United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Lakeview Resource Area
1301 South G Street
Lakeview, Oregon 97630
www.or.blm.gov/lakeview

TAKE PRIDE IN AMERICA

In Reply Refer To:
6630 (015)

June 18, 2007

Dear Interested Party:

The Bureau of Land Management, Lakeview Resource Area (BLM), has analyzed a research proposal and one alternative to mow approximately 450 acres of sagebrush habitat at 4 small study sites. The sites are located in the vicinity of Beaty Butte in southeastern Lake County. The objectives of the proposal are to study the impacts of this type of vegetation treatment on pygmy rabbits and their habitat to help land managers better understand pygmy rabbit response to habitat change.

An environmental assessment (EA) and finding of no significant impact (FONSI) were prepared and released on May 2, 2007, for a 30-day public comment period. Though no comments were received during that time, the research proponent expressed a desire to make a minor modification in the study design. Instead of mowing portions of 3 sites and leaving the 4th untreated as a control site, as described in the original EA, the proponent proposes to treat a smaller portion of all 4 study sites and leave a portion of each study area unmowed to serve as control sites. As a result of this design change, the EA has been revised.

The revised EA and FONSI have been prepared to document the potential impacts of the proposed action. You have been sent a copy of these documents because of your known interest in such activities. Additional copies of the documents are available by contacting the Lakeview District Office, 1301 South G Street, Lakeview, Oregon 97630. The documents may also available on the web at http://www.blm.gov/or/districts/lakeview/plans/lakeview.php.

If you have any questions concerning the proposed study, please call Todd Forbes or Paul Whitman at (541) 947-2177. If you wish to provide comments on the proposed study, you must do so in writing, by July 19, 2007.

Sincerely,

Thomas E. Rasmussen, Manager
Lakeview Resource Area

Attachment:
1) Finding of No Significant Impact and Environmental Assessment for Pygmy Rabbit Habitat Modification Project

FINDING OF NO SIGNIFICANT IMPACT

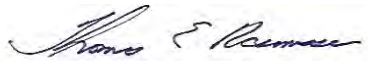
Pygmy Rabbit Habitat Modification Research Project

EA# OR-010-2006-08

The Bureau of Land Management, Lakeview Resource Area (BLM), has analyzed a proposal and an alternative to mow approximately 430 acres of sagebrush habitat on public lands within the Beaty Butte Allotment as part of a pygmy rabbit research project. Mowing would occur on 4 study sites. Only a small portion (less than 30%) of each study site would be mowed. The objectives of the proposal are to study the impacts of this type of vegetation treatment on pygmy rabbits and their habitat. By studying how pygmy rabbits react to vegetation treatments such as mowing, land managers can make better decisions in the future regarding whether the benefits of such treatments to sagebrush communities and other sagebrush-dependent species outweigh the potential impacts to pygmy rabbits. This project will help land managers determine potential vegetation treatment impacts on pygmy rabbits.

This proposal is in conformance with the *Lakeview Resource Management Plan/Record of Decision* (2003) and other applicable plans and policies. There are no designated wilderness areas, wilderness study areas, or areas with wilderness characteristics located within or impacted by the proposed study sites. There are no areas of critical environmental concern, research natural areas, wild and scenic rivers, wetlands, fisheries or aquatic habitats, prime or unique farmlands, historic or paleontological resources, or known hazardous waste areas within the immediate study sites. Neither adverse nor beneficial effects are anticipated to air quality, land tenure, floodplains, or mineral and energy resources. Surveys found no Federally listed threatened or endangered plants or animals or special status plants. No effects of any kind would occur to low income or minority populations. The potential effects on soils, vegetation, noxious weeds, watershed, hydrology, wildlife, special status animal species, recreation, off-highway vehicles, visual quality, cultural resources, native American concerns, wild horses, and livestock administration associated with the alternatives are described in the attached EA.

On the basis of the analysis contained in the attached EA and all other available information, my determination is that none of the alternatives analyzed would constitute a major federal action which would significantly affect the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is unnecessary and will not be prepared.



Thomas E. Rasmussen, Manager
Lakeview Resource Area

6/19/2007
Date

Environmental Assessment
for
Pygmy Rabbit Habitat Modification Research Project
EA No. OR-010-2006-08

INTRODUCTION

Pygmy rabbits are considered a Special Status Species by the Bureau of Land Management (BLM). The current BLM special status species management policy states actions undertaken by the BLM may impact individuals, but can not contribute toward a trend that may make it necessary to list the species in the future. Pygmy rabbits are also considered to be a sagebrush obligate species, meaning they require sagebrush habitat for some portion of their lifecycle. In this case, pygmy rabbits depend on sagebrush for food and cover, mostly during winter.

There has been increased concern throughout the environmental community for the welfare of many sagebrush obligate species because the amount of sagebrush habitat has declined in the west over the last 60 or more years. This concern has led the BLM to consider the conservation and restoration of sagebrush communities. Many sagebrush communities are in poor ecological condition due to increased sagebrush densities causing increased competition between sagebrush and other plants, such as grass and forb species.

There are many different methods used to restore sagebrush communities including the use of prescribed fire, mowing with a rotary mower, herbicides, chaining, or harrows. Many of these community restoration efforts are being undertaken in an effort to improve sage-grouse habitats. However, these treatments could have unintended impacts to many other sagebrush obligate species. For this reason, the BLM is proposing to study the impacts of one such habitat restoration technique, namely mowing, specifically on pygmy rabbits.

Purpose and Need for Action: Vegetation treatments proposed to improve big sagebrush habitats for some sagebrush obligate species such as sage-grouse could have substantial or negative impacts to other sagebrush obligate species such as pygmy rabbits and their habitats. In order to determine the levels of impact, a study is needed that documents how pygmy rabbit populations respond to sagebrush habitat manipulation. By studying how pygmy rabbits react to these treatments, land managers can decide if the benefits of such treatments to sagebrush communities and various sagebrush obligate animals outweigh the potential impacts specifically to pygmy rabbits.

Description of the Proposed Action: The proposed action is to study the effects of reducing sagebrush height by mowing specifically on pygmy rabbits.

Project Location: The proposed study sites are located on the Lakeview Resource Area, Bureau of Land Management (BLM) (see Maps 1-4).

