

accurately portray the unit level control installations that have occurred at power plants during the past several years. In general, about 25% of coal plants have a 2009 NO<sub>x</sub> rate that reflects a change from the 2007 that is greater than 0.1 lb/mmBtu and 10% of the 2007 value. The 2009 unit level data can be retrieved from EPA's Data and Maps at <http://camddataandmaps.epa.gov/gdm/>.

EPA also intends to update information related to new units, new installation of pollution controls, and planned retirements. Information on changes in these areas that EPA believes have happened since IPM v4.10 version of the model has been finalized is also included in the docket.

Between now and the time that EPA finalizes the Transport Rule, additional information used to support the final transport rulemaking may be placed in the docket.

Dated: August 25, 2010.

**Dina W. Kruger,**

*Acting Director, Office of Atmospheric Programs.*

[FR Doc. 2010-21699 Filed 8-31-10; 8:45 am]

**BILLING CODE 6560-50-P**

## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[FWS-R2-ES-2009-0039]

[MO 92210-0-0008]

#### **Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List the White-Sided Jackrabbit as Threatened or Endangered**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of 12-month petition finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list the white-sided jackrabbit as endangered and to designate critical habitat under the Endangered Species Act of 1973, as amended. After review of all available scientific and commercial information, we find that listing the full species, *Lepus callotis*, is not warranted at this time. We further find that listing one or both of the subspecies, *Lepus callotis callotis* and *Lepus callotis gaillardi*, is not warranted at this time. We find that listing the northern populations of the subspecies *L. c. gaillardi* as a Distinct Population

Segment is not warranted at this time. However, we ask the public to submit to us any new information that becomes available concerning the threats to the full species of the white-sided jackrabbit, or to either of the two currently recognized subspecies, or the species' habitat at any time.

**DATES:** The finding announced in this document was made on September 1, 2010.

**ADDRESSES:** This finding is available on the Internet at <http://www.regulations.gov> at Docket Number FWS-R2-ES-2009-0039. Supporting documentation we used in preparing this finding is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office, 2105 Osuna NE, Albuquerque, NM 87113. Please submit any new information, materials, comments, or questions concerning this finding to the above address.

#### **FOR FURTHER INFORMATION CONTACT:**

Wally Murphy, Field Supervisor, New Mexico Ecological Services Field Office, 2105 Osuna NE, Albuquerque, NM 87113; by telephone at 505-346-4781; or by facsimile at 505-346-2542. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800-877-8339.

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

Section 4(b)(3)(B) of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*), requires that, for any petition to revise the Federal Lists of Endangered and Threatened Species that contains substantial scientific or commercial information that listing the species may be warranted, we make a finding within 12 months of the date of receipt of the petition. In this finding, we will determine that the petitioned action is: (1) Not warranted, (2) warranted, or (3) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are threatened or endangered, and expeditious progress is being made to add or remove qualified species from the Federal Lists of Endangered and Threatened Species. We must publish this 12-month finding in the **Federal Register**.

##### *Previous Federal Action*

On October 15, 2008, we received a petition dated October 9, 2008, from WildEarth Guardians requesting that the

white-sided jackrabbit (*Lepus callotis*) be emergency listed as endangered under the Act and critical habitat be designated. Included in the petition was supporting information regarding the species' taxonomy and ecology, historical and current distribution, present status, and actual and potential causes of decline. We acknowledged the receipt of the petition in a letter to WildEarth Guardians, dated November 26, 2008. However, emergency listing a species is not a petitionable action under the Act or the Administrative Procedure Act (APA; 5 U.S.C. Subchapter II), and is treated solely as a petition to list. In our letter we also stated that we had reviewed the petition and determined that available information did not indicate that the species was at significant risk of well-being, thereby necessitating the need to provide the temporary protections under section 4(b)(7) the Act (i.e., emergency listing). In our letter, we advised the petitioner that, to the maximum extent practicable, we would address the petition within 90 days. During our review of the petition, we found that the majority of information cited in the petition was not readily available to us. Therefore, on January 13, 2009, we requested that the petitioner provide additional references. On February 13, 2009, the petitioner provided references. We received a 60-day notice of intent to sue from the petitioner dated January 28, 2009, and on April 15, 2009, the petitioner brought a lawsuit against us for failure to respond to the petition within 90 days of its receipt. On July 22, 2009, we published a 90-day finding indicating that the petition presented substantial information that listing the jackrabbit may be warranted, and initiated a status review (74 FR 36152). This notice constitutes the 12-month finding on the October 9, 2008, petition to list the white-sided jackrabbit as endangered.

The white-sided jackrabbit was first listed as a candidate (Category 2) for Federal listing as either a threatened or endangered species under the Act in the 1982 Candidate Notice of Review (47 FR 58454, December 30, 1982). Category 2 status included those taxa for which information in the Service's possession indicated that a proposed listing rule was possibly appropriate, but for which sufficient data on biological vulnerability and threats were not available to support a proposed rule. In the Candidate Notice of Review published on February 28, 1996, we announced a revised list of animal and plant taxa that were regarded as candidates for possible addition to the

Lists of Endangered and Threatened Wildlife and Plants (61 FR 7595). The revised candidate list included only former Category 1 species. All former Category 2 species were dropped from the list to reduce confusion about the conservation status of these species and to clarify that the Service no longer regarded these species as candidates for listing. Because the white-sided jackrabbit was a Category 2 species, it was no longer recognized as a candidate species.

The petition requests that we list the full species of the white-sided jackrabbit, *Lepus callotis*, as threatened or endangered. The petition also requests that we list each of the recognized subspecies of the white-sided jackrabbit, *Lepus callotis callotis* and *Lepus callotis gaillardi* as threatened or endangered, should we conclude that the full species does not warrant listing, and the petition states that these recognized subspecies are taxonomically valid. The petition further requests that we list the northern populations of the subspecies currently

recognized as *L. c. gaillardi* as a distinct population segment under the Act. We will examine each of these requests separately below.

#### **Species Information: *Lepus callotis***

##### *Taxonomy and Species Description*

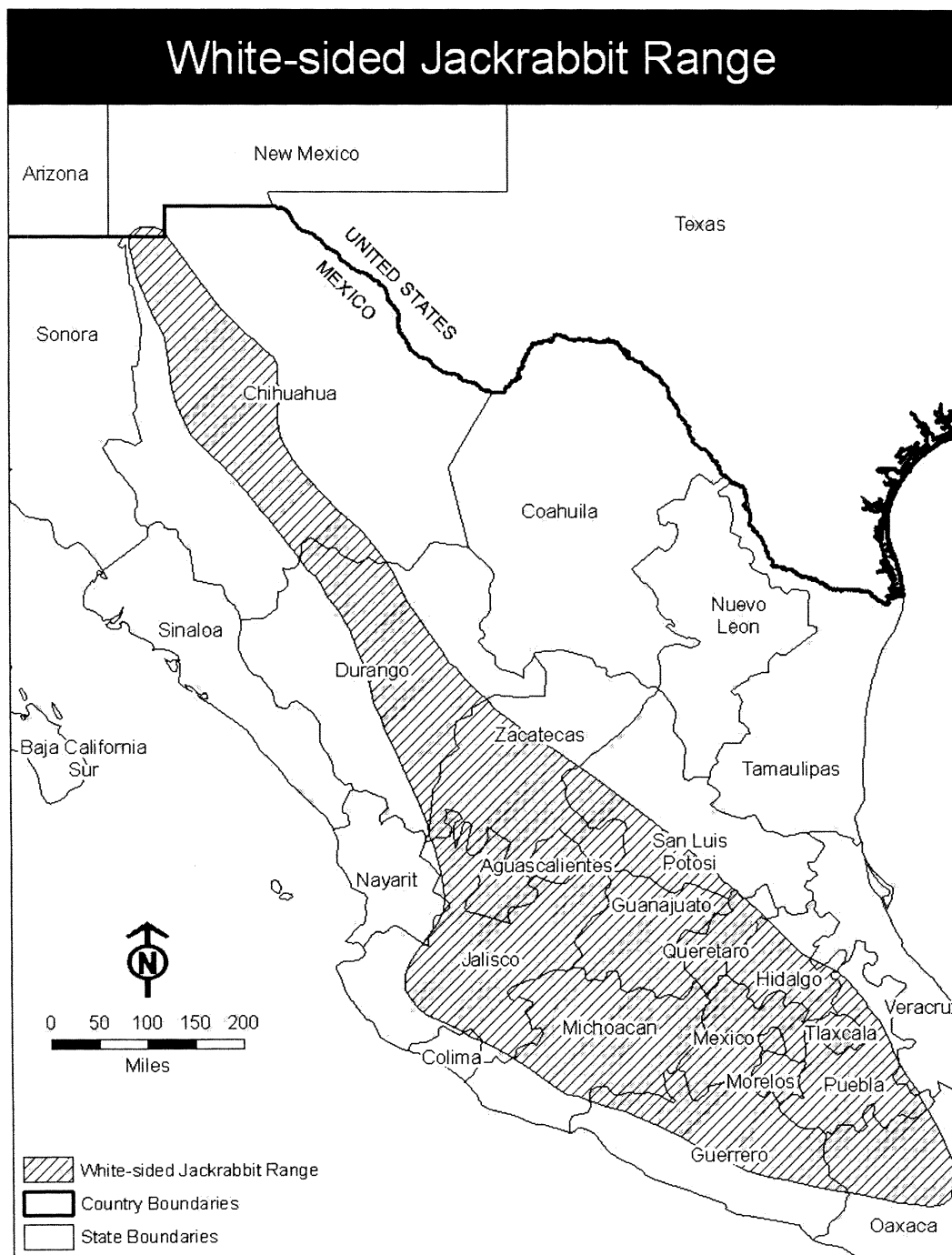
There has been some dispute and inconsistency regarding the taxonomy of the species and its subspecies, and much of the literature remains inconclusive. In his book, *Wildlife of Mexico: The Game Birds and Mammals*, Leopold (1959, p. 345) included four species of jackrabbits under his description of the common name “white-sided jackrabbits”: *Lepus alleni*, *Lepus gaillardia*, *Lepus callotis*, and *Lepus flavigularis*. In their 1962 paper, *A Classification of the White-sided Jackrabbits of Mexico*, Anderson and Gaunt concurred with Leopold and others in the existence of four species, with non-overlapping geographic ranges, assigned the common name “white-sided jackrabbit” (Anderson and Gaunt 1962, p. 1). The authors later state

that they regard each of the previously recognized species, *Lepus callotis* and *Lepus gaillardi*, as conspecific, or separate subspecies of the same species (that is, *Lepus callotis callotis* and *Lepus callotis gaillardi*) (Anderson and Gaunt 1962, p. 1). There are no recognized common names for these subspecies.

