in Mauldin Springs within Wills Canyon. The upper stretches of both canyons consists of broad open areas where the main channels flow and is surrounded by an area that contains largely saturated soils. The lower stretches are more incised with a number of headcuts with less soil saturation. Narrow incised sections have less of a floodplain and fewer riparian plants can become established. Where the channel becomes wider, secondary floodplains occur along with greater numbers of riparian plants. Saturated soils and/or

herbaceous wetland vegetation are often not present and streambank erosion is found periodically along the channel, especially in narrow sections of the canyons.

Monitoring to determine the presence and distribution of PCE's for CH took place in 2015 in Rio Peñasco and Wills Canyons. Flowing water was evident throughout both canyons. Tall dense herbaceous riparian vegetation with saturated soils were only found in riparian exclosures. The tall dense riparian vegetation had a variety of sedges (e.g. *Cyperus* sp. and *Carex* sp.), rushes, associated grasses (e.g. redtop) and forbs (e.g. cutleaf coneflower). The remaining riparian vegetation was found in sporadic populations throughout each canyon but didn't meet height or density conditions. Populations of the federally listed Sacramento Mountains thistle (*Cirsium vinaceum*) can also be found within the Wills and Rio Peñasco Canyons.

In 2015, Open Range Consulting (ORC) was contracted by the US Forest Service to use advanced reconnaissance and remote sensing techniques to generate quantitative map information and trends analysis on vegetation structure and composition within riparian extents for the NMMJM and its Proposed Critical Habitat. The final outputs include mapping of riparian vegetation structure, a trends assessment based on archive imagery representing past conditions, and an accuracy assessment of products. The change in percent of bare ground, upland vegetation, riparian vegetation, and sedge cover for the CH riparian areas for the Sacramento Allotment was compared using the classifications made from 1m imagery for 1992, 2009, and 2014. The Sacramento Allotment generally showed a decrease of sedge cover (See Appendix A).

Table 4. Summary of NMMJM Habitat.

Canyons	Total (ac)	Protected (ac)	Unprotected (ac)	Acres of Permanent Exclosures*	Acres of Temporary Exclosures
Rio Peñasco	157	91	66	67	24
Wills	138	66	72	8	58

Table 5. Summary of Protected and Unprotected NMMJM Occupied and Unoccupied Critical Habitat.

Canyons	Occupied Habitat (ac)	Occupied Riparian protected (ac)	Occupied Upland protected (ac)	Occupied Riparian unprotected (ac)	Occupied Upland unprotected (ac)	Unoccupied Riparian protected (ac)	Unoccupied Upland protected (ac)	Unoccupied Riparian unprotected (ac)	Unoccupied Upland unprotected (ac)
Rio Peñasco	0	na	na	na	na	24	67	3	63
Wills	43	10	13	2	18	11	32	7	45

Direct and Indirect Effects

Visual observations along NMMJM habitat indicate heavy livestock use. The majority of occupied and/or CH is found along narrow stream bottoms with perennial water with gentle terrain surrounded by steep mixed conifer. This limits the majority of livestock grazing to the stream bottoms which results in heavier use. This is very evident during drier years where vegetation inside the exclosures is more abundant than outside the exclosures, and especially within the water gap and livestock traps. The elk use during drier years has also increased within the exclosures, but has not resulted in adverse alteration of PCE's.

The occupied and/or critical habitat that is found within current exclosures is the most intact habitat found within the allotment. The CH that is not within exclosures has a tendency to be highly fragmented from livestock grazing. Water gaps for livestock access are found within occupied and or CH habitat within Wills and Rio Peñasco Canyons. This intensifies use by livestock to a particular area which reduces vegetation by grazing and trampling. There is a potential for increased erosion at these water crossing sites. When upland and riparian vegetation is removed by livestock, and hillsides and streambanks are compacted by their hooves, less rainwater enters the soil and more flows overland into streams, creating larger channel-altering peak flows during floods (Belsky *et al.* 1999, p. 8). Much of the soils within these riparian areas have been disturbed, which when combined with the presence of soil pedestals indicate compaction. Heavier use has a tendency to produce patch grazing in occupied and CH. Patch grazing is the close and repeated grazing of small patches and/or individual plants, while adjacent patches or individual plants (often the same species) are left un-grazed or lightly grazed (Risk, 2002). This may completely remove or fragment habitat. Habitat fragmentation reduces food resources for the NMMJM. A reduction of food resources can lead to starvation, lower reproductive success and lower fat reserves for hibernation. The fragmentation of residual vegetation reduces important hiding and escape cover for the NMMJM from potential predators which may lead to greater mortality and less dispersal capabilities while it is active. A reduction of dispersal increases the "bottlenecking" effect of sub-populations by preventing the intermixing of individuals of different sub-populations. This in return reduces the genetic diversity of a sub-population.

Over the past two years, the Forest Service has adapted to its ongoing livestock grazing by installing study plots that excluded all ungulates (elk and livestock) and installing temporary electric fence exclosures. The study plots were within and outside of existing livestock exclosures located in NMMJM occupied habitat within Wills Canyon. The exclosures prevent livestock grazing but allows elk grazing to occur. Livestock and elk are able to graze outside the exclosures. The study plot within the livestock exclosures showed no noticeable differences in PCE's and utilization (See Appendix B). The study plot outside the livestock exclosure showed a measurable difference in PCE's and utilization. The electric fence in Wills Canyon was shown to be effective by reducing the direct and indirect effects of livestock grazing in NMMJM habitat. By testing this out in Wills Canyon, it became very apparent that temporary fencing could be effective in other areas.

To address the above adverse effects of ongoing livestock grazing to NMMJM habitat, the USFS is proposing the continue maintenance of existing exclosures, install new temporary electric fence exclosures, the construction and reconstruction of new and existing livestock traps with

associated handling facilities, the adherence to monitoring utilization standards and any other management measures mentioned above. The Wills Canyon Trap is located within an archaeological site; therefore, ground disturbance will be minimal during the reconstruction of the trap. The location of the proposed fencing and livestock traps and associated handling facilities can be seen in Appendices C, D and E. The management measures will either directly protect NMMJM habitat or relieve livestock pressure in habitat that will be grazed. The permanent and temporary exclosures will protect > 50% of NMMJM habitat within the allotment. Any minimal disturbance from maintaining or installing the fence line will be insignificant or discountable. The overall results of the fencing are expected to be wholly beneficial to the species. Monitoring in NMMJM habitat to ensure 35% utilization, outside of the exclosures, will enable the USFS to adapt if management measures are needed. The previous authorized 70% utilization in Rio Peñasco and Wills traps will now adhere to 35% utilization. It is unknown if 35% utilization will allow for the specified conditions needed for PCE's to occur. Lower utilization from past grazing is a positive step in both riparian and upland habitat but based on existing conditions, recovery of those areas may need future actions such as grazing deferment or additional fencing. Some level of habitat fragmentation will still occur in sites where water gaps and handling facilities are located. Overall, these measures will allow for a gradual improvement in NMMJM habitat because of greater vegetation composition and biomass, which provides greater hiding cover, nesting material and forage for the NMMJM. This will allow PCE's to expand and allow for greater distribution along the canyons. It will reduce habitat fragmentation and slowly reduce the bottlenecking effects of ongoing grazing.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act (USFWS & NMFS, 1998, p. 4-30).