ALTERNATIVES

Alternatives Considered but Dropped From Detailed Analysis: Other non-destructive means of obtaining the same information on impacts of vegetation treatments to pygmy rabbits were considered. One option was looking at areas where pygmy rabbits occurred historically, but no longer occur due to some type of documented ecological change such as wildfire, prescribed fire, invasion of cheatgrass, or conversion to agricultural lands. Unfortunately, this type of study would not give any indication of the exact levels of habitat manipulation that pygmy rabbits can tolerate.

Another alternative considered, but dropped from detailed analysis was a variation in the study design that involved treating three of the study sites and leaving a fourth study site untreated as a control. This alternative was the preferred alternative considered during the previous EA, until researchers at Oregon State University determined that the vegetation on the study sites was somewhat different at each site. Given the differences in vegetation at each site, the researchers determined that it would be better to leave a portion of each of the study sites untreated, thereby creating an untreated control area within each of the study sites.

No other alternatives were considered scientifically or statistically valid.

Alternative 1 - No Action: Management of these study areas would not change under this alternative. No vegetation treatment actions would occur and no pygmy rabbit vegetation treatment study would be conducted.

Alternative 2 – Preferred Plan: Under this alternative, sagebrush height would be reduced by mowing at four small, existing pygmy rabbit study sites. The study sites comprise about 1,500 acres total.

The proposed study is part of a cooperative effort between the BLM, U.S. Fish and Wildlife Service, U.S. Geological Survey, and Oregon State University. The BLM would be responsible for conducting the mowing treatment while a graduate student from Oregon State University would conduct the research, as part of his Masters research project.

There are approximately 60,000 acres of known occupied pygmy rabbit habitat on the Lakeview Resource Area and 30,000 acres within the general region of the proposed project. Mowing would occur in a mosaic pattern on no more than one third of each study area (about 430 acres total) and on less than 0.7% of the known occupied pygmy rabbit habitat within the Resource Area. The mosaic pattern would be broken up into uneven non-parallel lines bisecting at diverging angles in an effort to give the project a semi-natural appearance. Mowing would be accomplished using a rotary mower pulled by rubber-tired tractor. Mow heights would vary from 6-15 inches depending on sagebrush height, rocks, and uneven terrain.

The following Best Management Practices would be followed to minimize impacts to other resources:

- Mowing would only occur when soil conditions are dry or frozen.

- Adjacent road drainage ditches would be maintained.
- Mowing would not occur in ephemeral drainages.
- Equipment would cross ephemeral drainages perpendicular to flow direction.
- Mowing would follow the topography of each study area, no perpendicular or straight lines visible from the adjacent roads.
- Mowing would be avoided during nesting seasons for neotropical migratory birds wherever possible within the study sites.
- All equipment would be cleaned prior to entering the study sites to minimize off-site weed invasion risk. The study sites would be monitored for weed invasion and treated, if needed, in accordance with the programmatic weed treatment plan (BLM 2004).
- Strips of sagebrush vegetation would be left un-mowed directly adjacent to existing roads to discourage off-highway vehicles from creating new roads and trails into the mowed areas.
- Archaeological sites would be avoided.

Note: a fifth study site could be treated and studied which is located on the Sheldon National Wildlife Refuge (SNWR). This site has already been evaluated by the U.S. Fish and Wildlife Service in a separate NEPA analysis (USFWS 2002). With the exception of the cumulative effects discussion, that analysis will not be repeated in this EA.

AFFECTED ENVIRONMENT

Soils & Vegetation

The study sites range in elevation from 5200 feet to 6300 feet. Topography consists of rolling hills with small intermittent drainages and large flat valley bottoms. Slopes within the sites are generally under 10%. Soils within the study sites are comprised mainly of Corral, Rutab and Brace-Raz complexes of fine textured loamy or sandy loam, moderate depth soils. Wind and water erosion potential on these soils is slight to moderate. The sites are mostly flat with no evidence of water erosion except for steep road cuts.

Vegetation types within the study areas vary slightly from site to site. The west gulch site is primarily Wyoming big sagebrush with an understory of Thurber's needlegrass in good or fair condition. The Spaulding site is a more historically disturbed site with a mixture of Wyoming sagebrush and basin big sagebrush with an understory of bottlebrush squirreltail, bluegrass, and cheatgrass. The Dixon waterhole site contains large areas of low sagebrush with Sandberg's bluegrass and Wyoming big sagebrush with Thurber's needlegrass. There are also low areas with rabbitbrush being the dominant shrub and the understory includes *Carex* spp. Non-native cheatgrass is present within the study sites; however it is present in small patches and is relatively uncommon.

Noxious Weeds

No known populations of noxious weeds are present within the study sites or the immediately surrounding area.

Special Status Plant Species

Study sites were surveyed for special status plant species, including Federally listed threatened or endangered species, and none were found. Therefore, special plants will not be discussed further in this EA.

Watershed & Hydrology

The proposed sites are located in large internal draining watersheds typical of the Great Basin. They receive between 8 and 12 inches of precipitation a year, mostly in the form of rain during the spring. Most of the precipitation moves directly into the soil except after snow melt or large rain events. Overland flow moves toward ephemeral drainages which do not support riparian vegetation, but do form drainage channels.

Wildlife & Special Status Animal Species

There are many common wildlife species known to occur within the project area including several species of small mammals such as mice, voles, ground squirrels, weasels, jack rabbits, cottontail rabbits, and pygmy rabbits. Bobcats, badgers, coyotes, and mountain loins, are also occasional visitors to the area. Several species of raptors nest on the rim rocks surrounding the study sites. There are also several species of migratory and non-migratory songbirds that inhabit the area.

Special Status wildlife species that are known to occur or have habitat within the area include the bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus*), burrowing owl (*Speotyto cunicularia*), Townsends big-eared bat (*Corynorhinus townsendii*), sage-grouse (*Centrocercus urophasianus*), and pygmy rabbit (*Brachylagus idahoensis*). There are also two species with high public interest. These include mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*).

No nesting habitat exists within the project area for peregrine falcon, ferruginous hawk or bald eagle. Other habitats within the project area for bald eagle and peregrine falcon are very marginal, although it is suspected that they may occasionally visit the project area. Foraging habitats do exist within the project area for ferruginous hawk and they have been observed directly adjacent to the Dixon study area.

Evidence of burrowing owls is present within the West Gulch study site. No known nesting has been observed within that study area.

There are no known roost sites within the study areas for Townsend's big-eared bats. Foraging habitats within the study areas is marginal; however it is likely that they occasionally visit the area.

Mule deer and pronghorn are occasional visitors to the study areas. Year round habitats exist for both of these species, although densities are relatively low specifically within the study areas.