The white-sided jackrabbit, *Lepus callotis*, occurs in New Mexico and in Mexico (see Figure 1 below). It is one of four species of hares (family Leporidae) that occurs in New Mexico (Findley *et al.* 1975), and one of 15 species occurring throughout the states of Mexico (Lorenzo *et al.* 2003, p. 11). The white-sided jackrabbit can be distinguished from other hares by its extensive white sides and inconspicuous or absent black ear tips, as well as differences in features of the skull (Findley *et al.* 1975, pp. 92, 96; Best and Henry 1993, p. 1; Anderson and Gaunt 1962, pp. 1-2). The species has black on the upper parts of its tail and the back and flanks are white (Lorenzo *et al.* 2003, p. 11).

**BILLING CODE 4310-55-S**

Figure 1. Map of the range of the white-sided jackrabbit. (Based on Anderson and Gaunt 1962.)



## BILLING CODE 4310-55-C

There is limited discussion in the literature regarding the distinctions between the two subspecies, *Lepus callotis callotis* and *Lepus callotis gaillardi*. Anderson and Gaunt (1962, pp. 2-5) compared specimens from each of the subspecies and recorded the following differences: *L. c. gaillardi* has paler and coarser coat, including the fringe of hair along the inner margin of

the ear, the throat patch, and the hue of dorsal cover hairs. Specimens of this subspecies also have paler rump patches that contrast less with the whitish flanks and paler patches on the shoulders that tend to contrast with (rather than match or blend with) the darker middorsal pelage (fur). The authors also observed differences between the two subspecies in skull structure.

Studies have been conducted to determine the genetic relationship between species within the genus *Lepus* (Lorenzo *et al.* 2003); however, we are not aware of any information that establishes the genetic distinctiveness of the two subspecies *Lepus callotis callotis* and *Lepus callotis gaillardi*. Although the literature is inconclusive, we have not encountered any information which indicates that the

subspecies *L. c. callotis* and *L. c. gaillardi* are not taxonomically valid. Therefore, we consider *L. c. callotis* and *L. c. gaillardi* to be valid subspecies of the species *L. callotis*.

#### Biology

In the white-sided jackrabbit, females are generally larger than males (Bednarz 1977, pp. 13, 15). In New Mexico, white-sided jackrabbits are observed almost unvaryingly in pairs (Bednarz 1977, p. 9), suggesting that mated animals remain together on a long-term basis. Pair bonds may serve to ensure adequate reproduction, in the context of generally low population density (Bednarz 1977, p. 12). The members of the pair are usually near each other and run together when approached by intruders (Bednarz 1977). Several litters are probably produced each year, with litter size appearing to average 2.2 young (Bednarz 1977, p. 12). The young tend to have a soft, woolly coat in early life and attain sexual maturity at a rapid rate. Daytime observations of white-sided jackrabbits are uncommon, as the species is primarily nocturnal (Bednarz 1977, pp. 6-11; Best and Henry 1993, p. 5). Although many species of jackrabbit and hare are considered pests because they may damage crops, fields, and orchards, the white-sided jackrabbit is not known to depredate crops.

#### Distribution

The core distribution of the white-sided jackrabbit lies within Mexico (New Mexico Department of Game and Fish (NMDGF) 2006a, p. 114). The species historically occurred from southern New Mexico to northern Oaxaca, Mexico, within two distinct geographic areas (Best and Henry 1993, p. 2). These two distinct geographic areas are occupied by each of the two subspecies. The historical range of the subspecies *Lepus callotis gaillardi* includes the southern Animas and Playas valleys of Hidalgo County, New Mexico, south into west-central Chihuahua and north-central Durango, Mexico (Bednarz and Cook 1984, p. 358; Reynolds 1988, p. 1), although it is now likely extirpated from the Playas Valley as no observations of the species have been made in this area during more recent surveys (Traphagen 2002, p. 5; Frey 2004, p. 22; NMDGF 2006a, p. 115; Traphagen 2010, p. 1). The other subspecies, *Lepus callotis callotis*, ranges from central Durango south across the open plains of the Mexican Plateau to the State of Oaxaca, Mexico (Hall 1981, p. 330). The geographic separation of the two areas occurs on either side of the Rio Nazas in Durango, Mexico. This river has been observed to

act as a barrier and a catalyst for subspeciation in many mammal species, isolating one subspecies to the north of the river from the other to the south (Peterson 1976, pp. 496-498).

The jackrabbit's historical range in the Animas and Playas Valleys of New Mexico occurs entirely within the Diamond A Ranch (Traphagen 2010, p. 3) and was estimated to be about 121 square kilometers (sq km) (47 square miles (sq mi)), or approximately 12,000 hectares (ha) (30,000 acres (ac)) (Bednarz 1977, p. 6; Bednarz and Cook 1984, p. 359). We are unaware of any similar estimates for the jackrabbit's range in Mexico. However, utilizing Geographic Information System (GIS) techniques and assessing the range maps of Anderson and Gaunt (1962, p. 4) and Hall (1981, p. 330), we estimate the range of the jackrabbit in the United States to be less than one percent of the entire range of the species.

The white-sided jackrabbit has not been confirmed as extant in Arizona (Cahalane 1939, p. 436), although in 1954, Hoffmeister and Goodpaster reportedly observed what they believed to be white-sided jackrabbits along the west base of the Huachuca Mountains, Cochise County, Arizona (Hoffmeister 1986, p. 562). There have been other, more recent reported sightings of the white-sided jackrabbit in Arizona; however, these have been refuted by experts on the species (Traphagen 2009). Therefore, New Mexico is the only confirmed state in the United States where the species has been documented to occur.

#### Habitat

This species is highly elusive. It inhabits predominately mature open grasslands that have low shrub density and level terrain, avoiding hills or mountains (Bednarz and Cook 1984, p. 359; Cook 1986, p. 15; Desmond 2004, p. 416). In the United States portion of its range, the white-sided jackrabbit appears to be found only in association with grasslands (Bednarz 1977, p. 6). More than 97 percent of all observations of this species have been in pure grasslands and less than 3 percent in grasslands with varying amounts of forbs (flowering herbs) and shrubs (Bednarz and Cook 1984). In New Mexico, white-sided jackrabbits feed primarily on *Bouteloua gracilis* (blue grama), *Buchloe dactyloides* (buffalograss), *Bouteloua eripoda* (black grama), and *Lycurus phleoides* (wolftail) (Bednarz 1977, pp. 14, 16). In New Mexico, the white-sided jackrabbit was historically limited to two valleys, the Animas Valley and the Playas Valley, that differ in their vegetative

composition. A detailed description of each follows.

The Animas Valley is a confined basin that lies 10 km (6 mi) west of the continental divide. The elevation is approximately 1,550 meters (m) (5,085 feet (ft)). It is bounded on the east by the Animas Mountains, on the west by the Peloncillo Mountains, and on the south by the Sierra San Luis Mountains. The International Boundary between the United States and Sonora, Mexico, lies near the southern terminus of the valley. Precipitation averages about 381 millimeters (mm) (15 inches (in)) annually, 60 percent of it falling between July and October. A large portion of the lower Animas Valley lies in a dry Pleistocene (the epoch that spanned from 2.6 million to 12,000 years ago) lakebed, parts of which fill seasonally to shallow depths of a few centimeters. Soil moisture is therefore sufficient to support a moderate amount of wetland vegetation, namely nutgrass (*Cyperus rotundus*), a plant that is thought to be a seasonally important food source for the jackrabbit (Bednarz 1977, p. 14).

The lower Animas Valley supports a variety of grass and forb species, such as blue grama; *Bouteloua curtipendula* (sideoats grama); *Sporobolus airoides* (alkali sacaton); *Muhlenbergia torreyi* (ring muhly); *Pleuraphis mutica*, also known as *Hilaria mutica* (tobosa); buffalograss; black grama; wolftail; *Muhlenbergia repens* (creeping muhly); *Panicum obtusum* (vine mesquite); *Aristida* spp. (three-awn), *Sphaeralcea* spp. (globemallow); *Gutierrezia sarothrae* (broom snakeweed); *Viguiera annuum* (goldeneye); *Eriogonum wrightii* (Wright buckwheat); and *Aster* spp. The occurrence of this specific grassland association, known as plains grassland, is uncommon and fairly unique in the southwestern United States, although it becomes more common south into Chihuahua and northern Durango, Mexico (Traphagen 2009, p. 2). The southern Animas Valley is largely free of shrubs, probably as a function of soil structure, water drainage in soils, frequent fires, and cold air drainage. The Animas Valley is surrounded by several large mountain ranges that create winter microclimates too cold to support the establishment of shrubs such as mesquite (*Prosopis* spp.), cholla (*Cylindropuntia* spp.), and creosote (*Larrea* spp.), which are not able to tolerate the cold winter nights (Traphagen 2009, p. 2).