This section addresses cumulative effects of past, present and reasonably foreseeable (reasonably certain to occur) non-Federal actions that may affect NMMJM individuals, populations or CH. Past, present and reasonably foreseeable non-Federal actions within the range of the NMMJM within or near the analysis area boundaries on the Sacramento Ranger District include County and State road maintenance and State, County or local wildfire related actions, as well as livestock grazing. Private lands within the known range of the NMMJM near the analysis area have been owned and managed by various landowners since the previous century, and are nearly all in the lower portions of the mountain valleys.

County road D18 runs alongside the occupied site and Critical Habitat in Wills Canyon, and is maintained by Otero County. County Road C17 runs alongside the entire CH in the Upper Rio Peñasco. This maintenance by the county is expected to continue, as this is a main access road through the mountains. Maintenance of these roads consists of blading the road. These roads may inhibit dispersal of the NMMJM, or impact natural travel corridors through habitat fragmentation across the landscape.

Collectively, these uses on non-Federal lands have the potential to have a cumulative effect on the NMMJM individuals on a landscape level. To the best of our knowledge, reasonably certain to occur actions on non-federal land parcels are expected to remain the same. Given the size and scope of the current analysis, it is concluded that these cumulative effects may have the potential to limit the recovery of the NMMJM in occupied sites on federal lands.

Findings and Determinations

NMMJM

Based on the analysis above, a determination of "**May Affect, Likely to Adversely Affect**" was made for NMMJM for the Sacramento Allotment.

Critical Habitat

Based on the analysis above, a determination of "**May Affect, Likely to Adversely Affect**" is made for Critical Habitat for the Sacramento Allotment.

Rationale for Determination:

- Grazing in upland and riparian vegetation, within Occupied Habitat, to conditions where fragmentation has occurred. This increases mortality risk, to NMMJM, by loss of forage and cover.
- All the requirements for tall dense riparian vegetation and residual vegetation are not regularly met.
- The grazing strategy for the allotment has not met all PCE requirements for Critical Habitat. Critical Habitat is only partially excluded from grazing.

Consultation History

The Sacramento RD has currently had two formal meetings and several informal conversations in regards to this project with the USFWS. The Sacramento RD completed an informal conference (#02ENNMM00-2013-I-0044) for the NMMJM in 2013 for a water development project on the Sacramento Allotment.

SACRAMENTO MOUNTAINS THISTLE

Scientific Name: *Cirsium vinaceum* (CIVI)
Status: Federally listed as Threatened

The Sacramento Mountains thistle was listed as a threatened species on June 16, 1987 without designation critical habitat (52 FR 22934).

Summary of Life History, Distribution and Threats

The Sacramento Mountains thistle is endemic to travertine seeps and their outflow creeks on limestone substrates in the Sacramento Mountains. Plants typically occur within the mixed conifer zone between 7,500 to 9,200 feet elevations. Additional occupied sites occur at springs, primarily in non-forested areas; however, they also occur within forested areas in partially-shaded habitat. Sacramento Mountains thistle is an obligate wetland species that requires available surface or immediately sub-surface water flows. The extent of occupied sites and plant numbers fluctuate with rainfall conditions and the available surface flow of water.

Sacramento Mountains thistle is a biennial species that develops tall (up to six feet) flowering stalks throughout July and August. These stalks produce numerous purple flowers on a widely branched inflorescence. Flower heads are often found to be infested with insects and larvae at summer's end. Seeds are relatively large and do not readily shed from the flower head (L. Barker, pers. obsv.). There is no documentation found in the literature review of the timing of seed germination in the wild; however, it is known that seeds are dispersed by water flow (Craddock and Huenneke 1997). This species also experiences high seedling mortality and has a low frost tolerance (Thomson 1991).

Threats to the species include habitat destruction through the impacts of livestock and water development/diversion, competition with introduced species, road construction, logging, and recreational activities (USDI FWS 1993).

For additional information regarding life history, distribution, and status of the species range-wide; and listing factors, refer to the species profile for the Sacramento Mountains thistle on the USFWS website: http://ecos.fws.gov/tess_public/profile/speciesProfile?spcode=Q277

Data Sources, Including Surveys Conducted

When this species was listed as Threatened, in 1987, its range was thought to consist of approximately 20 known population areas containing an estimated 10,000-15,000 sexually reproducing individuals (52 FR 22934). It is believed that more than 95% of the known populations occur on the Lincoln National Forest. However, it is difficult to accurately assess population numbers since these plants are capable of spreading by adventitious roots. Also, some sites are sporadically occupied by individuals during wet years and unoccupied or dormant during periods of drought. Over the years numerous accounting techniques have been used in an attempt to assess population numbers; however the most accurate population data collections were made from1998 to present. These collection efforts utilized a standard method of counting only the number of flowering stems rather than all age classes. This data has suggested that CIVI population levels are declining (USDI FWS 2010, Roth 2013). In fact, out of 61 previously documented CIVI sites, only 43 of those sites still contained live plants (Roth 2013). In 2008, the Lincoln National Forest experienced heavier than average seasonal monsoons, triggered by Hurricane Dolly, which lead to severe flooding events within the Scott Able Canyon. As a result of the flooding, most of the CIVI populations located in the lower portion of Scott Able Canyon were wiped out (J. Williams. pers. obsv.). Additional surveys have been conducted within the Wills and Rio Peñasco Canyons in 2014 and 2015.

Analysis of Effects

The continued grazing of NMMJM habitat along with needed management measures will have some affects to Sacramento Mountains thistle individuals because the two species share similar riparian habitats.