Pygmy rabbit populations are scattered throughout the Lakeview Resource Area. Pygmy rabbits are a sagebrush obligate species, relying exclusively on big sagebrush (*Artemisia tridentata*) for food and protection from thermal extremes and predators (Katzner and Parker 1998). Green and Flinders (1980) found that sagebrush was eaten throughout the year, although in lesser amounts in summer than in winter. During summer, grasses and forbs comprised a larger percentage of the diet. Tall, dense stands of big sagebrush provide cover to shelter pygmy rabbits from predators when outside of the burrow (Gabler *et al*. 2001). Pygmy rabbits also prefer specific soil characteristics for digging its burrows. Weiss (1984) found that this species inhabits areas in Oregon where soils are relatively deep and friable. One study has been going on at several of the study sites involving radio collaring rabbits to determine movement patterns, home range, habitat associations, and survival rates (Crawford 2005). This mowing treatment research proposal would serve as an extension of this on-going study. Overall, the known occupied pygmy rabbit habitats cover over 60,000 acres within the Resource Area including over 30,000 acres within the region surrounding the study sites, based on surveys that have been completed in the Lakeview District to date (BLM 2003a, 2003b, 2006). It is likely that more occupied habitat will be confirmed as additional survey work is conducted.

Though sagebrush habitat exists suitable to support sage-grouse at the study areas, no sage-grouse have been observed during the four years of pygmy rabbit study at these same study sites. The nearest known lek sites are located several miles from the study sites.

Recreation, Off-Highway Vehicles, & Visual Resources Management

Recreational use at the study sites and surrounding lands is fairly low, with most use taking place during fall big game and bird hunting seasons. The study sites are immediately adjacent to, or visible from, BLM roads. The vehicle designation for the Dixon 1 and Spaulding areas is “open”, while vehicles are required to stay on existing roads and trails in the West Gulch 1 and 2 areas.

All four of the study sites are managed as VRM class IV. The objective of Class IV is to provide for management activities that require major modification of the landscape. These management activities may dominate the view and become the focus of viewer attention. However, every effort should be made to minimize the impact of these projects by carefully locating activities, minimizing disturbance, and designing the projects to conform to the characteristic landscape.

Areas of Critical Environmental Concern (ACEC), Research Natural Areas (RNAs), Wilderness Study Areas (WSAs), & Wilderness Characteristics

None of the study sites occur within ACEC or RNA designations. Therefore, ACECs and RNAs will not be discussed further in this EA.

None of the study sites are located within designated WSAs. The Spaulding study site is located across the boundary road and to the west of Spaulding WSA; the Dixon 1 area is approximately one-half mile from the Sage Hen Hills WSA; and West Gulch 1 and 2 areas are located several

miles north of the Spaulding WSA (Map 1). For this reason, WSAs will not be discussed further in this analysis.

In April 2005, the Oregon Natural Desert Association (ONDA) provided the BLM with a report containing numerous proposed wilderness study areas (ONDA 2005). In this report they identified three areas of BLM land in the general project area which they feel contain wilderness characteristics. They refer to these areas as the Spaulding Proposed WSA Addition 1 (39,080 acres), Hart Mountain Proposed WSA (424,570 acres) and the Spaulding Proposed WSA Addition 2 (82,532 acres). The two West Gulch study sites are located within the proposed Spaulding Addition 2 area. The Dixon study site is within the proposed Spaulding Addition 1 area. In early 2007, BLM completed its own evaluations of wilderness characteristics in these areas. These evaluations are included in the Lakeview District wilderness inventory files and are available upon request (BLM 2007a, 2007b).

In summary, the BLM found the two, large ONDA-proposed WSAs contained numerous internal roads and, therefore, needed to be evaluated as a series of twelve smaller inventory units. Nine of the twelve units evaluated met the minimum 5,000-acre size requirement. Nine of the twelve units were 50% or more in a primarily natural condition. None of the units contained either outstanding opportunities for solitude or outstanding opportunities for primitive and confined recreation. Nine of the twelve units contained supplemental values, primarily related to bighorn sheep, sage-grouse, or pygmy rabbit habitat, along with the potential for archeological resources (BLM 2007a, 2007b).

None of the twelve units contained all of the “key factors of wilderness character” of:

a) size - at least 5,000 contiguous roadless acres of public land,
b) naturalness - the imprint of man’s work must be substantially unnoticeable,
c) an outstanding opportunity for solitude or an outstanding opportunity for primitive and unconfined type of recreation.

All three criteria have to be met in order for an area to contain “wilderness character”. Based on the results of these evaluations (BLM 2007a, 2007b), wilderness character is lacking in the study areas and will not be addressed further in this EA.

Livestock Administration

Livestock administration is governed by management direction contained in the Beaty Butte Allotment Management Plan (BLM and USFWS 1998b). The West Gulch sites are located in the North Common Pasture and are grazed every other year. The more northern West Gulch site is near a set of new water troughs that are fed from a pipeline in West Gulch. The Dixon site is located in the South Common Pasture and is grazed in alternate years when the North Common Pasture is being rested. The Spaulding site is within the Spaulding Pasture and could be grazed every year in the late summer or fall by cattle trailing thru the area.

Wild Horse Administration

All of the study sites are located within the Beaty Butte wild horse Herd Management Area (HMA) except for the Spaulding site. The HMA totals 437,120 acres, extending from the Oregon/Nevada state line northward to the boundary between the BLM, Lakeview and Burns Districts, roughly eight miles north of Beaty Butte (refer to Map 1 of *Beaty Butte AMP/Final EIS;* BLM and USFWS 1998a). The HMA is managed for 100-250 horses.

The HMA is relatively free of restrictions to horse movements, with the exception of the western Buckaroo Pass fence that partially separates the southern portion of the Beaty Butte Common Pasture from the northern portion and small exclosure fences around some springs. Traditionally, the horses have used the entire HMA and have migration routes throughout the area, including the Dixon and West Gulch mow plot areas. The majority of the horses are found in the eastern and northwestern portions of the HMA. Horses trail from water at springs located near or within the project area to forage in traditional use areas. These springs and waterholes are essential for wild horse survival.

Cultural, Historic, & Paleontological Resources

The study sites were surveyed for cultural, archeological and paleontological resources. One minor archeological site was found within the project area. Study sites were surveyed using two individuals walking spaced no more than 50 meters apart. A literature review of all archaeological data was made prior to surveys to determine if any known sites were within the areas and to determine what types of sites might be present. Consultations with Northern Paiute Tribal representatives were made to determine if tribal cultural concerns were a factor. Discussions were also held with tribal cultural staff at the Klamath Tribes and Ft. Bidwell Paiute tribal offices. No concerns were voiced at these meetings. Historic and paleontological resources will not be discussed further in this EA.