McKinney Flats lies 10 km (6 mi) east of the Continental Divide in the western fork of the southern Playas Valley just west of the Whitewater Mountains. This 4,266-ha (10,240-ac) site is about 1,525

m (5,000 ft) above sea level. Bednarz (1977) estimated the area of suitable habitat for *Lepus callotis* on McKinney Flat to be 1,425 ha (3,520 ac). Conditions on McKinney Flat are drier than in the Animas Valley, averaging about 228 mm (9 in) annual precipitation. McKinney Flat is characterized as Chihuahuan desert grassland (Traphagen 2009, p. 2). Shrub invasion in this grassland association has occurred on a much larger scale than in the plains grassland association that exists in the Animas Valley (Traphagen 2009, pp. 2-3).

Graminoid species in the Playas Valley include blue grama, sideoats grama, *Eragrostis intermedia* (plains lovegrass), tobosa, *Bouteloua hirsuta* (hairy grama), *Scleropogon brevifolia* (burgrass), *Setaria machrostachya* (Plains bristlegrass), black grama, wolftail, creeping muhly, vine mesquite, *Bothriochloa barbinodis* (cane beardgrass), and three-awn; commonly found forbs are *Solanum elaeagnifolium* (horse nettle), Wright buckwheat, various *Croton* spp., and *Aster* spp. are commonly found forbs. Shrubs and trees such as honey mesquite (*Prosopis glandulosa*), soap tree yucca (*Yucca elata*), catclaw mimosa (*Mimosa biuncifera*), and various prickly pear (*Opuntia* spp.) and cholla (*Cylindropuntia* spp.) are also present.

We have little information pertaining to the habitat of the white-sided jackrabbit in Mexico. The primary biotic province in which the jackrabbit occurs is termed the Chihuahua-Zacatecas biotic province. This province covers the northern interior plains in Chihuahua, western Coahuila, Durango, Zacatecas, San Luis Potosi, and Aguascalientes (Goldman and Moore 1945, p. 354). It is an arid interior desert region consisting mainly of grassland plains interrupted by areas overgrown by various shrub species (Goldman and Moore 1945, p. 354). The range of the jackrabbit also falls within the biotic provinces termed the Transverse Volcanic biotic province and the Sierra Madre del Sur biotic province. The Transverse Volcanic biotic province spans parts of 11 States and its diverse environmental and geographic features cannot be generalized; however, it includes areas of grasslands interspersed with shrubland (Goldman and Moore 1945, pp. 356-357). The Sierra Madre del Sur biotic province includes high mountain areas ranging from west to east through central Guerrero and the interior valleys of central and western Oaxaca. The climate is similar to that of the plateau of the northern portion of the country (Goldman and Moore 1945, p. 358).

Although Goldman and Moore describe the major habitat types within Mexico, we have no information regarding the specific habitats occupied by the jackrabbit within these broad habitat types.

#### Population Abundance

The white-sided jackrabbit has never been known to be abundant in the United States. The species was first discovered in New Mexico by Mearns in 1892 during surveys of the International Border between the United States and Mexico (Mearns 1895, p. 552). Specimens were not collected again in New Mexico until 1931 (Anderson and Gaunt 1962), and then again in 1975 (Bogan and Jones 1975, p. 47; Bednarz 1977, p. 1). The literature between the time of the initial collections and the subsequent collections in 1975 show argument amongst researchers as to whether the white-sided jackrabbit did indeed occur in the United States in the early 1900s. Multiple survey efforts have occurred since the 1975 surveys in attempts to document the extent of the range of the species in the United States and the size and density of the populations.

As discussed above, white-sided jackrabbits are elusive and largely nocturnal. As such, the most effective surveys are completed in the dark by driving a vehicle through an area of potential habitat with a bright spotlight. Bednarz (1977) completed a series of such surveys and found a mean of 15 jackrabbits per survey in the Animas Valley. Later, Cook (1981) resurveyed a similar area and found a mean of 7.5 jackrabbits per survey. Mehlhop (1995) reported on surveys in the Animas and Playas Valleys conducted in 1990, 1994, and 1995. The mean number of jackrabbits observed during the 1990 surveys was 3.2, while the mean for the 1994 and 1995 surveys was 1.1 (Mehlhop 1995). Traphagen (2010) has completed the most recent surveys for white-sided jackrabbits, and while the author does not report the mean number of jackrabbits sighted per survey effort, he notes 28 were sighted over the course of 9 surveys. Traphagen (2010) also notes that surveys were conducted by another party between 1997 and 2002, but that the results of those studies have not been analyzed. On its face, the survey information for the white-sided jackrabbit would seem to suggest a decline in species density in the United States over the last 35 years. However, each of the surveyors utilized somewhat different survey methods and different survey routes, thus precluding a statistical comparison of their results. Based on the historical and current

survey records, this species was likely always rare and appears to continue to be rare in the United States.

Some survey work has been completed in Mexico in modern times (Desmond 2004; Reynolds 1988); however, these surveys have tended to be one- or two-summer efforts, and without historical information to compare their numbers to, it is difficult to assess population trends. Reynolds (1988) interviewed “campesinos, ranchers, and whenever possible, members of a local hunting club” about their experiences with white-sided jackrabbits in the Mexican States of Guanajuato, Guerrero, Hidalgo, Jalisco, Mochoacan, Morelos, Oaxaca, Puebla, Queretaro, San Luis Potosi, Tlaxcala, and Zacatecas. The reliability of anecdotal reports can also be difficult to assess; however, Reynolds (1988) reported that the persons interviewed in Guanajuato, Guerrero, Hidalgo, and Morelos indicated that the white-sided jackrabbit may be reduced in numbers compared to the previous 20 to 25 years. Desmond (2004) reported on surveys of white-sided jackrabbits conducted in 1998 and 1999 in central and northwestern Chihuahua, Mexico. He reported 0.03 jackrabbits per acre surveyed in 1998, and 0.04 jackrabbits per acre surveyed in 1999 (Desmond 2004). When the numbers were adjusted to reflect just the area of plains grasslands, the preferred habitat of the white-sided jackrabbit in this part of its range, he reported 0.06 jackrabbits per acre in 1998 and 0.08 jackrabbits per acre in 1999 (Desmond 2004). Again, the importance of these numbers is difficult to assess because there is no prior or subsequent survey information to which to compare them; however, Desmond (2004, p. 417) notes, “It is not clear if white-sided jackrabbits have always occupied semidesert grasslands at low densities or if reduced densities in this grassland type are related to habitat degradation.”

#### Summary of Information Pertaining to the Five Factors for *Lepus callotis*

Section 4 of the Act and implementing regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, a species may be determined to be endangered or threatened based on any of the following five factors:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) other natural or manmade factors affecting its continued existence.

In making this finding, information pertaining to the full species of the white-sided jackrabbit, *Lepus callotis*, in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. In making our 12-month finding on a petition to list the full species of the white-sided jackrabbit, *Lepus callotis*, we considered and evaluated the best available scientific and commercial information.

In considering what factors might constitute threats to a species, we must look beyond the exposure of the species to a factor to evaluate whether the species may respond to the factor in a way that causes actual impacts to the species. If there is exposure to a factor and the species responds negatively, the factor may be a threat and we attempt to determine how significant a threat it is. The threat is significant if it drives, or contributes to, the risk of extinction of the species such that the species warrants listing as endangered or threatened as those terms are defined in the Act.

*Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range*

Livestock grazing and suppression of wildfire have been shown to lead to shrub encroachment and degradation of grasslands, separately and in combination (Bureau of Land Management (BLM) 2009, p. 2; Malpai Borderlands Habitat Conservation Plan Technical Working Group 2008, p. 18; Traphagen 2002, p. 12). In New Mexico, the white-sided jackrabbit is found only in association with mature, high-elevation (greater than 1,460-m (4,800-ft)) plains or Chihuahuan desert grasslands, characterized by flat topography and few shrubs and forbs (Bednarz 1977, p. 6). The bootheel region of southwestern New Mexico, which contains the range of the white-sided jackrabbit in the United States, was dominated by grassland until the late 19th century. Historically, the presence of shrubs and low growing trees was limited to drainages or to rocky shallow soil areas; however, changes in land use to accommodate agricultural practices, including livestock grazing and fire suppression, have led to the invasion of woody shrubs and their establishment into sites where they did not previously occur

(BLM 2009, p. 10). Once invasive shrubs become established, they tend to increase in density and outcompete other native vegetation for soil moisture, nutrients, and sunlight and are less susceptible to drought than herbaceous species, which are green and fleshy as opposed to the generally more woody shrubs.

Numerous sources substantiate that past range-management practices have contributed to the degradation of desert grasslands or their conversion to shrublands (National Museum of Natural History 2008, p. 1; Bednarz and Cook 1984, p. 360; Desmond 2004, p. 417; Forest Service 2007, p. 15; Service 2008, p. 53). The BLM reports in its 2009 Environmental Assessment for the Bootheel Restoration Initiative that the vegetative community in the areas affected by shrub encroachment in southern New Mexico is far removed from the historical climax community and no longer supports the historical abundance and diversity of flora and fauna (BLM 2009, p. 13). Bednarz and Cook (1984, p. 360) postulated that numbers of white-sided jackrabbit had decreased in New Mexico as the density and vigor of grasses declined, while black-tailed jackrabbits and desert cottontail (*Sylvilagus audubonii*) numbers increased in response to an increase in woody shrubs. Desmond (2004, p. 417) reported a similar pattern from Chihuahua, Mexico, where she found that increased shrub encroachment into grasslands likely has negatively affected populations of white-sided jackrabbits (Desmond 2004, p. 417).