Direct and Indirect Effects

Construction of temporary electric fence exclosures would consist of plastic stakes and a single strand of electrified wire. No heavy equipment will be used to install the temporary exclosures. Direct effects associated with manual installation of the temporary exclosures may include trampling of the occasional individual during construction; however, this is unlikely for the fact that consideration was given to Sacramento Mountains thistle by the Sacramento District Wildlife Biologists during the design phase of the temporary exclosures and further consideration for this species will be given during the implementation phase.

The temporary exclosures will offer a measure of protection against threats associated with livestock grazing for a significant number of individuals located within Wills and Rio Peñasco Canyons. It will reduce the amount of foraging and trampling that takes place on individuals and its associated habitat. It will allow for greater plant vigor and less soil erosion. This may indirectly allow for greater number of individuals and greater distribution through the canyons. Although the temporary exclosures provide a measure of protection, they may also indirectly concentrate grazing in currently utilized areas that have CIVI or its habitat and intensify existing use. Heavier use of the water gaps would likely reduce the cover of riparian vegetation on streambanks in these areas, which would lead to an increase in the potential for soil erosion and compaction. This may lead to a loss of available water within riparian corridors, which indirectly causes adverse effects to Sacramento Mountains thistle individuals and its habitat. The loss of available water may decrease distribution of Sacramento Mountains thistle individuals and habitat within the canyons. It is also believed that decreased natural water flows at travertine springs and along riparian corridors creates conditions that create a competitive advantage for introduced non-native invasive species (Thomson 1991). Invasive plant species have invaded a number of Sacramento Mountains thistle sites and pose a significant threat to maintenance of resident populations.

Modification of the existing handling facility in Wills Canyon would not lead to any further direct adverse effects to the Sacramento Mountains thistle because that area has been heavily impacted by livestock activity and individuals and habitat are no longer found. In addition, no direct adverse effects are expected to result from the construction of new handling facilities in Atkinson Pasture because no known populations of Sacramento Mountains thistle occur within this pasture nor does any suitable habitat. However, the creation of new handling facilities may minimize use of existing handling facilities located within the riparian corridors of Wills and Rio Peñasco Canyons, thus alleviating some effects to the Sacramento Mountains thistle and riparian areas associate with livestock use.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act (USFWS & NMFS, 1998, p. 4-30).

This section addresses cumulative effects of past, present and reasonably foreseeable (reasonably certain to occur) non-Federal actions that may affect CIVI individuals or populations. Past, present and reasonably foreseeable non-Federal actions within the range of the CIVI within or near the analysis area boundaries on the Sacramento Ranger District include County and State road maintenance and State, County or local wildfire related actions, as well as livestock grazing. Private lands within the known range of the CIVI near the analysis area have been owned and managed by various landowners since the previous century, and are nearly all in the lower portions of the mountain valleys.

County road D18 runs alongside the occupied sites in Wills Canyon, and is maintained by Otero County. County Road C17 runs alongside the occupied sites in the Upper Rio Peñasco. The maintenance, of Road C17, by the county is expected to continue, as this is a main access road through the mountains. Maintenance of these roads consists of blading the road. The maintenance and use of these roads may increase sedimentation in occupied CIVI sites.

Sedimentation has been discussed, in the past, as a concern for occupied sites. However, Sacramento Mountains thistle individuals have been observed in sediment barriers in creeks. They are also known to occupy soft substrate sites such as roadside ditches that have been cleared with a backhoe or other heavy equipment (L. Barker, pers. obsv.).

Furthermore, an exotic weevil (*Rhinocyllus conicus)*, that is known to negatively affect CIVI, was introduced to control musk thistle in Virginia, Montana, California, Nebraska, and Colorado. The weevil has since spread to New Mexico with subsequent releases on the Mescalero Apache Reservation, adjacent to the Lincoln National Forest.

Collectively, these uses on non-Federal lands have the potential to have a cumulative effect on the CIVI individuals on a landscape level. To the best of our knowledge, reasonably certain to occur actions on non-federal land parcels are expected to remain the same. Given the size and scope of the current analysis, it is concluded that these cumulative effects may have the potential to limit the distribution of the CIVI in occupied sites on federal lands.

Findings and Determinations

Sacramento Mountains thistle

Based on the analysis above, a determination of "**May Affect, Likely to Adversely Affect**" was made for the Sacramento Mountains thistle on the Sacramento Allotment.

Rationale for Determination:

- Water gaps in riparian corridor, within the Sacramento Mountains thistle habitat, may cause adverse effects to individuals and could cause conditions of habitat degradation and fragmentation. This increases mortality risk, to Sacramento Mountains thistle, by loss of habitat and diminished reproduction as a whole.

Consultation History

The Sacramento RD has currently had one formal meeting and several informal conversations in regards to this project with the USFWS. The most recent consultation or conference has taken place on the Sacramento allotment which involved an informal consultation and conference (#02ENNM00-2013-I-0044) in 2013. This consultation and conference was completed to address the effects of a spring development system, within the Upper Rio Peñasco, to the Sacramento Mountains thistle and NMMJM. Previously, additional consultations had occurred for the Sacramento Allotment concerning the Mexican spotted owl, Sacramento Prickly Poppy (*Argemone pleiacantha ssp pinnatisecta*), and Sacramento Mountains thistle.

MEXICAN SPOTTED OWL (MSO)

Scientific Name: *Strix occidentalis lucida*
Status: Federally listed as Threatened

The Mexican Spotted Owl was listed as a threatened species on March 15, 1993 and critical habitat was finalized in 2004.

Summary of Life History, Distribution and Threats

The Mexican spotted owl (MSO) inhabits mixed coniferous and pine/oak forests, canyons, desert caves and riparian areas throughout the Southwest. Major threats cited in the final rule listing the MSO as Threatened include habitat loss due to timber harvesting and risk of catastrophic fire. According to the Final Rule to List the Mexican Spotted Owl as a Threatened Species in the Federal Register Vol. 58. No. 49, and the Recovery Plan, ponderosa pine and pinyon/juniper are not suitable habitat for nesting and roosting unless an owl is actually using the area for nesting or roosting.

Preliminary prey base data being taken on the Lincoln National Forest suggest that the owl utilizes three main food sources: wood rats, deer mice, and voles. Canopy cover and herbaceous ground story materials are important prey habitat conditions. Foraging habitat occurs throughout several forest types from pinyon/juniper to spruce/fir. Mixed conifer forests with old growth stands are most commonly used. These forests are dominated by Douglas-fir and/or White fir, with understory consisting of coniferous species and broad-leafed species such as Gambel oak, maples, box-elder, and New Mexico locust. These forests are also usually uneven-aged, multi-storied, and have high canopy closure. The Mexican spotted owl nests and roosts primarily in closed canopy forests or rocky canyons.