ENVIRONMENTAL IMPACTS

The potential environmental impacts resulting from the alternatives were evaluated relative to the following critical resource values. The following table lists resource values or issues that either are not present in the study areas or would not be impacted by either of the alternatives analyzed:

Critical Element/					
Air Quality		X	T & E Species		X
ACEC/RNAs		X	Wilderness		X
Cultural Resources		X	Wild & Scenic Rivers		X
Farmlands, Prime/Unique		X	Hazardous Wastes		X
Floodplains		X	Water Quality		X
Native American Cultural/ Religious Concerns		X	Wetlands/Riparian Zones		X
Low Income/ Minority Populations		X	Noxious Weeds		X

DESCRIPTION OF IMPACTS

<u>Alternative 1 - No Action:</u>

Soils & Vegetation

Under this alternative, no disturbance would occur to soils or vegetation within the study sites. Soil erosion potential would continue to be slight to moderate. The amount and distribution of vegetation within the study sites would continue to change slowly over time until a major disturbance such as wildfire occurred.

Noxious Weeds

Since no soil or vegetation disturbance would occur and weeds are not currently known to exist at the study sites, there no would be no increased risk of noxious weeds infestation or expansion under this alternative.

Watershed & Hydrology

No disturbance would occur to watershed processes (infiltration rates, surface water movement) within the study sites. Soil permeability and water holding capacity would remain subject to natural factors and would not change significantly unless a major disturbance such as wildfire occurred in the future.

Wildlife & Special Status Animal Species

Under this alternative, there would be no disturbance to wildlife associated with mowing. There would be no significant changes in wildlife habitat at any of the study sites unless a major disturbance such as wildfire occurred in the future.

Recreation, Off-Highway Vehicles, & Visual Resources Management

Under this alternative, no impacts or changes would be expected to recreational use, off-highway vehicle use, or visual quality unless some major disturbance such as wildfire occurred.

Livestock Administration

Under this alternative there would be no impact to livestock administration.

Wild Horse Administration

There would be no impacts to wild horses from this alternative. Horses would be able to maintain their seasonal movement, use patterns, access to water, and free roaming nature.

Cultural Resources

Under this alternative there would be no impacts to cultural resources.

Alternative 2 – Proposed Action:

Soils & Vegetation

Soils within the study sites would remain relatively undisturbed. Some surface disturbance would occur, but compaction from equipment would be minimized by avoiding using equipment during wet soil conditions.

Shrubs would be impacted over the short term where mowing or equipment movement occurs. Some mowed shrubs are expected to be killed by mowing, however many would remain alive and would continue to grow. This is especially true of smaller, younger, and multiple stemmed sagebrush and rabbitbrush. Native grass species are expected to increase moderately in vigor and slightly in distribution within the mowed areas. Forb species would also increase, however, probably not as much as grasses. Cheatgrass areas would be avoided as much as possible during mowing operations and, therefore, is not expected to increase dramatically within the study sites.

Noxious Weeds

A reduction in vegetative cover combined with minor soil disturbance could increase the potential for noxious weeds to spread into the area. However, activities such as mowing could introduce noxious weeds from elsewhere through equipment and vehicles.

Watershed & Hydrology

Watershed processes (infiltration rates, surface water movement) within the study sites would remain relatively undisturbed. Soil permeability and water holding capacity would not change due to the stability of the soils, flat topography and not using equipment during wet soil

conditions. The ephemeral drainages would continue to move water similar to current conditions because treatment would avoid drainages.

Wildlife & Special Status Animal Species

Mowing operations would disturb some wildlife species enough that they would leave the study sites during the mowing process. This is especially true for the larger species including deer, pronghorn antelope, bobcats, coyotes, and most raptors. Smaller wildlife species would probably still be disturbed, but would not leave the immediate area. Overall this disturbance factor would only be temporary and would not cause any animal species to permanently discontinue use of the study sites.

Approximately 430 acres of shrub over-story cover would be removed by mowing. This change in habitat structure would benefit some wildlife species and may have negative impacts to others. More grasses and forbs would be available for both small and large grazers including mice, ground squirrels, rabbits, deer and pronghorn antelope. The removal of protective cover via removal of shrubs may make some new forage unavailable for smaller wildlife species.

Nesting habitats would be reduced for shrub nesting birds in the short-term, however nesting habitats for open area nesting birds would be increased. Cover for small mammals would also be reduced over the short-term. No significant negative impacts are expected for any wildlife species listed above.

Mowing occupied pygmy rabbit habitat could directly impact some individual pygmy rabbits. This impact could result in increased predation due to less hiding cover. Mowing could result in an increase in summer forage (grasses and forbs), along with a decrease in winter forage (sagebrush). Because mowing would occur on less than 0.7% of the occupied pygmy rabbit habitats within the Lakeview Resource Area, no significant impacts would occur to pygmy rabbit populations or contribute to the need to list this species under the Endangered Species Act.

Positive impacts to pygmy rabbits would occur from an increase in knowledge about how vegetation manipulation projects affect this species. This would allow land managers to avoid or mitigate possible impacts associated with future sagebrush-steppe restoration projects throughout the Lakeview Resource Area, eastern Oregon, and elsewhere within the Great Basin.

Recreation, Off-Highway Vehicles, & Visual Resources Management

In those study sites where vehicles are restricted to existing roads and trails (West Gulch 1 and 2), visible mower tracks and shorter vegetation could encourage off-road vehicle use, though this use would be illegal and subject to enforcement actions. Mowing adjacent to roads may also encourage creation of informal vehicle pull-offs and camping areas, particularly in places where tall, thick vegetation is removed. Strips of vegetation would be left un-mown directly adjacent to each existing road to discourage off-highway vehicles from creating new roads and trails. Visual impacts under this alternative would be consistent with Class IV visual quality management objectives.

Livestock Administration

There would be no impact to livestock administration under this alternative.

Wild Horse Administration

There would be no impacts to wild horses from this alternative. Horses would be able to maintain their seasonal movement, use patterns, access to water, and free roaming nature.

Cultural Resources

During survey work, one small archeological site was found within one study area. This site would be buffered and avoided during the vegetation treatment. Since no mowing would occur on this cultural site, there would be no impacts to cultural resources.