Traphagen (2009, pp. 1- 4) reports that the impacts of livestock grazing and fire suppression may differently affect the two valleys that compose the species' portion of the range in the United States. Traphagen (2009, p. 2) reports that the Animas Valley is largely free of shrubs, likely due to the soil structure, water drainage, frequent fires, and cold air drainage. Cold air drainage is a process that occurs in valleys as the ground cools at night, cooling the air and causing denser cold air from higher elevations to move down into the valley. The Animas Valley is surrounded by several large mountain ranges that create winter microclimates too cold to support the establishment of shrubs on the valley floor such as mesquite, cholla, and creosote (Traphagen 2009, p. 2). In contrast, the Playas Valley receives less precipitation annually and is generally drier than the Animas Valley (Traphagen 2009, p. 2). Shrub invasion in this grassland association has occurred on a much larger scale than in the grassland association found

in the Animas Valley (Traphagen 2009, p. 2).

*Livestock Grazing*

Areas where white-sided jackrabbits historically or currently occur in the United States were continuously grazed for over a century (Traphagen 2002, p. 3). Overgrazed grassland is susceptible to invasion by shrubs and forbs, a cover type which greatly favors the black-tailed jackrabbit (Baker 1977, pp. 222-223; Bednarz and Cook 1984, pp. 359-360; Desmond 2004, p. 417; Moore-Craig 1992, p. 13; NMDGF 2006a, p. 115).

The Diamond A Ranch in New Mexico, which includes the historic range of the jackrabbit in both the Animas and Playas Valleys, has been very lightly grazed since 1994, and there have been several periods where grazing was deferred on the ranch for 4 years or more (Traphagen 2009, p. 3). Prior to ownership by the Animas Foundation, the ranch was owned by The Nature Conservancy, and stocking rates were very low (Traphagen 2009, p. 5). During the period from 2003 to 2006 there was no cattle grazing in the Animas Valley where the white-sided jackrabbit occurs (Traphagen 2009, p. 5). We have no information about current grazing practices in historical habitat in the Playas Valley beyond the general statement that the Diamond A Ranch has been lightly grazed since 1994. This species appears to be extirpated from that portion of its range. The extent to which past grazing practices may have contributed to that extirpation is unknown; however, the Playas Valley may have been more susceptible to shrub encroachment resulting from past overgrazing than the Animas Valley as a result of the differences in grassland type and cold air drainage patterns discussed above.

Finally, while we know that grazing of livestock occurs in Mexico (see, for example, Buller *et al.* 1960), we do not have information on the extent or intensity of historical or current livestock grazing practices throughout the range of the species in Mexico. Brown (1994) reported that a primary cause of loss and degradation of grasslands in the Chihuahuan Desert is overgrazing by cattle; however, the extent of those grassland losses throughout the historical range of the jackrabbit and the impacts of those losses on the jackrabbit are not known.

Previous research had indicated that the jackrabbit required 65 percent grass cover of species that included blue and black grama, ring muhly, buffalograss, wolf tail, and bottlebrush squirrel tail (*Elymus elymoides*) (Bednarz and Cook 1984, pp. 359-360). However, in a

research project commissioned by the NMDGF it was found that presence of the white-sided jackrabbit was highly correlated with the presence of buffalograss (Traphagen 2002, p. 6). No other grasses analyzed in the study, including blue and black grama, ring muhly, wolftail, and bottlebrush squirreltail, showed any correlation with white-sided jackrabbit habitat. The Animas Valley is dominated in many areas by buffalograss, but buffalograss is no longer present in the Playas Valley (Traphagen 2009, p. 3).

One study found a relationship between grazing and the presence of buffalograss in two plots in the Animas Valley (Traphagen 2009, pp. 3-4). The Sacahuiste Grazing Enclosure has been ungrazed since 1996. This plot is paired with a grazed plot located 50 m (160 ft) outside the enclosure. The ungrazed enclosure experienced a decline of 300 percent in cover of buffalograss during the 12-year period of no grazing, while the grazed plot declined by only 30 percent (Traphagen 2009, p. 4). If grazing does not occur, buffalograss is outcompeted because of its lack of shade tolerance (Traphagen 2009, p. 5). These results indicate that light grazing may be an important part of maintaining the health of the ecosystem.

The best available information indicates that grazing is not currently occurring at a level which may constitute a threat to extant populations of the species in New Mexico, although grazing may have played a role in the presumed extirpation of white sided-jackrabbits in the Playas Valley. Information about the species' status in Mexico is very limited. As discussed above, overgrazing may have caused some loss or degradation of grasslands in the Chihuahuan Desert, and the encroachment of shrubs into grasslands may have negatively affected populations of white-sided jackrabbits there. However, the information available concerning grazing practices in Mexico does not allow us to assess the magnitude or immediacy of these impacts on the species, nor the extent of the occupied range of the jackrabbit that may be subject to overgrazing impacts. In the absence of information that allows us to make a reasonable connection between the impacts of livestock grazing and current or future declines of white-sided jackrabbits, we are unable to conclude that this species is threatened by grazing practices.

#### Wildfire Suppression

Wildfire suppression is often a cause of grassland degradation. Fire exclusion has likely led to encroachment of shrubs into the grassland habitat of the white-

sided jackrabbit. Humphrey (1958, p. 245) believed fires were the controlling factor that kept shrubs from invading the desert grasslands in southeastern Arizona and southwestern New Mexico. The BLM came to a similar conclusion for the region of southwestern New Mexico where the white-sided jackrabbit historically occurred (BLM 2009, pp. 1-3). Alternatively, Valone *et al.* (2002, p. 563) reported that two fires in 5 years did not result in high levels of mortality to woody shrubs such as mesquite on the Diamond A Ranch.

Traphagen (2009, p. 4) reports that fire has occurred on a frequent and widespread basis across the Diamond A Ranch in recent decades, and that fire suppression has not occurred on the ranch in recent years. He states that there have been several major fires in the Animas Valley that have burned nearly 100 percent of the habitat of the jackrabbit (Traphagen 2009, p. 4). He provides a partial list of fires and area burned on the ranch: in June of 2009 the "Pascoe fire" burned 23,635 ha (58,404 ac) in the southern Animas Valley and 12,304 ha (30,405 ac) in the west fork of the Playas Valley. In 1998 the "Flat fire" burned over 12,867 ha (31,796 ac) of the Animas and Playas Valleys. In 1999 the "Garcia fire" burned 8,660 ha (21,400 ac) in habitat. In 2000 the "Fitz fire" burned 2,007 ha (4,961 ac) in the heart of white-sided jackrabbit habitat. The "Lang fire" burned another 404 ha (1,000 ac) adjacent to the Fitz fire.

From these data, we can conclude that fire suppression does not currently constitute a threat to the species in New Mexico because there is information on the dates of fires from the last several years as well as the approximate area burned. The best available information does not indicate that fire suppression occurs in New Mexico at a level which may impact the status of the species, by allowing for the conversion of its preferred habitat. We have no information about the frequency or distribution of wildfires throughout the species' range in Mexico. We have no information about the existence of wildfire suppression or prescribed burn programs throughout the species' range in Mexico.

It is known that both shrub encroachment into grassland fostered by current and historical grazing practices, as well as fire exclusion, have degraded habitat occupied by the species in the United States portion of the range. However, as stated above, we do not find this to be at a level that would constitute a threat to extant populations of this species in New Mexico. Again, there is very little information available about the species' status and its habitat

in the large portion of its range in Mexico. The best available information does not describe the historical or current trends in grassland health in the Mexican portion of the species' range in a way that allows us to assess the magnitude or immediacy of the impacts on the species. Thus, we cannot conclude that habitat degradation due to livestock grazing and fire suppression leading to shrub encroachment is a threat to the species as a whole, either now or in the foreseeable future.

#### *Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

The white-sided jackrabbit is not believed to be overutilized in the U.S. portion of its range, and current information on its utilization in Mexico is limited (Traphagen 2009, p. 4). Hunting of the species is prohibited in New Mexico as it is currently protected under the New Mexico Wildlife Conservation Act (NMDGF 2008, p. 10). Further, in New Mexico, the white-sided jackrabbit only occurs on private land, thereby limiting hunting opportunities (Traphagen 2009, p. 4). Literature indicates that the species has been commonly hunted in Mexico for commercial markets (Leopold 1959, p. 349; Reynolds 1988). While hunting for commercial markets is no longer allowed, Reynolds (1988) reports that hunting for personal use continues. Matson and Baker (1986, p. 41) indicated that the species was heavily hunted and considered highly edible. While there is information that hunting of white-sided jackrabbits occurs in Mexico, we are unable to assess the level of hunting that occurs and whether it is having an impact on the population levels and overall status of the species.

The vast majority of the species' range lies in Mexico and the best available information does not allow us to assess the magnitude and immediacy of this impact on the species in that country. Additionally, the species does not appear to be impacted by such practices in the New Mexico portion of its range. Therefore, we conclude that hunting is not currently a known threat to the species as a whole throughout its range.

There is some information which indicates that the white-sided jackrabbit is occasionally subject to impacts from animal damage control programs. Various rabbit species occasionally feed on crop plants and are seen as pests; however, the white-sided jackrabbit has not been documented as a heavy consumer of crop plants. The U.S. Department of Agriculture (USDA) reported that jackrabbits (*Lepus* spp.) have been taken in New Mexico as part



of their animal damage control program (USDA Animal and Plant Health Inspection Service 1994, Appendix H, pp. 18-19). More recent data from 2007 and 2008 on the numbers and kinds of animals killed or euthanized by wildlife services in New Mexico report only cottontail rabbits as having been lost. There is no description of current or future plans for lethal control of any white-sided jackrabbits, nor is there a quantification of the amount that may have occurred historically by either the USDA or the general public. We have no information on the activities of this type throughout the species' range in Mexico. Therefore, we find that the best available information does not indicate that the white-sided jackrabbit is currently subject to animal damage control programs by methods such as trapping or shooting, or is likely to be in the future in New Mexico.