Data Sources, including surveys conducted

Information was taken from the Federal Register Vol. 58. No. 49, Federal Register Vol. 60. No. 108, the Final Recovery Plan dated November 1995 and the Final Environmental Impact Statement for Amendment of Forest Plans dated October 1995. Forest Service Manual 2670 was also used. Survey procedure was to review district records for occurrence of this species. All suitable nest/roost habitat within the allotment has been surveyed. PAC's within the allotment has been surveyed several times. There are currently 121 established Protected Activity Centers (PAC) within the Sacramento Ranger District. The recovery plan considers the reduction of large trees outside of Protected Areas a threat to the owl on the Basin and Range East Recovery

Unit. The plan considers wildfire the major threat to the owl on the Basin and Range East Recovery Unit, while grazing has been identified as fourth out of six in order of potential effects to the MSO. The effects from grazing are thought to be mainly from changing plant composition and structure within meadow and riparian areas. There has been recent surveys for MSO throughout the analysis area.

Affected Habitat Description

Protected and Restricted Habitat
Protected habitat on the Sacramento Ranger District is found within PAC's or Mixed conifer outside of PAC's on slopes greater than 40%. Restricted habitat is mixed conifer with associated meadows, outside of PAC's, which is primarily used for foraging or future dispersal.

Critical Habitat
MSO Critical habitat is limited to specifically designated areas within mapped boundaries. The designated areas for the Sacramento RD is mixed conifer forests. These sites are embedded within Protected or Restricted MSO habitats. These Critical Habitats contain Primary Constituent Elements (PCEs), which are physical and biological features necessary to ensure conservation of the species. The USFWS (2005) identified the PCEs in the August 2004 designation of MSO Critical Habitat.

PCEs related to forest structure include:
- A range of tree species, including mixed conifer, pine-oak, and riparian forest types, composed of different tree sizes reflecting different ages of trees, 30 % to 45 % of which are large trees with a trunk diameter of 12 inches or more when measured at 4.5 feet from the ground (Range of Tree Sizes);
- A shade canopy created by the tree branches covering 40 % or more of the ground (Canopy Closure); and
- Large dead trees (snags) with a trunk diameter of at least 12 inches when measured at 4.5 feet from the ground (Large Snags).

The PCEs related to the maintenance of adequate prey species include:
- High volumes of fallen trees and other woody debris (Dead & Down Woody Debris);
- A wide range of tree and plant species, including hardwoods (Plant Species Richness):
- Adequate levels of residual plant cover to maintain fruits and seeds, and allow plant regeneration (Residual Plant Cover).

Analysis of Effects

MSO and its Critical Habitat

Management measures designed to reduce the direct and indirect effects of grazing on the NMMJM and its CH, within the Sacramento Allotment, may have some affects to the Mexican spotted owl and its Critical Habitat.

Direct and Indirect Effects

No fencing or livestock traps with associated handling facilities will take place in MSO PAC's, therefore, nesting and roosting activity will not be affected. There will be no effects to PCE's related to forest structure. All of the proposed management measures for the NMMJM and its CH will take place in foraging habitat for the MSO. All of the management measures will directly benefit the forage needed for the prey base for the MSO except in the Atkinson livestock trap with associated facilities. The livestock trap and associated handling facilities within Atkinson Canyon will help reduce livestock pressure within NMMJM habitat. However, it will have over 70% utilization in MSO Restricted and Critical habitats. This is well over desired conservitive use levels needed for the MSO and its Critical Habitat. Higher use within these areas will lead to less hiding cover and forage for its prey base. There will be some ground disturbance due to the construction of the new Atkinson trap and handling facility. The Wrights springs livestock trap and associated handling facilties is within the Critical Habitat boundary for the MSO but is complemently within pinon/juniper woodlands. The Wills Canyon Trap is located within an archaeological site; therefore, ground disturbance will be minimal during the reconstruction of the trap.

Cumulative Effects

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act (USFWS & NMFS, 1998, p. 4-30).

This section addresses cumulative effects of past, present and reasonably foreseeable (reasonably certain to occur) non-Federal actions that may affect MSO individuals and its habitat. Past, present and reasonably foreseeable non-Federal actions within the range of the MSO is within or near the analysis area boundaries on the Sacramento Ranger District include County and State road maintenance and State, County or local wildfire related actions, timber activities, as well as livestock grazing. Private lands within the known range of the MSO near the analysis area have been owned and managed by various landowners since the previous century.

County road D18 runs alongside the occupied sites in Wills Canyon, and is maintained by Otero County. County Road C17 runs alongside MSO habitat in the Upper Rio Peñasco. The maintenance, of Road C17, by the county is expected to continue, as this is a main access road through the mountains. Maintenance of these roads consists of blading the road. The maintenance and use of these roads may increase sedimentation in MSO foraging habitat.

Collectively, these uses on non-Federal lands have the potential to have a cumulative effect on the MSO and its habitat on a landscape level. To the best of our knowledge, reasonably certain to occur actions on non-federal land parcels are expected to remain the same. Given the size and scope of the current analysis, it is concluded that these cumulative effects shall not limit the recovery of the MSO and its Critical Habitat on federal lands.

Findings and Determinations

MSO

Based on the analysis above, a determination of "**May Affect, Likely to Adversely Affect**" was made for MSO for the Sacramento Allotment.

Critical Habitat

Based on the analysis above, a determination of "**May Affect, Likely to Adversely Affect**" was made for Critical Habitat for the Sacramento Allotment.

Rationale for Determination:

- The Atkinson trap and associated handling facilities will have over 70% utilization. This is well over conservative use levels allowed in Restricted and Critical Habitats.

Consultation History

The Sacramento RD has currently had one formal meeting and several informal conversations in regards to this project with the USFWS. The most recent consultation has taken place on the Sacramento allotment which involved a formal consultation (#2-22-00-F-73) in 2004.