Secondary and Indirect Impacts:

Generally, there would be no secondary or indirect impacts associated with either alternative. However, there would be indirect negative impacts to wildlife associated with the No Action Alternative. Namely, no information about impacts of vegetation manipulation to pygmy rabbits would be gained. Without this information, land managers would make uninformed decisions or would be otherwise unable to avoid or mitigate potential impacts to pygmy rabbits associated with vegetation treatments in the future.

Cumulative Impacts:

Cumulative Effects Methodology Regarding Past Management Activities

For the purposes of this effects analysis, the allotment is considered to be the appropriate landscape scale for consideration of potential cumulative impacts. The current conditions on the land affected by the proposed action resulted from a multitude of natural and human actions that have taken place over many decades. A catalogue and analysis, comparison, or detailed description of all individual past actions and their effects which have contributed to the current environmental conditions would be practically impossible to compile and unduly costly (in terms of both time and expense) to obtain and would not add any clearer picture of the existing environmental conditions in the project area. Further, the Council on Environmental Quality (CEQ) does not require an exhaustive cataloging or listing of all individual past actions as part of a cumulative effects analysis (CEQ 2005, page 3).

In addition, the information on individual past actions is often largely anecdotal and does not constitute a scientifically acceptable methodology capable of illuminating or better predicting the effects of the proposed action and its alternatives. The basis for predicting the effects of the proposed action and its alternatives should be based on generally accepted scientific methodologies such as empirical research.

Instead of incurring exorbitant costs it is possible to implement a more accurate and less costly

way to obtain the information concerning past actions necessary for an adequate analysis of the "impact on the environment which results from the *incremental impact* of the action when added to other past, present, and reasonably foreseeable future actions." (See definition of "cumulative impact" in 40 CFR § 1508.7). The description of the current affected environment inherently includes the effects of past actions and serves as a more accurate and useful starting point for a cumulative effects analysis, than attempting to establish such a starting point by cataloging or "adding up" the effects of all individual past actions. The importance of "past actions" is to set the context for understanding the incremental effects of the proposed action. This context is determined by combining the current conditions with available information on the expected effects of other present and reasonably foreseeable future actions.

Under this methodology, only the cataloguing and analysis of the effects of other present and reasonably foreseeable actions relevant to the effects of the proposed action is necessary, and is described in the following section. By comparing the total effect of the no action alternative to the effects described when adding an action alternative, one can then discern the "cumulative impact" resulting from adding the "incremental impact" of an alternative action to the current environmental conditions and trends.

Chapter 3 of the *Beaty Butte AMP/Final EIS* (BLM and USFWS 1998a) contains a detailed discussion of overall resource conditions within the Beaty Butte Allotment as of 1998. The environmental conditions in the allotment have changed somewhat since 1998 as a result of AMP implementation and natural causes (ie wildfire). The existing environmental conditions and potential impacts of other proposed management activities in the allotment have been described in more recent environmental assessments including an AMP amendment (BLM 2000c), an emergency fire rehabilitation plan (BLM 2000d), and installation of temporary electric fences (BLM 2002). However, the current conditions specific to the small study sites are described in the Affected Environment section of this EA. These existing conditions are a reflection of past management activities.

Reasonably Foreseeable Future Actions

The *Beaty Butte AMP/Final EIS* (BLM and USFWS 1998a) analyzed the impacts of a comprehensive list of proposed projects and management actions within the larger 575,000-acre allotment. The *Beaty Butte AMP/ROD* made a decision to implement a list of projects and management actions associated with the preferred Alternative 4 (BLM and USFWS 1998b) over a period of time. Though a number of those projects and management actions have been completed in the allotment since the decision was signed in 1998, many have not yet been completed and could be implemented in the future as staff time and budget allow.

More recently, one additional project has also been proposed and the potential effects analyzed. This project involves construction of about 9 miles of fence extending east from Buckaroo Pass area, 4 fence "traps" around 4 waterholes, about 1.75 miles of pipelines, and 2 water troughs. The purpose of the project is to extend and complete a fence to divide the North and South Pastures and better distribute livestock within the allotment and provide a more effective rest-rotation grazing system (BLM 2004b).

In addition, the BLM has recently proposed and analyzed a series of water developments, fences, and road relocation projects to improve riparian habitat and livestock distribution in the East and West Gulches of the North Pasture (BLM 2007c).

The Lakeview and Burns District BLM have recently begun a cooperative project proposal involving construction of a small, protective exclosure fence around the Crosby's buckwheat plant population located in the Fish Fin Rim area of the North Pasture. This area currently receives little livestock grazing use, but is subject to wild horse trampling impacts. The fence would also partially enclose local populations of winterfat and four-winged milkvetch plant populations found there. This project proposal is under development and will be subject to future NEPA analysis.

No project proposals are known or anticipated on private or state lands within the allotment other than maintenance of existing private/state developments. One, 8-mile fence project along the north side of Highway 140 was completed by the U.S. Fish and Wildlife Service in 1999.

A fifth study site could be treated and studied which is located on the Sheldon National Wildlife Refuge (SNWR). This site has already been evaluated by the U.S. Fish and Wildlife Service in a separate NEPA analysis (USFWS 2002).

For the purposes of this impact analysis, the projects described above constitute all of the reasonably foreseeable future actions that the BLM or others are likely to complete within or near the study sites in the foreseeable future. In most cases, the potential effects of these projects, including direct, indirect and cumulative have already been addressed in other NEPA documentation (BLM and USFWS 1998a; BLM 2000c, 2000d, 2002, 2004b, 2007c).

Cumulative Effects

The impacts of full implementation of the AMP, including those projects that have yet to be implemented, are described in Chapter 4 of the *Beaty Butte AMP/Final EIS* (BLM and USFWS 1998a). The potential cumulative impacts of full implementation of the AMP are simply the collective sum of all of the impacts, including direct, indirect, and cumulative effects that would occur within the allotment, as described in Chapter 4 of the *Beaty Butte AMP/Final EIS* associated with the preferred Alternative 4. The reader should refer to Chapter 4 and Table S-1 of the *Beaty Butte AMP/Final EIS* for more detailed information about the impacts expected with full AMP implementation (BLM and USFWS 1998a).

The cumulative impacts associated with a variety of potential management activities, including sagebrush habitat manipulation, are also addressed at the broader resource area scale within the Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a). The incremental cumulative effects for both alternatives (study and no action) would be within limits of those already analyzed for alternatives addressed in the *Lakeview Proposed RMP/Final EIS*. The analysis is not repeated in this document, but is incorporated by reference.