While individual white-sided jackrabbits may be subject to overutilization or animal damage control programs, the available information on this impact does not allow us to assess whether or not these impacts are occurring at a level which may affect the status of the species as a whole. Therefore, we find that the white-sided jackrabbit is not threatened due to overutilization for commercial, recreational, scientific, or educational purposes, either now or in the foreseeable future.

#### *Factor C. Disease or Predation*

We are not aware of any research that has been conducted to specifically examine the role of disease in the white-sided jackrabbit. Bednarz (1977, p. 19) indicated that a lung infection has been observed in white-sided jackrabbits in New Mexico; however, Moore-Craig (1992, p. 11) noted that the infections found by Bednarz were all of a minor nature, and the overall health of the jackrabbit population appeared to be fair to good. Tularemia, a common disease among black-tailed jackrabbits, has not been found in the white-sided jackrabbit in New Mexico (Moore-Craig 1992, p. 11). We do not have any reports of disease in the white-sided jackrabbit in Mexico.

A variety of potential predators exists throughout the species' range, including coyote (*Canis latrans*), kit fox (*Vulpes macrotis*), gray fox (*Urocyon cinereoargenteus*), badger (*Taxidea taxus*), spotted skunk (*Mephitis mephitis*), and a number of predatory bird species. Of these carnivores, probably only the coyote is able to successfully prey on adult jackrabbits with much frequency, as the jackrabbit is nocturnal and generally avoids

predation by bird species active during the day (Bednarz 1977, p. 18). Although the jackrabbit is subject to predation, there is no data from either country which indicates that predation is occurring at a level which may constitute a threat to the species throughout its range.

Although white-sided jackrabbit individuals may be subject to occasional infections or predation, there is no evidence that either of these is occurring at a level which may affect the status of the species as a whole. Therefore, we find that the white-sided jackrabbit is not threatened due to disease or predation, either now or in the foreseeable future.

#### *Factor D. The Inadequacy of Existing Regulatory Mechanisms*

To determine if existing regulatory mechanisms are adequate to protect the white-sided jackrabbit, we evaluated agreements and laws in effect within the range of the species. The white-sided jackrabbit was listed as threatened by the State of New Mexico on January 24, 1975. This designation provides the protection of the New Mexico Wildlife Conservation Act, which prohibits direct take of the species except under issuance of a scientific collecting permit. However, this only conveys protection from collection or intentional harm. Although the State of New Mexico statutes require the NMDGF to develop a recovery plan that will restore and maintain habitat for threatened species, the jackrabbit does not have a finalized recovery plan, conservation plan, or conservation agreement (NMDGF 2006b, p. 430).

There is some dispute concerning the effectiveness of the conservation efforts of the Malpai Borderlands Group in Hidalgo County, New Mexico. The petitioners state that the Malpai Borderlands Group does not afford protection to the white-sided jackrabbit or to its habitat as intended (WildEarth Guardians (2008)). The apparent basis of this position is that the Service issued an incidental take permit under section 10(a)(1)(B) of the Act on private lands to the Malpai Borderlands Group for the Malpai Borderlands Habitat Conservation Plan (MBHCP). WildEarth Guardians (2008) also contends, based upon observed degradation of grassland habitat and declines in the jackrabbit population, that the Malpai Borderlands Group is not fulfilling its stated mission to restore and maintain natural processes that support diverse and flourishing animal life in the borderlands region, which includes the Diamond A Ranch in southern Hidalgo County, and constitutes the range of the

white-sided jackrabbit in the United States. However, they provide no information that documents the extent, magnitude, or immediacy of the perceived inadequacies of the MBHCP or how they threaten the white-sided jackrabbit in New Mexico. Traphagen (2009, pp. 4-5) provides information indicating that the Animas Foundation and the Malpai Borderlands Group have supported numerous research, monitoring, and restoration projects, with nearly all of the projects focusing on aspects of rangeland health, shrub invasion, and endangered species conservation. Traphagen (2009, p. 5) states that several major prescribed burns have been conducted in the Malpai Borderlands Region in the last 20 years in addition to allowing natural fires to run free. Traphagen (2009, p. 5) also describes the cooperation of private ranchers in deferring grazing in order to reduce woody shrub cover and to allow pastures with insufficient biomass to recover.

The Mexican Federal agency known as the Instituto Nacional de Ecología is responsible for the analysis of the status and threats that pertain to species that are proposed for listing in the Norma Oficial Mexicana NOM-059 (the Mexican equivalent to a threatened and endangered species list), and if appropriate, the nomination of species to the list. The Instituto Nacional de Ecología is generally considered the Mexican counterpart to the United States' Fish and Wildlife Service. The white-sided jackrabbit is not included in the NOM-059 (SEDESOL 2008) and is therefore not protected by Federal regulation in Mexico.

In NatureServe, the white-sided jackrabbit's global ranking is G3 (vulnerable) and its National and State Status rankings are N1S1 (critically imperiled). The species' status under the International Union for Conservation of Nature and Natural Resources is "near threatened." However, these lists are not regulatory mechanisms; they serve only to notify the public of the species' status; no conservation or management actions are required and no regulatory authority for species conservation is established through these listings. Additionally, the white-sided jackrabbit is on the Regional Forester's Sensitive Species List for the Coronado National Forest (Forest Service 2007, p. 15); however, we found no information to that indicates the jackrabbit is present on any Forest Service lands in New Mexico.

There is information that indicates that the white-sided jackrabbit's status as a State-listed threatened species in



New Mexico confers little regulatory protection (except against direct take). Further, the white-sided jackrabbit is not covered by any known regulations in Mexico. However, as discussed in the other Factors of this section, we have not identified any threats to this species that are likely to negatively affect the status of the species as a whole, such that the limited regulatory protection is not likely to represent a threat to the species. Therefore, we find that the white-sided jackrabbit is not threatened by inadequacy of regulatory mechanisms, either now or in the foreseeable future.

*Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence*

The following natural or manmade factors may affect the white-sided jackrabbit or its habitat, or both, and are discussed below: climate change, consumption of poisonous plants, impacts by vehicles on roads, and fire.

*Climate Change*

The Intergovernmental Panel on Climate Change (IPCC) is a scientific body set up by the World Meteorological Organization and the United Nations Environment Program in 1988. It was established because policy makers needed an objective source of information about the causes of climate change, its potential environmental and socio-economic consequences, and the adaptation and mitigation options to respond to it. The Service considers the IPCC an impartial and legitimate source of information on climate change. In 2007, the IPCC published its Fourth Assessment Report, which is considered the most comprehensive compendium of information on actual and projected global climate change currently available.

Although the extent of warming likely to occur is not known with certainty at this time, the IPCC (2007, p. 5) has concluded that warming of the climate is unequivocal and continued greenhouse gas emissions at or above current rates would cause further warming (IPCC 2007, p. 13). The IPCC also projects that there will very likely be an increase in the frequency of hot extremes, heat waves, and heavy precipitation (IPCC 2007, p. 15). Warming in the southwestern United States is expected to be greatest in the summer (IPCC 2007, p. 887). Annual mean precipitation is likely to decrease in the southwestern United States and the length of snow season and snow depth are very likely to decrease (IPCC 2007, p. 887). Further, the IPCC (2007, p. 888) concluded that grasslands and

shrublands appear to be more sensitive than previously thought to variability of, and changes in, major climate change drivers, such as the increase in atmospheric carbon dioxide. Several climate change models project that the southwestern United States will become hotter and drier, and indicate that the portion of southwestern New Mexico currently occupied by the white-sided jackrabbit will be characterized by shrubland or woodland as a result of climate change (The Wildlife Society 2004, p. 6; Izaurreal *et al.* 2005, pp. 110-111). In their Vulnerability Assessment for Biodiversity in New Mexico, Enquist and Gori (2008, p. 14) consider the white-sided jackrabbit to be a drought-sensitive conservation target based upon the predicted conversion of its grassland habitat to shrubland. Further, information indicates that climate change might contribute to more frequent and intense drought within the United States and northern Mexico portion of the range of the jackrabbit (Seager *et al.* 2007, pp. 1181-1182).

In consultation with leading scientists from the southwestern United States, the New Mexico Office of the State Engineer prepared a report for the Governor (D'Antonio 2006) which made the following observations about the impact of climate change in New Mexico:

- (1) Warming trends in the American Southwest exceed global averages by about 50 percent (p. 5);
- (2) Models suggest that even moderate increases in precipitation would not offset the negative impacts to the water supply caused by increased temperature (p. 5);
- (3) Temperature increases in the Southwest are predicted to continue to be greater than the global average (p. 5); and
- (4) The intensity, frequency, and duration of drought may increase (p. 7).

The best available information indicates that the white-sided jackrabbit may be vulnerable to climatic changes that would decrease suitable habitat in New Mexico; however, while it appears reasonable to assume that the white-sided jackrabbit may be affected, we lack sufficient certainty to know specifically how climate change will affect the species. Despite large-scale conclusions that climate change is occurring in New Mexico, we have not identified, nor are we aware of, any data on an appropriate scale to evaluate habitat or population trends for the white-sided jackrabbit within its range in New Mexico or in Mexico at this time, or to make predictions on future trends and whether the species will be impacted. There are multiple

hypothetical outcomes associated with climate change that could potentially affect the white-sided jackrabbit habitat. However, we lack predictive local or regional models on how climate change will specifically affect the habitat in either country. Given that reliable, predictive models have not been developed for use at the local scale in New Mexico's bootheel region or for the sites in the many States in Mexico within the jackrabbit's range, currently there is little certainty regarding the timing, magnitude, and net effect of impact. Therefore, we find it is not possible at this time to make reliable predictions of climate change effects on the status of the white-sided jackrabbit, due to the current limitations in available data and climate models. Based on the best available information and our current knowledge and understanding, we conclude that climate change is not a known threat to the white-sided jackrabbit or its habitat, now or in the foreseeable future.