Contacts/Preparers/Contributors

Person	Organization/Unit	Contribution
Shawn Sartorius	USFS R3 T&E Biologist	Information
Steve Plunkett	USFS R3 Cons. Biologist	Information
Pete Haraden	USFS Hydrologist	Information
Ciara Cusack	USFS NEPA/Range Specialist	Review and Information
Amalia Montoya	USFS Range Staff	Review and Information

Formal Consultation & Determination of Effects:

/s/ Eboni Griffin 04/5/2016
Eboni Griffin, Wildlife Biologist Date
Sacramento Ranger District
Lincoln National Forest

/s/ Jack Williams 04/5/2016
Jack Williams, District Wildlife Biologist Date
Sacramento Ranger District
Lincoln National Forest

/s/ Aurora Roemmich 04/5/2016
Aurora Roemmich, Forest Botanist Date
Supervisor's Office
Lincoln National Forest

Background Information and Literature Cited

Belsky, A. J., Matzke, A., and Uselman, S. 1999. Survey of livestock influences on stream and riparian ecosystems in the western United States. *Journal of Soil and water Conservation*, *54*(1), 419-431.

Craddock, C. and L. Huenneke. 1997. Aquatic seed dispersal and its implications in *Cirsium vinaceum*, a threatened endemic thistle of New Mexico. Am. Midl. Nat. 138: 215-219.Frey, J. K., and J. L. Malaney. 2009. Decline of the Meadow Jumping Mouse (*Zapus Hudsonius luteus*) in Two Mountain Ranges in New Mexico. The Southwestern Naturalist 54:31-44.

Morrison, Joan Lapham. Distribution, Population Status, Life History and Habitat Affinities of the Meadow Jumping Mouse, Zapus hudsonius luteus in The Sacramento Mountains, New Mexico. January 1989.

NatureServe. A Network Connecting Science with Conservation. NatureServe home page. 2015. http://www.natureserve.org/index.jsp. Accessed April 27.

Open Range Consulting. 2015. Meadow Jumping Mouse Proposed Critical Habitat: Earth Sense Technology-Riparian Project (AG-8371-S-15-0036). Prepared for the USFS Southwest Regional Office, Albuquerque, New Mexico.

Risk, R. 2002. Patch Grazing and Sustainable Rangeland Production.

Roth, Daniela. 2013. Status Report: Sacramento Mountains Thistle (*Cirsium vinaceum*). New Mexico Energy, Minerals, & Natural Resources Department: Forestry Division, Santa Fe New Mexico.

Thomson, J. 1991. An investigation of the biology of *Cirsium vinaceum.* Unpublished M.S. thesis, New Mexico State University, Las Cruces, NM.

USDA Forest Service (USDA FS). 1994. Results of monitoring herbivory on *Cirsium vinaceum* (Sacramento Mountians thistle). March 24, 1994 report prepared by Renee Galeano-Popp for Lincoln National Forest, Alamogordo, NM.USDA Forest Service. 2015. Conditions of Stream Channels, Riparian, and Wetland Areas on the Sacramento, Aqua Chiquita, Bounds, and James Allotments of the Sacramento Ranger District Lincoln National Forest. Lincoln National Forest, Southwestern Region. 2 pages.

USDA Forest Service. 2015. Vegetation Description, Botany Report. Lincoln National Forest, Southwestern Region. 2 pages.

USDA Forest Service. 2015. New Mexico Meadow Jumping Mouse Final Proposal, Agua Chiquita, Agua Chiquita Allotment. Sacramento Ranger District, Lincoln National Forest, Southwestern Region. 3 pages.

USDA Forest Service. 2015. New Mexico Meadow Jumping Mouse Final Proposal, Middle Rio Peñasco, Bounds Allotment. Sacramento Ranger District, Lincoln National Forest, Southwestern Region. 4 pages.

USDA Forest Service. 2015. New Mexico Meadow Jumping Mouse Final Proposal, Rio Peñasco, Sacramento Allotment. Sacramento Ranger District, Lincoln National Forest, Southwestern Region. 4 pages.

USDA Forest Service. 2014. Grazing season of use for 2014 and 2015. Sacramento Ranger District, Lincoln National Forest, Southwestern Region. 7 pages.

USDA Forest Service. 1986. Lincoln National Forest Plan. Lincoln National Forest, Southwestern Region. 216 pgs.

USDI Fish and Wildlife Service. 1993. Sacramento Mountains thistle (*Cirsium vinaceum*) Recovery Plan. Albuquerque, NM.USDI Fish and Wildlife Service. 2014. Recovery Outline. New Mexico Meado Jumping Mouse (*Zapus hudsonius luteus*). New Mexico Ecological Services Field Office. Albuquerque, NM. June 2014. 14 pp.

USDI Fish and Wildlife Service. 2014. Final Rule. Determination of Endangered Status for the New Mexico Meadow Jumping Mouse Throughout Its Range. Federal Register, Vol. 79, No. 111. Tuesday, June 10, 2014. Pp. 33119-33137.

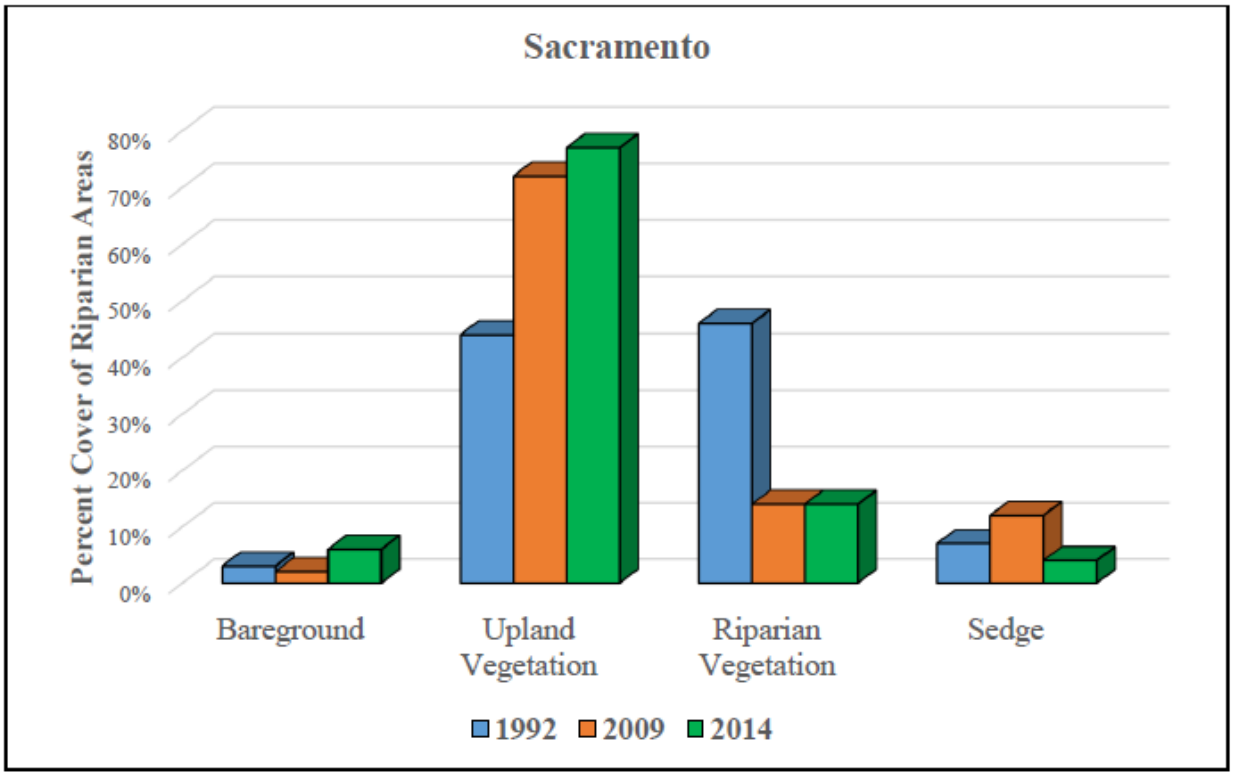
USDI Fish and Wildlife Service. 2014. Draft Environmental Assessment for the Designation of Critical Habitat for the New Mexico Meadow Jumping Mouse. Harris Environmental Group. New Mexico Ecological Services Field Office. Albuquerque, NM. April 2014. 136 pp.