Many of the projects listed in the *Beaty Butte AMP/ROD* and the other potential reasonably foreseeable future actions described above represent range improvement projects such as pasture

boundary fencing, exclosure fencing, cattle guards, and water developments which have small, localized direct effects on sagebrush habitat associated with project construction. The more long-lasting effects associated with those types of projects relate to how they affect, both positively and negatively, livestock and wild horse use patterns within the allotment. In general, these types of projects are designed to provide better livestock management or control in specific portions of the allotment and protect or improve localized resource conditions such as riparian habitats or special status plant species sites, but they can have some negative effects due to trailing or higher concentrated livestock use on soils and vegetation within close proximity to a given project (BLM and USFWS 1998a, pages 46-49, 51-55).

Several of the projects listed in the *Beaty Butte AMP/ROD* include prescribed fire projects which have been implemented on the ground that were designed to create grass and sagebrush habitat mosaics of greater benefit to many wildlife species. The proposed mowing study represents a sagebrush habitat manipulation covering approximately 430 acres with impacts potentially similar (ie sagebrush overstory removal) to both prescribed and wild fires. However, there is one important distinction, fire typically kills sagebrush plants whereas the proposed mowing would only "top" or temporarily reduce the vigor of the sagebrush overstory.

Since the AMP was completed, approximately 21,906 acres of prescribed fire and 15,158 acres of wild fire have occurred within the 575,000-acre allotment. The incremental or additive effect of this 430 acres of mowing represents only 1.2% of total habitat manipulation that has occurred to date and 0.07% of the entire allotment (most of which is dominated by a sagebrush overstory).

When considered cumulatively with other types of natural events, projects or management activities that could occur to sagebrush habitats within the allotment in the future and potentially disturb soil and vegetation such as precipitation and wind events, wildfire, vehicle travel (including off-road use), road maintenance, and the mowing study on the Sheldon National Wildlife Refuge, the proposed study's potential incremental contribution to soil erosion, soil compaction, water holding capacity, and vegetative health and diversity within the allotment would be very small and insignificant.

In recent years, the BLM has been conducting surveys for pygmy rabbits throughout Oregon (BLM 2003a, 2003b, 2005a, 2005b, 2006). These surveys have confirmed pygmy rabbits over a much broader range in Oregon than previously thought (George Buckner, wildlife biologist, Oregon State Office BLM, personal communication). There are approximately 30,000 acres of known pygmy rabbit habitat within the larger allotment surrounding the study sites, and about 60,000 acres of known habitat on the Lakeview Resource Area. Approximately 430 acres would be mowed in a mosaic pattern as part of the research proposal. This represents less than 1.4% of the known habitat within the allotment and 0.7% of the known habitat within the larger Lakeview Resource Area. This 430 acres represents an even smaller percentage of the actual occupied habitat that will likely be determined by further inventory. Due to the relatively small acreage involved, no significant impacts, including cumulative impacts, would occur to pygmy rabbit populations at either the allotment scale, resource area scale, state-wide scale, or range-wide scale such that the research proposal would contribute to the need to list this species under the Endangered Species Act.

CONSULTATION AND PUBLIC INPUT

Persons and Agencies Consulted:

Oregon Department of Fish and Wildlife - Lakeview Office
U.S. Fish and Wildlife Service - Sheldon NWR Office
U.S.G. S. Biological Resources Division – Oregon Cooperative Wildlife Research Unit
Oregon State University - Wildlife Department
The Klamath Tribes
Fort Bidwell Paiute Tribe
Northern Paiute Tribe

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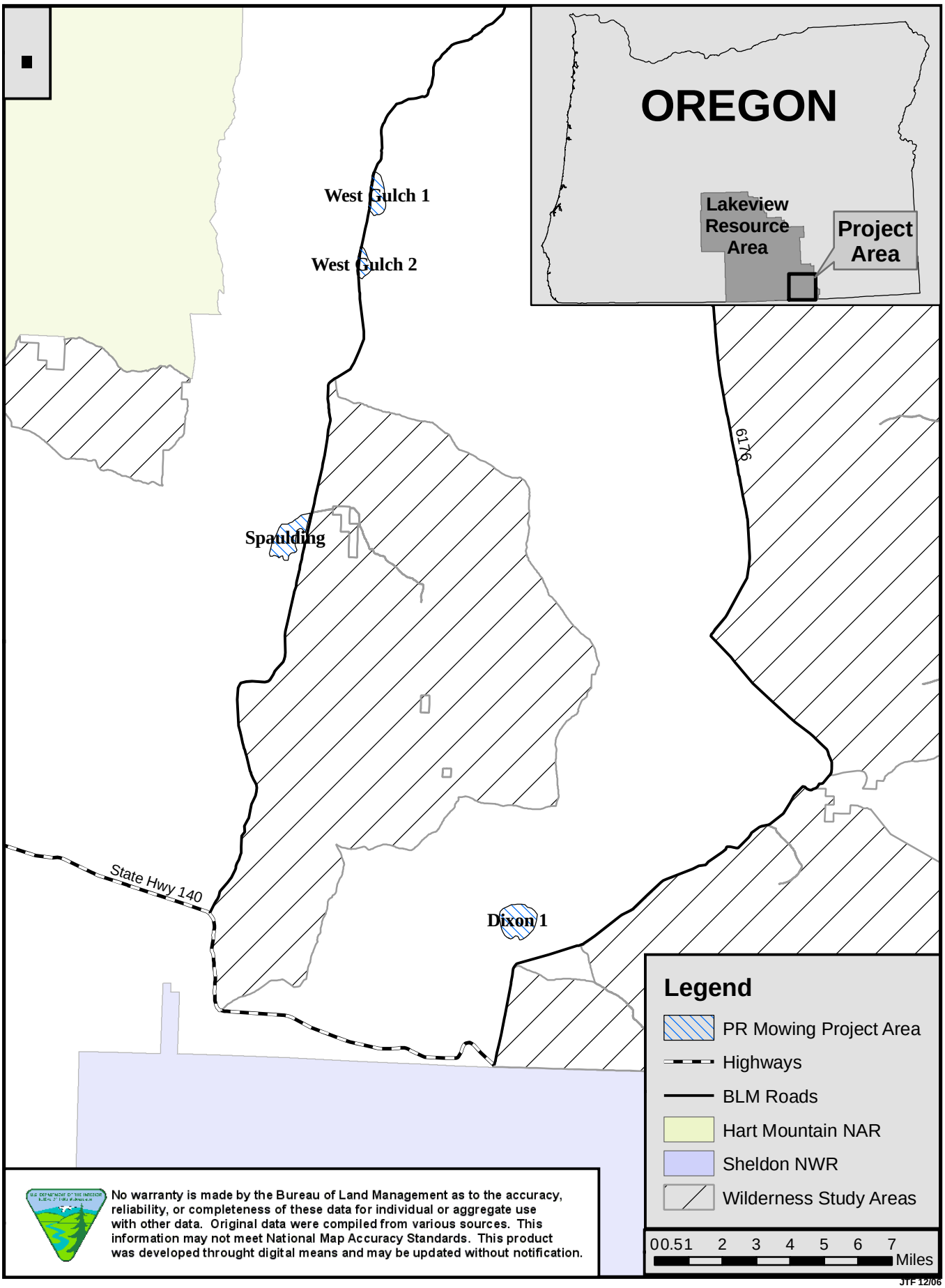
Map 1
Proposed Pygmy Rabbit Habitat Study Areas