*Food Poisoning*

A single suspected case of food poisoning of white-sided jackrabbits is known. Bednarz (1977, p. 18) detailed a case in which a New Mexico rancher found several dead white-sided jackrabbits while eradicating mustard plants. Bednarz (1977, p. 18) suggests that this mortality may have been caused by the jackrabbits' consumption of mustard plants and ensuing nitrate poisoning. Consumption of mustard plants is known to cause nitrate poisoning in cattle, and Bednarz (1977, p. 18) states that it likely has the same effect on jackrabbits. We are not aware of any other similar reports or information that indicates that food poisoning threatens the jackrabbit. There is no evidence that food poisoning is occurring at a level which may affect the status of the species as a whole, now or in the foreseeable future.

*Impacts by Vehicles*

There is information that indicates that the white-sided jackrabbit is subject to fatal impacts from vehicles on roads within the species' range in New Mexico. Moore-Craig (1992, p. 16) and Bednarz (1977, p. 18) reported that that white-sided jackrabbits were occasionally killed by vehicles. Rangewide, jackrabbits are likely somewhat protected from significant impacts due to vehicle collisions because they are largely nocturnal animals and not active in the day when most people are active. However, the recent increase in U.S. Border Patrol activity may have increased the magnitude of this impact on white-sided

jackrabbit populations near the international border. Due to the nature of the U.S. Border Patrol activities, these vehicles would be present on roads at night more often than vehicles were present on roads at night historically. Traphagan (2010) notes that U.S. Border Patrol agents have reported roadkills at night. However, there is no reason to extrapolate these U.S. Border Patrol activities and vehicle collision rates to other portions of the range of the species because U.S. Border Patrol impacts are unique to the area near the international border. Based on this review of the best available information, we find that, although individual jackrabbits may be subject to impacts as a result of vehicle collisions, there is no evidence that this is occurring at a level that may affect the status of the species as a whole, now or in the foreseeable future.

#### Fire Management

The active fire management program in the Malpai Borderlands area may affect the white-sided jackrabbit. Effects to jackrabbits during fire management may include mortality or injury of individuals as a result of direct exposure to fire, smoke inhalation, and crushing by the tires or tracks of vehicles used in fire management activities (Service 2008, pp. 64-65). We believe that the jackrabbit is capable of surviving such fire effects by running away (Service 2008, p. 64). We find prescribed burns may also expose white-sided jackrabbits to higher rates of predation, but may also allow the jackrabbits to more easily detect terrestrial predators (Service 2008, p. 65). The effects of a prescribed burn to habitats would likely be short term, because the fire-adapted grassland community usually responds quickly, with plant species showing regrowth within several days post-fire. Nevertheless, a reduction of shrubs would benefit the white-sided jackrabbit by improving grassland habitat. Although the management measures employed under the MBHCP will likely result in short-term adverse effects to the jackrabbit, the long-term effects will improve the grassland community used by white-sided jackrabbits by reducing the shrub component, providing additional suitable habitat, and improving the area around occupied habitat for potential expansion; thus, implementation of the MBHCP, including the fire management program, should promote the conservation of the white-sided jackrabbit. Based on this review of the best available information, we find that although individual jackrabbits may be subject to impacts of fire management, there is no evidence

that the short-term impacts of fire management are occurring at a level that may affect the status of the species as a whole now or in the foreseeable future. Further, the long-term impacts of fire management may serve to improve white-sided jackrabbit habitat and thus provide a benefit to the species.

#### Finding for *Lepus callotis*

As required by the Act, we considered the five factors in assessing whether the full species of the white-sided jackrabbit, *Lepus callotis*, is threatened or endangered throughout its range. We have carefully examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. We reviewed the petition, information available in our files, and other available published and unpublished information.

Our review of the best available scientific and commercial information pertaining to the five factors does not indicate that the white-sided jackrabbit is in danger of extinction (endangered), or likely to become endangered within the foreseeable future (threatened), throughout its range. This is based on our finding in the five-factor analysis that stressors in New Mexico do not constitute threats to the jackrabbit in its current range in New Mexico, and the fact that the best available information concerning the jackrabbit's status and its habitat in Mexico, limited as it is, does not allow us to assess the magnitude or immediacy of those potential impacts on the species, nor the extent of the occupied range of the jackrabbit that may be subject to impacts. While we have evidence that some impacts may be occurring within the range of the species (e.g., shrub encroachment, grazing, hunting, vehicle collisions, changing climate conditions), we do not have any specific information that allows us to make a reasonable connection between these potential impacts and current or future declines of white-sided jackrabbits. Therefore, we find that listing the full species of the white-sided jackrabbit as a threatened or an endangered species throughout its range is not warranted at this time.

#### Species Information: *Lepus callotis callotis*

The distribution of the subspecies of the white-sided jackrabbit, *Lepus callotis callotis*, is limited to Mexico. The northern limit of the subspecies' range is established by the Rio Nazas (Peterson 1976, p. 497). The range of the subspecies *L. c. callotis* spans several States in the Mexican interior, from

Durango in the north to Oaxaca in the south (Hall 1981, p. 330). The range of the subspecies *L. c. callotis* is fully encompassed by the range of the species *L. callotis*. Please see the "Species Information: *Lepus callotis*" section above for a full discussion of white-sided jackrabbit taxonomy, species description, biology, distribution, habitat, and population abundance.

#### Summary of Information Pertaining to the Five Factors for *Lepus callotis callotis*

In making this finding, information pertaining to the subspecies of the white-sided jackrabbit, *Lepus callotis callotis*, in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. In making our 12-month finding on a petition to list the subspecies of the white-sided jackrabbit, *Lepus callotis callotis*, we considered and evaluated the best available scientific and commercial information.

##### Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Based on extensive literature searches, we find there is no information available to us which describe threats to the subspecies' habitat or range in a way that allows us to assess the magnitude or immediacy of these impacts on the subspecies. It is likely that many of the same or similar anthropogenic activities that occur in the United States portion of the full species' range, discussed above, occur within the subspecies' range in Mexico. However, there is no information available to evaluate whether these factors or potential threats have a negative effect on the subspecies. We are not aware of additional or specific activities which may be contributing to the present or threatened destruction, modification, or curtailment of the subspecies' habitat or range in Mexico. Therefore, we find that the best available information regarding threats to the subspecies' habitat or range does not indicate that listing the subspecies throughout all or a portion of its range is warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range, either now or in the foreseeable future.

##### Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

There are reports of the historical utilization of white-sided jackrabbits in Mexico. As discussed above, we are unable to assess the level of utilization that occurs and whether it is having an impact on the population levels and

overall status of the species or either subspecies. The best available information does not indicate that the subspecies is overutilized for commercial, recreational, scientific, or educational purposes. We have not encountered any information that indicates the contrary. In the absence of evidence that this may constitute a threat to the subspecies throughout all or a portion of its range, we find that listing the subspecies *Lepus callotis callotis* due to overutilization is not warranted, now or in the foreseeable future.

#### Factor C. Disease or Predation

The full extent of information available on the subject of disease and predation as threats to the species, and therefore this subspecies, is discussed above. We have no information available to us that indicates that the subspecies is subject to disease or predation at a level that is affecting the status of the subspecies. Since we do not have information that this may constitute a threat to the subspecies throughout all or a portion of its range, we find that listing the subspecies *Lepus callotis callotis* due to disease or predation is not warranted, either now or in the foreseeable future.

#### Factor D. The Inadequacy of Existing Regulatory Mechanisms

As discussed above, white-sided jackrabbits (including the subspecies *Lepus callotis callotis*) are not covered under any known regulations in Mexico. We have encountered no information that indicates that the status of the subspecies is declining due to the inadequacy of existing regulatory mechanisms. Since we have no information that this may constitute a threat to the subspecies throughout all or a portion of its range, we find that listing the subspecies *Lepus callotis callotis* due to the inadequacy of existing regulatory mechanisms is not warranted, either now or in the foreseeable future.

#### Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence

We have no detailed information concerning additional natural or manmade factors affecting the subspecies' continued existence. Global climate change will likely affect the subspecies or its habitat; however, the effects of climate change on the region and their magnitude and imminence are unknown. We lack predictive models on how climate change will specifically affect the subspecies' habitat in Mexico. Given that reliable, predictive models

have not been developed for use at the local scale for the sites in the many States in Mexico within the subspecies' range, currently there is little certainty regarding the timing, magnitude, and net effect of impact of climate change. Therefore, we find it is not possible to make reliable predictions of climate change effects on the status of the white-sided jackrabbit, due to the current limitations in available data and climate models. Based on the best available information and our current knowledge and understanding, we conclude that climate change is not currently a known threat to the subspecies *Lepus callotis callotis*, either now or in the foreseeable future.

#### Finding for *Lepus callotis callotis*

As required by the Act, we considered the five factors in assessing whether the subspecies of the white-sided jackrabbit, *Lepus callotis callotis*, is threatened or endangered throughout all or a significant portion of its range. We have carefully examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. We reviewed the petition, information available in our files, and other available published and unpublished information. We know very little about the status and threats to the subspecies. The best available information does not indicate that these populations are going to experience impacts at a level that would affect the status of the subspecies.