USDI Fish and Wildlife Service. 2013 *a*. Proposed Rule. Proposed Designation of Critical Habitat for the New Mexico Meadow Jumping Mouse. Federal Register, Vol 78, No. 119. Thursday, June 20, 2013. Pp. 37328-37363.

USDI Fish and Wildlife Service. 2013 *b*. Draft Species Status Assessment Report New Mexico meadow Jumping Mouse (Zapus hudsonius luteus). Prepared by the Listing Review Team. Albuquerque, NM. Draft May 30, 2013. 131 pp.

USDI Fish and Wildlife Service. 2012. Final Recovery Plan for the Mexican Spotted Owl (*Strix occidentalis lucida*), First Revision. Albuquerque, New Mexico, U.S.A. 413 pp.

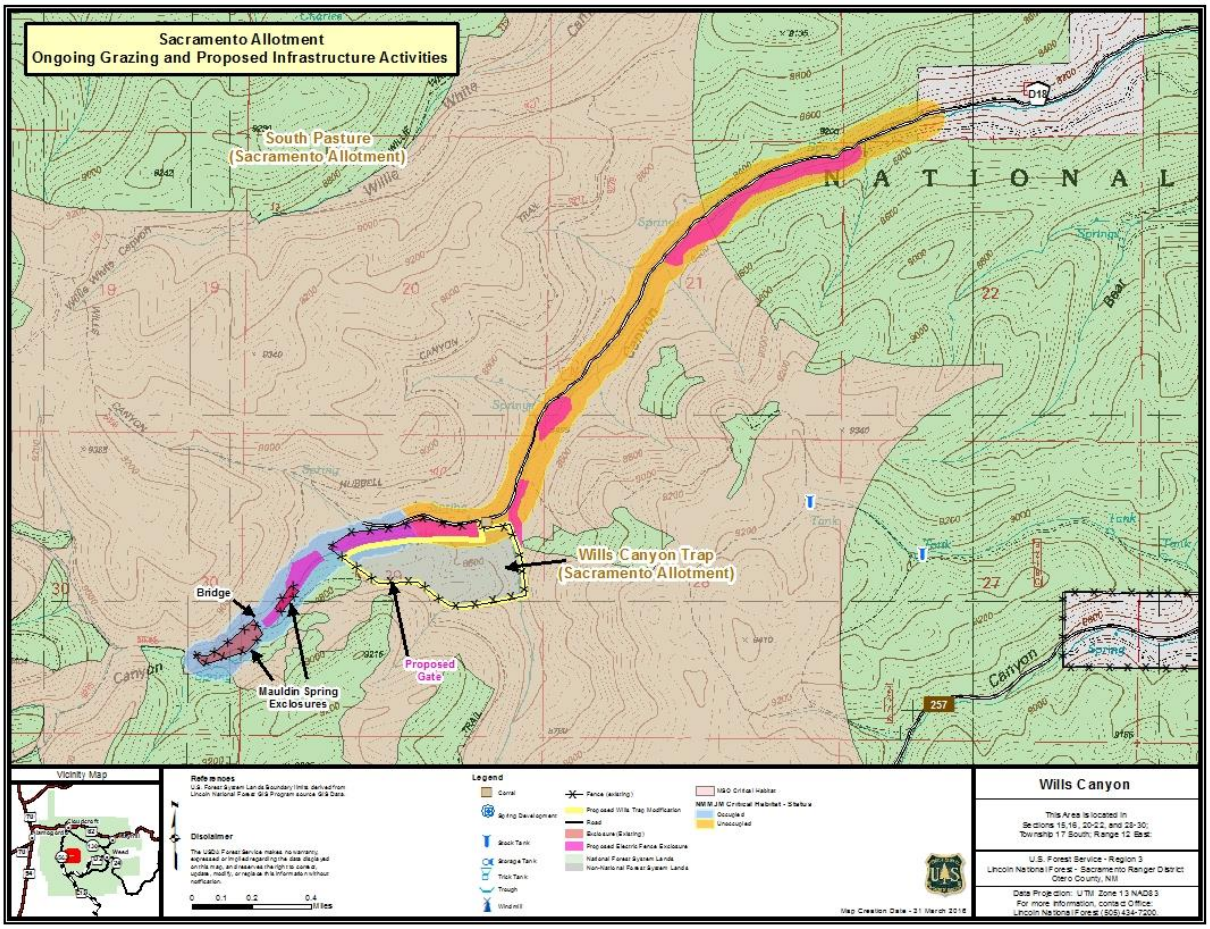
USDI Fish and Wildlife Service & National Marine Fisheries Service. 1998. Endangered Species Consultation Handbook:Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act (Final ESA Section 7 Handbook). U.S. Fish and Wildlife Service & National Marine Fisheries Service. Washington, DC. March 1998. 315 pp.