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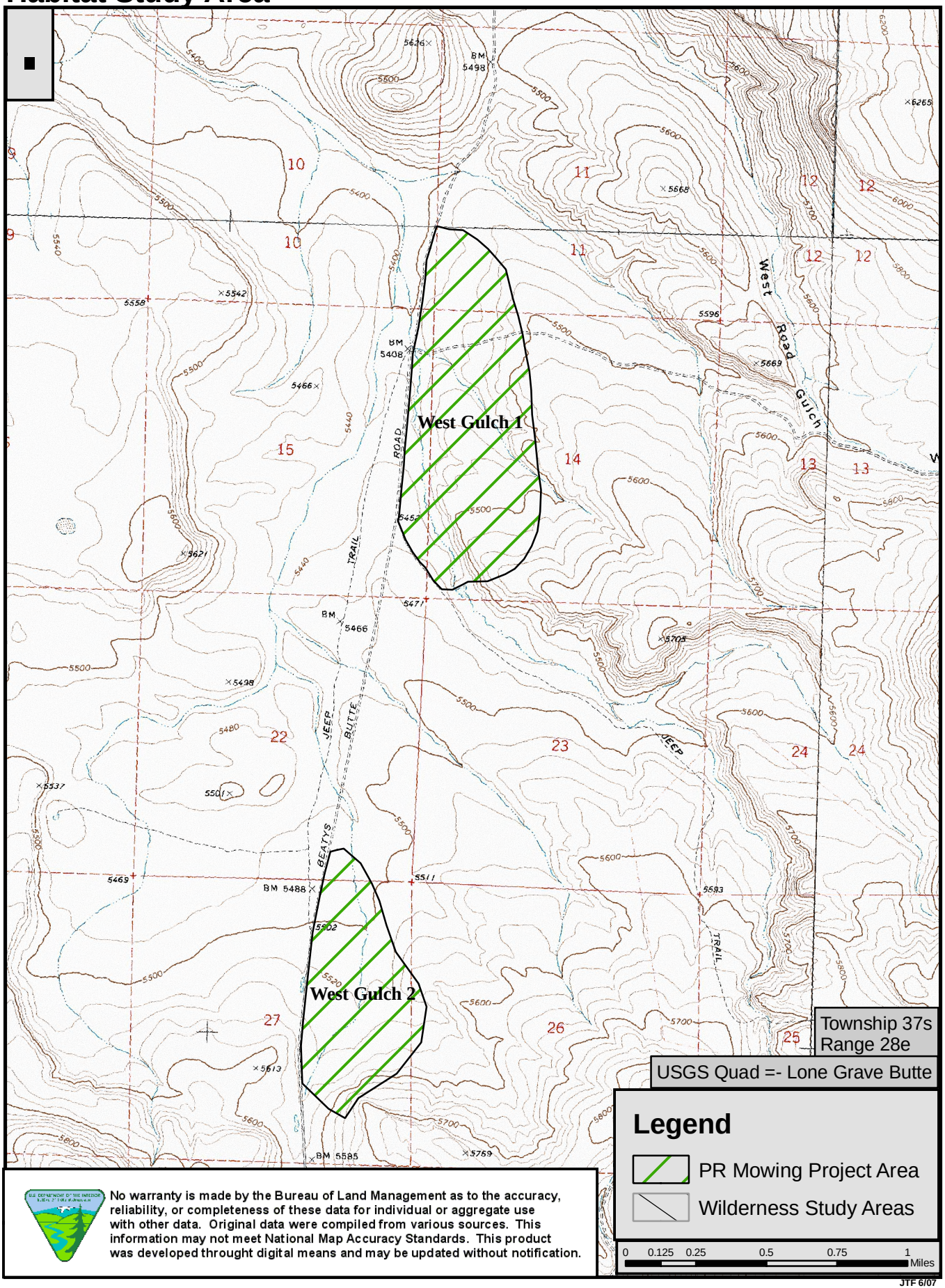
Map 2
West Gulch Pygmy Rabbit
Habitat Study Area