Our review of the best available scientific and commercial information pertaining to the five factors does not indicate that the subspecies of white-sided jackrabbit, *Lepus callotis callotis*, is in danger of extinction (endangered), or likely to become endangered within the foreseeable future (threatened), throughout its range. This is based on our finding in the five-factor analysis that the best available information concerning the jackrabbit's status and its habitat in Mexico, limited as it is, does not allow us to assess the magnitude or immediacy of those potential impacts on the species, nor the extent of the occupied range of the jackrabbit that may be subject to impacts. While we have evidence that some impacts may be occurring within the range of the species (e.g., shrub encroachment, grazing, hunting, changing climate conditions), we do not have any specific information that allows us to make a reasonable connection between these potential impacts and current or future declines of the subspecies. Therefore, we find that listing the subspecies of the white-sided jackrabbit, *Lepus callotis*

*callotis*, as a threatened or an endangered subspecies throughout its range is not warranted at this time.

#### Species Information: *Lepus callotis gaillardi*

The subspecies of the white-sided jackrabbit, *Lepus callotis gaillardi*, occurs in both the United States and in Mexico. As discussed above, the historical range of the subspecies *Lepus callotis gaillardi* includes the southern Animas and Playas valleys of Hidalgo County, New Mexico, south into west-central Chihuahua and north-central Durango, Mexico (Bednarz and Cook 1984, p. 358; Reynolds 1988, p. 1), although it is now likely extirpated from the Playas Valley as no observations of the species have been made in this area during more recent surveys (Traphagen 2002, p. 5; Frey 2004, p. 22; NMDGF 2006a, p. 115; Traphagen 2010, p. 1). The range of the subspecies *L. c. gaillardi* is fully encompassed by the range of the species *L. callotis*. Please see the "Species Information: *Lepus callotis*" section above for a full discussion of white-sided jackrabbit taxonomy, species description, biology, distribution, habitat, and population abundance.

#### Summary of Information Pertaining to the Five Factors for *Lepus callotis gaillardi*

In making this finding, information pertaining to the subspecies of the white-sided jackrabbit, *Lepus callotis gaillardi*, in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. In making our 12-month finding on a petition to list the subspecies of the white-sided jackrabbit, *Lepus callotis gaillardi*, we considered and evaluated the best available scientific and commercial information.

#### Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

The habitat of the subspecies *Lepus callotis gaillardi* within the United States may be threatened by shrub encroachment as a result of livestock grazing and wildfires. This threat is discussed in detail in the threat assessment for the full species *Lepus callotis*. There is information that this perceived threat may differentially affect the subspecies' separate habitats in New Mexico in the Animas and Playas Valleys.

Traphagen (2009, pp. 1-2) indicates that the assertion that the current and historical grazing practices and suppression of wildfire, and the subsequent encroachment of shrubs threaten the subspecies is not entirely

accurate in regard to the habitat of the subspecies in the Animas Valley; however, it may have been a factor in the Playas Valley, where the subspecies is presumed to be extirpated.

As discussed above, Traphagen (2009, p. 2) reports that the Animas Valley is largely free of shrubs, likely due to the soil structure, water drainage, frequent fires, and cold air drainage. Cold air drainage is a process that occurs in valleys as the ground cools at night, cooling the air and causing denser cold air from higher elevations to move down into the valley. The Animas Valley is surrounded by several large mountain ranges that create winter microclimates too cold to support the establishment of shrubs on the valley floor such as mesquite, cholla, and creosote (Traphagen 2009, p. 2). In contrast, the Playas Valley receives less precipitation annually and is generally drier than the Animas Valley (Traphagen 2009, p. 2). Shrub invasion in this grassland association has occurred on a much larger scale than in the grassland association found in the Animas Valley (Traphagen 2009, p. 2).

The Diamond A Ranch, which incorporates the two valleys, has practiced a very light grazing regime under ownership by The Nature Conservancy, and subsequently, by the Animas Foundation (Traphagen 2009, p. 3). Traphagen (2009, p. 3) reports that since 1994, there have been several periods during which grazing was deferred on the ranch for 4 years or more, and from 2003 to 2006, there was no cattle grazing in the Animas Valley.

Traphagen (2009, p. 4) reports that fire suppression has not occurred in recent years on the Diamond A Ranch, and states that there have been several major fires in the Animas Valley that have nearly burned all of the white-sided jackrabbits' habitat in that valley. These fires are described in further detail above.

We have no information about current grazing or fire suppression practices in historical habitat in the Playas Valley beyond the general statement that the Diamond A Ranch has been lightly grazed since 1994. This jackrabbit appears to be extirpated from that portion of its range. The extent to which past grazing or fire suppression practices may have contributed to that extirpation is unknown; however, the Playas Valley may have been more susceptible to shrub encroachment resulting from past overgrazing than the Animas Valley as a result of the differences in grassland type and cold air drainage patterns discussed above.

Finally, while we know that grazing of livestock occurs in Mexico (see, for

example, Buller *et al.* 1960), we do not have information on the extent or intensity of historical or current livestock grazing practices throughout the range of the species in Mexico. Brown (1994) reported that a primary cause of loss and degradation of grasslands in the Chihuahuan Desert is overgrazing by cattle; however, the extent of those grassland losses throughout the historical range of the jackrabbit and the impacts of those losses on the jackrabbit are not known.

The best available information indicates that grazing and fire suppression are not currently occurring at a level which may constitute a threat to extant populations of the subspecies in New Mexico, although these impacts may have played a role in the presumed extirpation of white sided-jackrabbits in the Playas Valley. Information about the subspecies' status in Mexico is very limited. As discussed above, overgrazing may have caused some loss or degradation of grasslands in the Chihuahuan Desert, and the encroachment of shrubs into grasslands may have negatively affected populations of white-sided jackrabbits there. However, the information available concerning grazing practices in Mexico does not allow us to assess the magnitude or immediacy of these impacts on the subspecies, nor the extent of the occupied range of the subspecies that may be subject to overgrazing impacts. In the absence of information that allows us to make a reasonable connection between the impacts of livestock grazing and fire suppression, and current or future declines of white-sided jackrabbits, we are unable to conclude that this subspecies is threatened by grazing practices or fire suppression.

#### *Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

In New Mexico, the subspecies is currently protected under the New Mexico Wildlife Conservation Act (NMDGF 2008, p. 10). Further, in New Mexico, the subspecies only occurs on private land, thereby limiting hunting opportunities (Traphagen 2009, p. 4). Literature indicates that the species was commonly hunted in Mexico for commercial markets (Leopold 1959, p. 349; Reynolds 1988). Matson and Baker (1986, p. 41) indicated that the species was heavily hunted and considered highly edible. Thus, it is possible that hunting may have played a role in the presumed decline of the white-sided jackrabbit in Mexico (Moore-Craig, 1992, p. 13); however, as discussed above, we are unable to assess the level

of hunting that occurs and whether it is having an impact on the population levels and overall status of the species. As the subspecies is legally protected from overutilization in New Mexico and the best available information does not indicate that overutilization constitutes a threat to the subspecies in Mexico, we find that overutilization does not constitute a significant threat to the subspecies. We find that listing the subspecies *Lepus callotis gaillardi* due to overutilization is not warranted, now or in the foreseeable future.

#### *Factor C. Disease or Predation*

The full extent of information available on the subject of disease and predation as potential threats to the species, and therefore this subspecies, is discussed above. We have encountered no information which indicates that the subspecies is subject to excessive disease or predation. We have not encountered any information which indicates the contrary; however, in the absence of evidence that this may constitute a threat to the subspecies throughout all or a portion of its range, we find that listing the subspecies *Lepus callotis gaillardi* due to disease or predation is not warranted, now or in the foreseeable future.

#### *Factor D. The Inadequacy of Existing Regulatory Mechanisms*

The full extent of information available on the subject of existing regulatory mechanisms as a threat to the species, and therefore this subspecies, is discussed above. There is information that indicates that the white-sided jackrabbit's status as a State-listed threatened species in New Mexico confers little regulatory protection (except against direct take). Further, the white-sided jackrabbit is not covered by any known regulations in Mexico. However, as discussed in the other Factors of this section, we have not identified any threats to this species that are likely to negatively affect the status of the subspecies as a whole, such that the limited regulatory protection is not likely to represent a threat to the subspecies. In the absence of evidence that the inadequacy of existing regulatory mechanisms may constitute a threat to the subspecies throughout all or a portion of its range, we find that listing the subspecies *Lepus callotis gaillardi* due to the inadequacy of existing regulatory mechanisms is not warranted, now or in the foreseeable future.

#### *Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence*

The possible impacts to the subspecies *Lepus callotis gaillardi* due to other natural or manmade factors affecting its continued existence do not differ from those for the full species, discussed above. It is possible that the effects of climate change will impact the subspecies and its habitat; however, we don't know if the potential habitat changes will result in a decline in the status of the species. Additionally, there has been no research investigating the ways in which the effects will impact its specific environment. Rather, the models of projected change indicate a conversion to shrubland over much of the region of the southwestern United States and northern Mexico and do not account for the specific habitat types currently occupied by the subspecies. Due to the lack of information specific to the subspecies' relatively unique grassland association, detailed above in the Factor A discussion for this subspecies, we find that the best available information does not indicate that climate change may constitute a threat to the subspecies throughout all or a portion of its range, now or in the foreseeable future.

The effects of the reported fatal impacts of the subspecies by vehicles on roads within the subspecies' range in New Mexico are discussed above. Although there is potential for this factor to affect individuals in the future, depending on the activity of the U.S. Border Patrol, impacts are currently not known to be occurring at a level that will affect the status of the subspecies throughout all or a significant portion of its range.