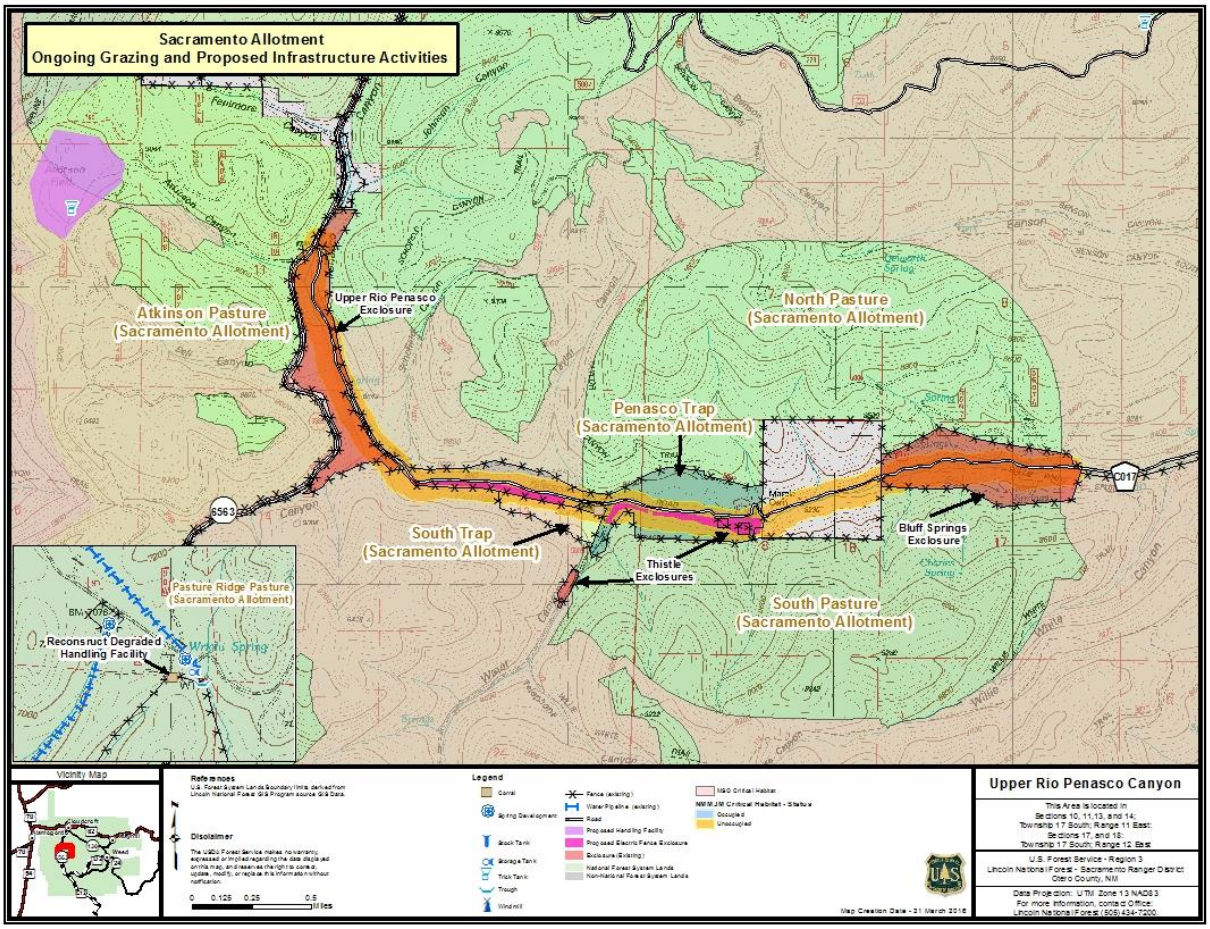
*Graph created by Open Range Consulting (2015).

Appendix A: Graph showing changes in vegetation, in NMMJM occupied and its proposed Critical Habitat, within the Sacramento Allotment.

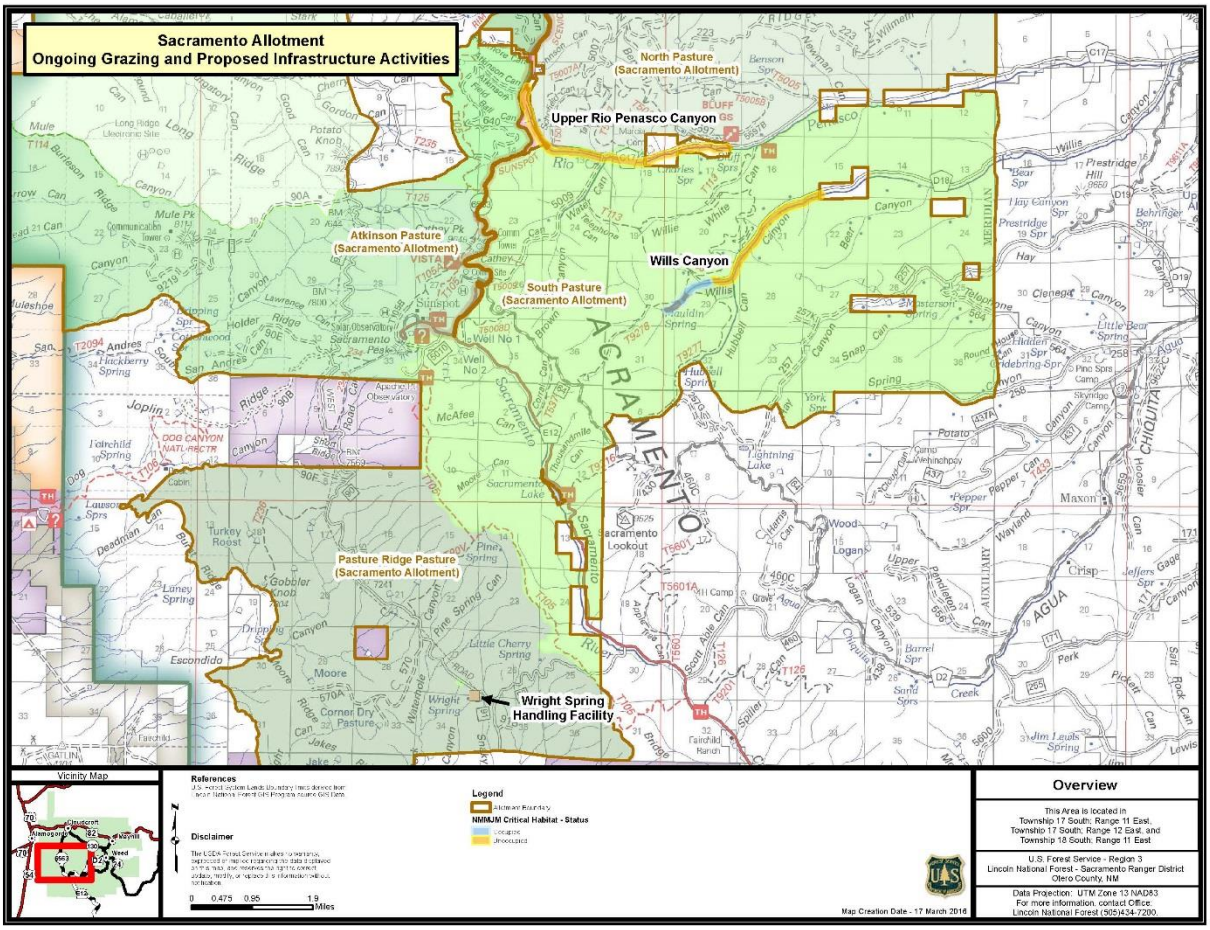
Appendix B: Image of elk exclusion plot (40 ft. x 40 ft.) inside of Upper Mauldin Spring exclosure within Wills Canyon.