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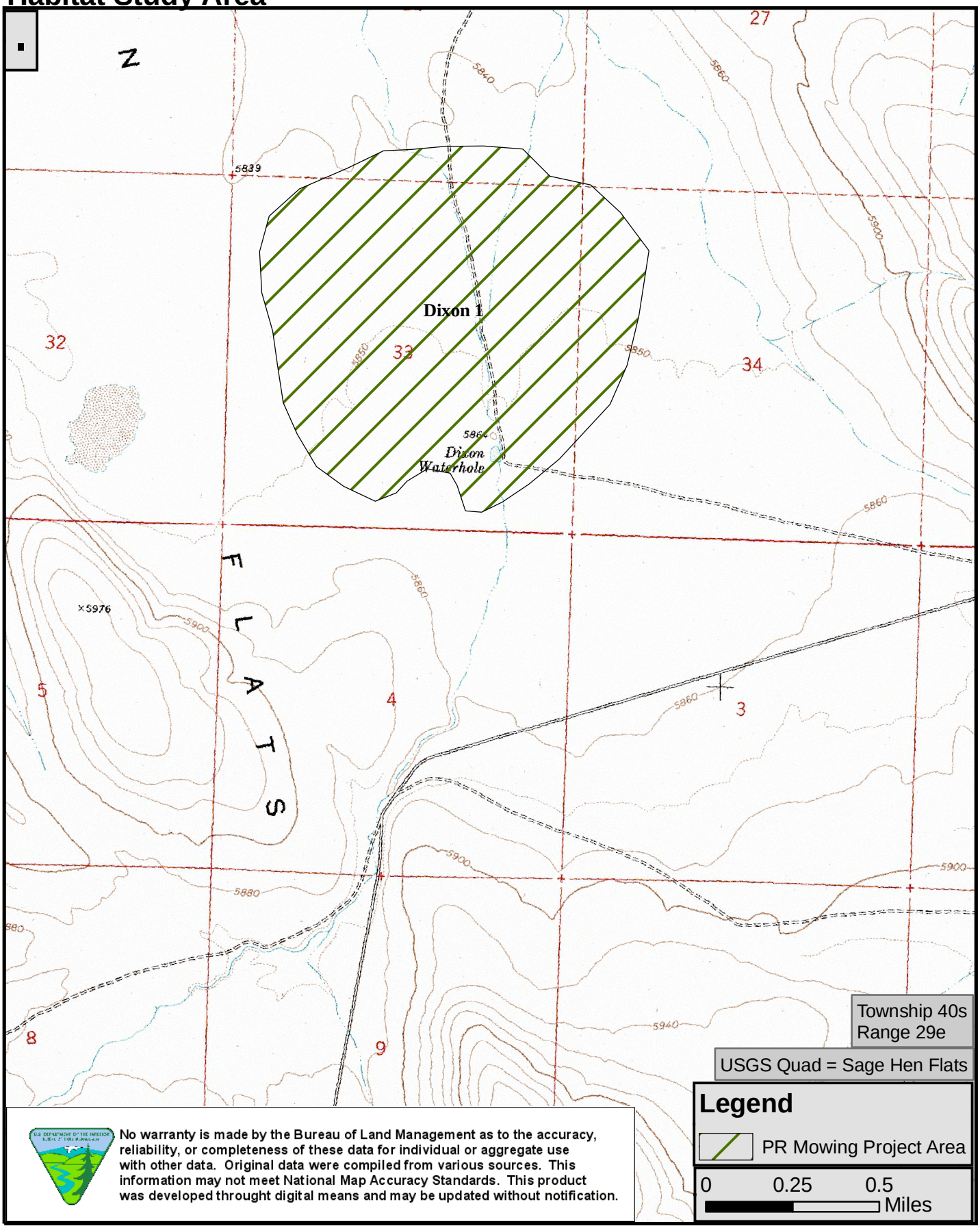
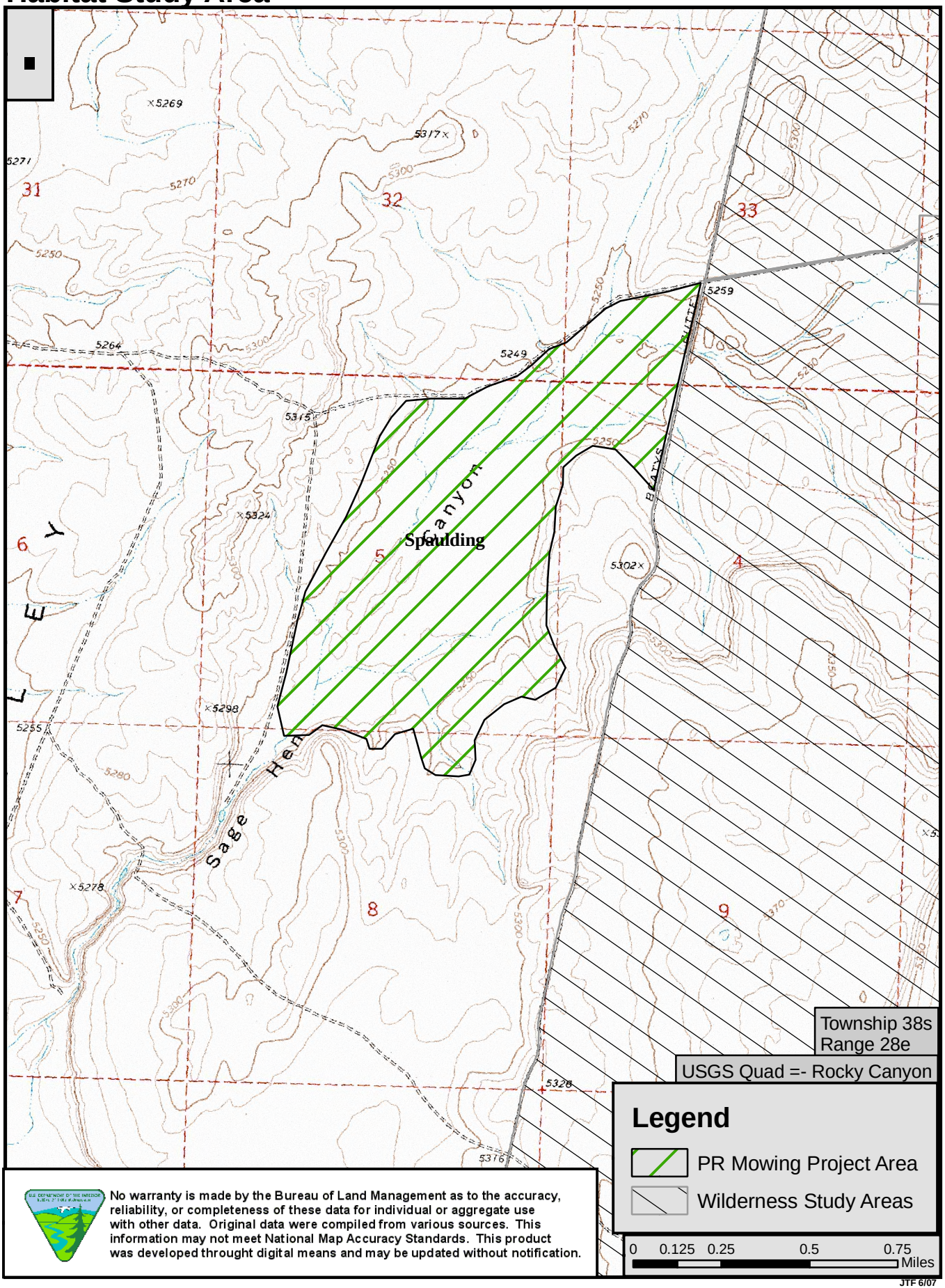
Map 3
Dixon Pygmy Rabbit
Habitat Study Area



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed throught digital means and may be updated without notification.

Map 4
Spaulding Pygmy Rabbit
Habitat Study Area



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