



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

New Mexico Ecological Services Field Office

2105 Osuna NE

Albuquerque, New Mexico 87113

Phone: (505) 346-2525 Fax: (505) 346-2542

### SUMMARY

FINAL BIOLOGICAL OPINION ON THE EFFECTS TO  
THE MEXICAN SPOTTED OWL FROM THE CONVEYANCE AND TRANSFER  
OF TEN LAND TRACTS AT LOS ALAMOS NATIONAL LABORATORY TO THE  
COUNTY OF LOS ALAMOS AND THE SECRETARY OF THE INTERIOR IN TRUST  
FOR THE PUEBLO OF SAN ILDELFONSO

Cons. # 2-22-01-F-634

Date of the final opinion: January 15, 2002

Action agency: Department of Energy, Los Alamos National Laboratory

Project: The proposed action is a congressional mandate (PL 105-119) that Department of Energy (DOE) convey fee title of 10 land tracts to the County of Los Alamos (County) and Secretary of the Interior, in trust for San Ildefonso Pueblo (Pueblo). Land use proposals by the County and Pueblo of conveyed and transferred lands include industrial, commercial, and residential development, and environmental, historical, and cultural preservation. According to the Conveyance and Transfer EIS (CTEIS), cultural preservation is the only land use practice that will not result in significant impacts on endangered and threatened species' habitat. Proposed actions will complete steps considered necessary to provide self-sufficiency for Los Alamos and return the land that was part of the Pueblo before the creation of Los Alamos National Laboratory (LANL).

As required by Public Law 105-119, some tracts of land have been recognized by DOE and LANL as now or likely to become nonessential within the next 10 years to meet LANL's current and foreseeable programmatic missions. In the CTEIS, DOE tentatively identified 10 tracts of land for transfer, totaling about 4,800 acres (ac) (1920 hectares [ha]). The Biological Assessment further defined those tracts and reduced the transfer amount to approximately 4,046 ac (1,618 ha).

Nine out of 10 tracts contain potential or known contaminated sites or areas that may require environmental remediation or restoration to be suitable for uses approved by PL 105-119. Only the Manhattan Monument Tract is not known to have contamination issues.

Actual disposition of each tract, or portion of a tract, will be subject to DOE's continuing or future need for an individual tract, or part of a tract, to meet a national security mission

support function. Additionally, disposition of each tract, or portion of a tract, would be subject to DOE's ability to complete any necessary environmental restoration or remediation.

DOE has concluded that significant portions of Technical Area (TA) 21 and Airport Tracts will not be available for conveyance or transfer within the 10-year period specified by PL 105-119. This is due to identified national security operational needs of both facilities within TA-21 and need for surrounding areas to be retained as security, health, and safety buffer areas. All other tracts or their portions will be conveyed or transferred before year's end 2007.

Listed species affected: Mexican spotted owl (*Strix occidentalis lucida*)

Biological opinion: "May affect, likely to adversely affect" the owl on Los Alamos Area Office, DP Road, TA-21, Airport, and TA-74 Tracts.

Incidental take statement: Mexican spotted owls are not expected to be taken as a result of this project.

Conservation Recommendations: Implementation of conservation recommendations is discretionary. Four conservation recommendations are provided.



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January 15, 2002

Cons. # 2-22-01-F-634

Mr. David A. Gurule  
Department of Energy  
Albuquerque Operations Office  
Los Alamos Area Office  
Los Alamos, New Mexico 87544

Dear Mr. Gurule:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (BO) based on our review of the proposed Department of Energy (DOE) conveyance and transfer of ten land tracts to the County of Los Alamos (County), New Mexico and the Secretary of the Interior, in trust for the Pueblo of San Ildefonso (Pueblo) and its effects on the Mexican spotted owl (*Strix occidentalis*) (owl), and its critical habitat in accordance with section 7 of the Endangered Species Act (Act) of 1973 as amended (16 U.S.C. 1531 et seq.). Your letter dated August 30, 2001, requesting formal consultation was received on the same day.

The DOE has submitted the *Biological Assessment for the Conveyance and Transfer of Land Tracts at Los Alamos National Laboratory* (BA) dated August 28, 2001. This BA evaluates the anticipated effect on federally-listed endangered and threatened species and their habitats resulting from the conveyance and transfer of ten land tracts at Los Alamos National Laboratory (LANL). The project is in Los Alamos Canyon, Canon del Buey and Rendija Canyon in Los Alamos County, New Mexico. The proposed action will convey title of seven land tracts to the County and three land tracts to the Secretary of the Interior, in trust for the Pueblo.

The DOE has determined that the proposed conveyance of the Rendija Canyon Tract "may affect, not likely to adversely affect" the owl. The DOE also determined "may affect, likely to adversely affect" the owl on Los Alamos Area Office (LAAO), DP Road, Technical Area (TA) 21, Airport, and TA-74 Tracts.