Appendix C: A map of permanent and proposed temporary exclosures, as well as the Wills Canyon Trap, in occupied and unoccupied NMMJM habitat within Wills Canyon.



Appendix D: A map of the Rio Peñasco Trap and permanent and proposed temporary exclosures within Upper Rio Peñasco Canyon; as well as the locations of the proposed Atkinson and Wrights Spring Traps.



Appendix E: An overview of the Wrights Spring Trap and occupied and unoccupied NMMJM habitat on the Sacramento Allotment.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 OSUNA ROAD NE
ALBUQUERQUE, NM 87113
PHONE: (505)346-2525 FAX: (505)346-2542
URL: www.fws.gov/southwest/es/NewMexico/;
www.fws.gov/southwest/es/ES_Lists_Main2.html

Consultation Code: 02ENNM00-2016-SLI-0440 April 01, 2016

Event Code: 02ENNM00-2016-E-00460

Project Name: Sacramento Allotment Ongoing Grazing and Proposed Infrastructure Activities Associated NMMJM

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with

the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Sacramento Allotment Ongoing Grazing and Proposed Infrastructure Activities Associated NMMJM

Official Species List

Provided by:

New Mexico Ecological Services Field Office
2105 OSUNA ROAD NE
ALBUQUERQUE, NM 87113
(505) 346-2525
http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

Consultation Code: 02ENNM00-2016-SLI-0440
Event Code: 02ENNM00-2016-E-00460

Project Type: ** OTHER **

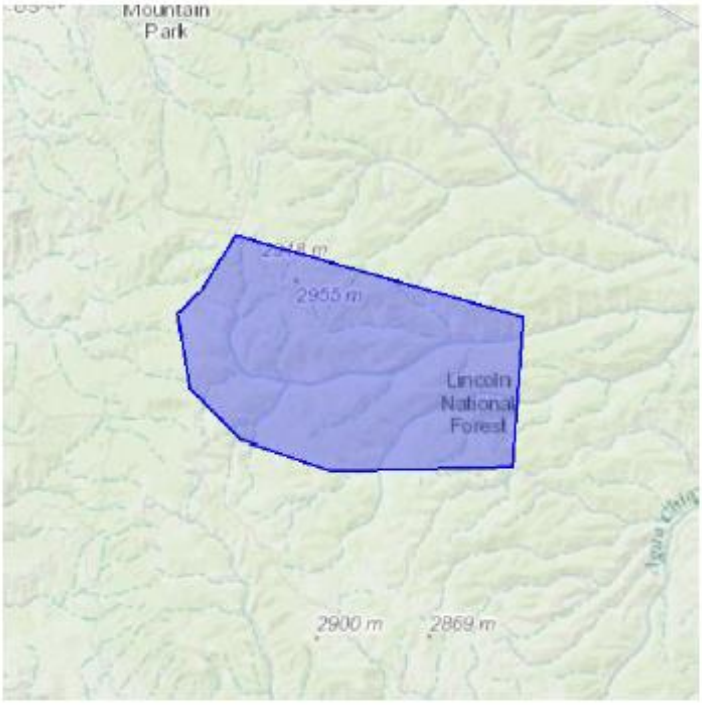
Project Name: Sacramento Allotment Ongoing Grazing and Proposed Infrastructure Activities Associated NMMJM
Project Description: Sacramento Allotment on the Sacramento Ranger District of the Lincoln National Forest. The ongoing livestock grazing and associated activities will take place within the Sacramento Allotment starting April 2016.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Sacramento Allotment Ongoing Grazing and Proposed Infrastructure Activities Associated NMMJM

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-105.68143844604492 32.80199328284486, -105.74941635131835 32.800983250009274, -105.78374862670898 32.810361684869015, -105.80263137817383 32.82637487795752, -105.80735206604004 32.84966819713218, -105.79859733581543 32.85695061212176, -105.78555107116699 32.874325048676425, -105.6771469116211 32.848442385344136, -105.68143844604492 32.80199328284486)))

Project Counties: Otero, NM

United States Department of Interior
Fish and Wildlife Service

Project name: Sacramento Allotment Ongoing Grazing and Proposed Infrastructure Activities Associated NMMJM

Endangered Species Act Species List

There are a total of 12 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Least tern *(Sterna antillarum)* Population: interior pop.	Endangered		
Mexican Spotted owl *(Strix occidentalis lucida)* Population: Entire	Threatened	Final designated	
northern aplomado falcon *(Falco femoralis septentrionalis)* Population: U.S.A (AZ, NM)	Experimental Population, Non-Essential		
Sprague's Pipit *(Anthus spragueii)*	Candidate		
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Flowering Plants			
Kuenzler Hedgehog cactus *(Echinocereus fendleri var. kuenzleri)*	Endangered		
Sacramento Mountains thistle *(Cirsium vinaceum)*	Threatened		
Sacramento Prickly poppy *(Argemone*	Endangered		

pleiacantha ssp. pinnatisecta)			
Todsen's pennyroyal *(Hedeoma todsenii)*	Endangered	Final designated	
Wright's Marsh thistle *(Cirsium wrightii)*	Candidate		
Mammals			
New Mexico meadow jumping mouse *(Zapus hudsonius luteus)*	Endangered	Proposed	
Penasco least chipmunk *(Tamias minimus atristriatus)*	Candidate		

Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

Birds	Critical Habitat Type
Mexican Spotted owl *(Strix occidentalis lucida)* Population: Entire	Final designated
Mammals	
New Mexico meadow jumping mouse *(Zapus hudsonius luteus)*	Proposed