#### **Finding for *Lepus callotis gaillardi***

As required by the Act, we considered the five factors in assessing whether the subspecies of the white-sided jackrabbit, *Lepus callotis gaillardi*, is threatened or endangered throughout all or a significant portion of its range. We have carefully examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. We reviewed the petition, information available in our files, and other available published and unpublished information.

Our review of the best available scientific and commercial information pertaining to the five factors does not indicate that the subspecies of the white-sided jackrabbit, *Lepus callotis gaillardi*, is in danger of extinction (endangered), or likely to become

endangered within the foreseeable future (threatened), throughout its range. This is based on our finding in the five-factor analysis that stressors in New Mexico do not constitute threats to the jackrabbit in its current range in New Mexico, and the fact that the best available information concerning the jackrabbit's status and its habitat in Mexico, limited as it is, does not allow us to assess the magnitude or immediacy of those potential impacts on the subspecies, nor the extent of the occupied range of the jackrabbit that may be subject to impacts. While we have evidence that some impacts may be occurring within the range of the subspecies (e.g., shrub encroachment, grazing, hunting, vehicle collisions, changing climate conditions), we do not have any specific information that allows us to make a reasonable connection between these potential impacts and current or future declines of white-sided jackrabbits. Therefore, we find that listing the subspecies of the white-sided jackrabbit, *Lepus callotis gaillardi*, as a threatened or an endangered species throughout its range is not warranted at this time.

#### **Distinct Vertebrate Population Segments**

After assessing whether the species and the two subspecies are threatened or endangered throughout their range, we next consider whether any Distinct Vertebrate Population Segment (DPS) of the white-sided jackrabbit's range meets the definition of endangered or is likely to become endangered in the foreseeable future.

##### *Distinct Vertebrate Population Segment*

Under the Service's Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act (61 FR 4722, February 7, 1996), three elements are considered in the decision concerning the establishment and classification of a possible DPS. These are applied similarly for additions to or removal from the Federal List of Endangered and Threatened Wildlife. These elements include:

- (1) The discreteness of a population in relation to the remainder of the species to which it belongs;
- (2) The significance of the population segment to the species to which it belongs; and
- (3) The population segment's conservation status in relation to the Act's standards for listing, delisting, or reclassification (i.e., is the population segment endangered or threatened).

#### *Discreteness*

Under the DPS policy, a population segment of a vertebrate taxon may be considered discrete if it satisfies either one of the following conditions:

- (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation.
- (2) It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

We were asked to list the northern populations of the *Lepus callotis gaillardi* subspecies, which includes two valleys in Hidalgo County, New Mexico, as a DPS. First, we evaluated whether the potential DPS met the condition of discreteness. Because we have so little information about the species in Mexico, we are unable to thoroughly assess the potential separation of the United States populations from the Mexico populations as a consequence of physical, physiological, ecological, or behavioral factors. However, as discussed in Factor D above, the white-sided jackrabbit is not addressed by the regulatory mechanisms available in Mexico. Because the white-sided jackrabbit is covered by regulatory mechanisms in the State of New Mexico, there is a difference in regulatory mechanisms, and we find that the United States populations of the white-sided jackrabbit are discrete under the DPS Policy.

#### *Significance*

If we determine that a population segment is discrete under one or more of the discreteness conditions described in the DPS Policy, we then evaluate its biological and ecological significance based on "the available scientific evidence of the discrete population segment's importance to the taxon to which it belongs" (61 FR 4725). We make this evaluation in light of congressional guidance that the Service's authority to list DPSs be used "sparingly" while encouraging the conservation of genetic diversity (61 FR 4722; February 7, 1996). Since precise circumstances are likely to vary considerably from case to case, the DPS Policy does not describe all the classes of information that might be used in determining the biological and ecological importance of a discrete

population. However, the DPS Policy describes four possible classes of information that provide evidence of a population segment's biological and ecological importance to the taxon to which it belongs. As specified in the DPS Policy (61 FR 4722), consideration of the population segment's significance may include, but is not limited to the following:

- (1) Persistence of the population segment in an ecological setting that is unusual or unique for the taxon;
- (2) evidence that loss of the population segment would result in a significant gap in the range of the taxon;
- (3) evidence that the population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside of its historical range; and
- (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

The following discussion considers the significance of the United States population of the white-sided jackrabbit in light of the above criteria. The populations of white-sided jackrabbit that occur in the United States occupy the plains grassland and Chihuahuan Desert grassland vegetation types. These vegetation types, especially the plains grassland, are somewhat rare in the United States, but are more common in Mexico, thus the United States populations do not occur in a unique ecological setting. The populations of white-sided jackrabbit that occur in the United States represent less than one percent of the range of the species. While populations which are on the edge or periphery of a species' range sometimes have unique characteristics which may benefit the survival of a species as a whole, or while such areas may play an important life-history role for a species (such as outlying populations composed of juvenile, non-breeding animals), there is no information that indicates this is the case with the jackrabbit. Instead, these are peripheral populations occurring in an area where the species was never known to be abundant. The loss of these populations is not likely to result in a significant gap in the range of the taxon. While very little is known about the species in Mexico, there is no information which suggests that these populations are the only surviving natural occurrences of the taxon. Additionally, there is no information that indicates that there are any introduced populations outside of their historical range anywhere. Finally, to our knowledge, no genetic studies of

any kind have been conducted which looked at the genetic differences of the United States jackrabbits as compared to the jackrabbits in Mexico; thus we are not able to assess whether the United States populations differ markedly from populations in Mexico. In summary, there is no information that indicates the United States population of the white-sided jackrabbit can be considered significant under our DPS Policy.

#### *DPS Conclusion*

On the basis of the best available information, we conclude that the United States population of white-sided jackrabbits is discrete, but it is not significant under the DPS Policy. Since we found that the population segment did not meet the significance element and, therefore, does not qualify as a DPS under the Service's DPS Policy, we will not proceed with an evaluation of the status of the population segment under the Act.

#### **Significant Portion of the Range**

Having determined that the species *Lepus callotis* does not meet the definition of a threatened or endangered species, we must next consider whether there are any significant portions of the range where this species is in danger of extinction or is likely to become endangered in the foreseeable future.

On March 16, 2007, a formal opinion was issued by the Solicitor of the Department of the Interior, "The Meaning of 'In Danger of Extinction Throughout All or a Significant Portion of Its Range'" (United States Department of Interior 2007). We have summarized our interpretation of that opinion and the underlying statutory language below. A portion of a species' range is significant if it is part of the current range of the species and it contributes substantially to the representation, resiliency, or redundancy of the species. The contribution must be at a level such that its loss would result in a decrease in the ability to conserve the species.

In determining whether a species is threatened or endangered in a significant portion of its range, we first identify any portions of the range of the species that warrant further consideration. The range of a species can theoretically be divided into portions an infinite number of ways. However, there is no purpose to analyzing portions of the range that are not reasonably likely to be significant and threatened or endangered. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be

significant, and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. In practice, a key part of this analysis is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats applies only to portions of the species' range that are not significant, such portions will not warrant further consideration.

If we identify portions that warrant further consideration, we then determine whether the species is threatened or endangered in these portions of its range. Depending on the biology of the species, its range, and the threats it faces, the Service may address either the significance question or the status question first. Thus, if the Service considers significance first and determines that a portion of the range is not significant, the Service need not determine whether the species is threatened or endangered there. Likewise, if the Service considers status first and determines that the species is not threatened or endangered in a portion of its range, the Service need not determine if that portion is significant. However, if the Service determines that both a portion of the range of a species is significant and the species is threatened or endangered there, the Service will specify that portion of the range as threatened or endangered under section 4(c)(1) of the Act.

Applying the process described above for determining whether a species is threatened in a significant portion of its range, we next addressed whether any portions of the range of the white-sided jackrabbit warranted further consideration. On the basis of our review of the five listing factors above, we found no evidence of geographic concentration of threats either in New Mexico or Mexico such that the full species or either of the subspecies may be in danger of extinction in that portion. The information that is known about impacts to the white-sided jackrabbit is generally specific to those populations in the United States; however, a lack of information about threats in other portions of the range of the species one way or another does not mean that threats are concentrated in the United States.

There is no information to suggest that any portion of the range of the species or either subspecies contributes more significantly to the resiliency, redundancy, and representation of the species or either subspecies than any other portion of the range. There is no

information to suggest that any portion of the range is particularly of better quality than any other portion, or than any portion includes an important concentration of certain types of habitat that are necessary for the species to carry out its life-history functions, such as breeding, feeding, migration, dispersal, or wintering. Further, there is no information to suggest that any portion of the range provides a greater increment of redundancy than any other area. Finally, very little genetic information is known about white-sided jackrabbits. There have been some studies that used a variety of taxonomy, morphology, and chromosome information to differentiate white-sided jackrabbits from other species of jackrabbits, but no genetic studies have been conducted to compare various populations of white-sided jackrabbits, thus representation cannot be assessed. As a result of the above analysis, we conclude that there is no indication that

a particular portion of the white-sided jackrabbit's range warrants further consideration as threatened or endangered.

We do not find that the species is in danger of extinction now, nor is it likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Therefore, listing the full species or either subspecies as threatened or endangered under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, this subspecies to our Southwest Regional Ecological Services Fish and Wildlife Office (see **ADDRESSES** section) whenever it becomes available. New information will help us monitor this subspecies and encourage its conservation. If an emergency situation develops for this subspecies or any other species, we will act to provide immediate protection.

#### References Cited

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Southwest Regional Ecological Services Office (see **ADDRESSES** section).

#### Author(s)

The primary authors of this notice are the staff members of the Southwest Regional Ecological Services Office (see **ADDRESSES** section)

#### Authority

The authority for this section is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: August 19, 2010.

**Wendi Weber,**

*Acting Deputy Director, Fish and Wildlife Service.*

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