The Service concurs with DOE's determination of "may affect, not likely to adversely affect" the bald eagle on the Rendija Canyon, LAAO, DP Road, TA-21, Airport, and TA-74 Tracts.

This BO is based on information provided in the August 28, 2001, BA and other information available to the Service, two field site visits, and phone conversations with your staff. A complete administrative record of this consultation is on file in the Service's New Mexico Ecological Services Field Office.

### Consultation History

On November 18, 1996, the Service received a letter from DOE stating that a predecisional draft Environmental Assessment (EA) had been released for the proposed transfer of the DP Road Tract to the County. The Service responded with a request (consultation # 2-22-97-I-078) for

additional information and corrections. On January 23, 1997, DOE issued a Finding of No Significant Impact (FONSI) for this project. The DOE concluded the proposed action was not likely to affect any endangered or threatened species that might occur in the area or their critical habitat. The DOE cited the following information as reasons for their conclusion: (1) several years of species-appropriate field survey data showed potential habitat near the site was unoccupied and was not known to have ever been occupied; (2) the developed character of nearby site areas, including the presence of a paved road, the Omega West Reactor facility within Los Alamos Canyon, TA-21 and Los Alamos townsite on top of Los Alamos mesas represented existing sources of disturbance; (3) use of the Los Alamos canyon for recreational hiking purposes represented another source of disturbance; and, (4) site development would not significantly change the surrounding topography and ponderosa pine tree cover.

On April 14, 1997, the Service asked DOE to revisit its "no effect" determination for the DP Road Tract transfer and to continue informal consultation. On April 21, 1997, the Service advised DOE of its concern about additive adverse impacts related to this project. The DOE agreed on May 9, 1997, to continue informal consultations and advised the Service that a BA on DP Road Tract would be developed within a few weeks. The Service received a BA from DOE on June 3, 1997. The DOE determined "may affect, not likely to adversely affect" the owl, bald eagle, and their critical habitat at LANL. On August 4, 1997, the Service concurred with DOE's DP Road Tract Transfer project determination of "may affect, not likely adversely to affect" the owl. The Service based its concurrence on: (1) no owl nesting/roosting habitat would be modified; (2) no owls were known to occupy the area; (3) impacts to potential foraging habitats were insignificant or discountable; and (4) it was questionable whether adjacent owl nest/roost habitat could be occupied based on current levels of disturbance and human intrusion in and around Los Alamos Canyon.

On May 6, 1998, DOE published its Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Conveyance and Transfer of Certain Land Tracts Located at Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico (63 FR 25022). The Service, on June 30, 1998, responded to DOE's Notice of Intent by providing a threatened and endangered species list for Los Alamos and Santa Fe counties and recommending a site-wide Environmental Impact Statement (EIS) for continued operations at LANL. On November 3, 1998, the Service received a letter from DOE requesting an updated species list and stated that a BA would be prepared concerning the conveyance and transfer of land on LANL. The Service responded to the BA (consultation # 2-22-98-I-311) on December 10, 1998.

On April 2 and 8, 1999, the Service expressed concerns regarding cumulative impacts and need for comprehensive analysis concerning the conveyance/transfer of ten land tracts identified in the *Draft Environmental Impact Statement for Proposed Conveyance and Transfer of Certain Land Tracts Located at Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico* (DEIS). Information used in the Service's response was obtained from consultation # 2-22-98-I-311. On April 23, 1999, the Service received a letter from the Sierra Club, Pajarito Group of the Rio Grande Chapter stating that Senator Pete Domenici (R-NM) successfully sponsored the Land Transfer and Conveyance to Los Alamos County and San Ildelfonso Pueblo Act, Public Law (PL)105-119. That law requires that DOE convey and transfer lands to recipients and provides that: the lands: (1) must not be required for DOE's national security mission; (2) must be remediated by 2007; and (3) are suitable for any purpose from preservation to development. On April 14, 2000, the Service received a letter stating that DOE would prepare a BA and reinitiate consultation with the Service.

On December 15, 1999, the Service expressed concern regarding potentially significant impacts to biological resources resulting from zoning regulations that will govern commercial and private development within the County.

On October 6, 2000, the Service received notice of conveyance of Miscellaneous Site 22 and Miscellaneous Manhattan Monument Tract from DOE to the County. On January 5, 2001, the Service concurred with DOE's determination that conveyance of Miscellaneous Site 22 Tract to the County "may affect, not likely to adversely affect" the bald eagle and the owl, and that conveyance of the Tract would result in "no effect" to endangered or threatened species.

The Service, on July 16, 2001, issued a non-jeopardy biological opinion on effects to the owl from the proposed implementation of the April 2001, Wildlife Hazard Reduction Project Plan, on LANL.

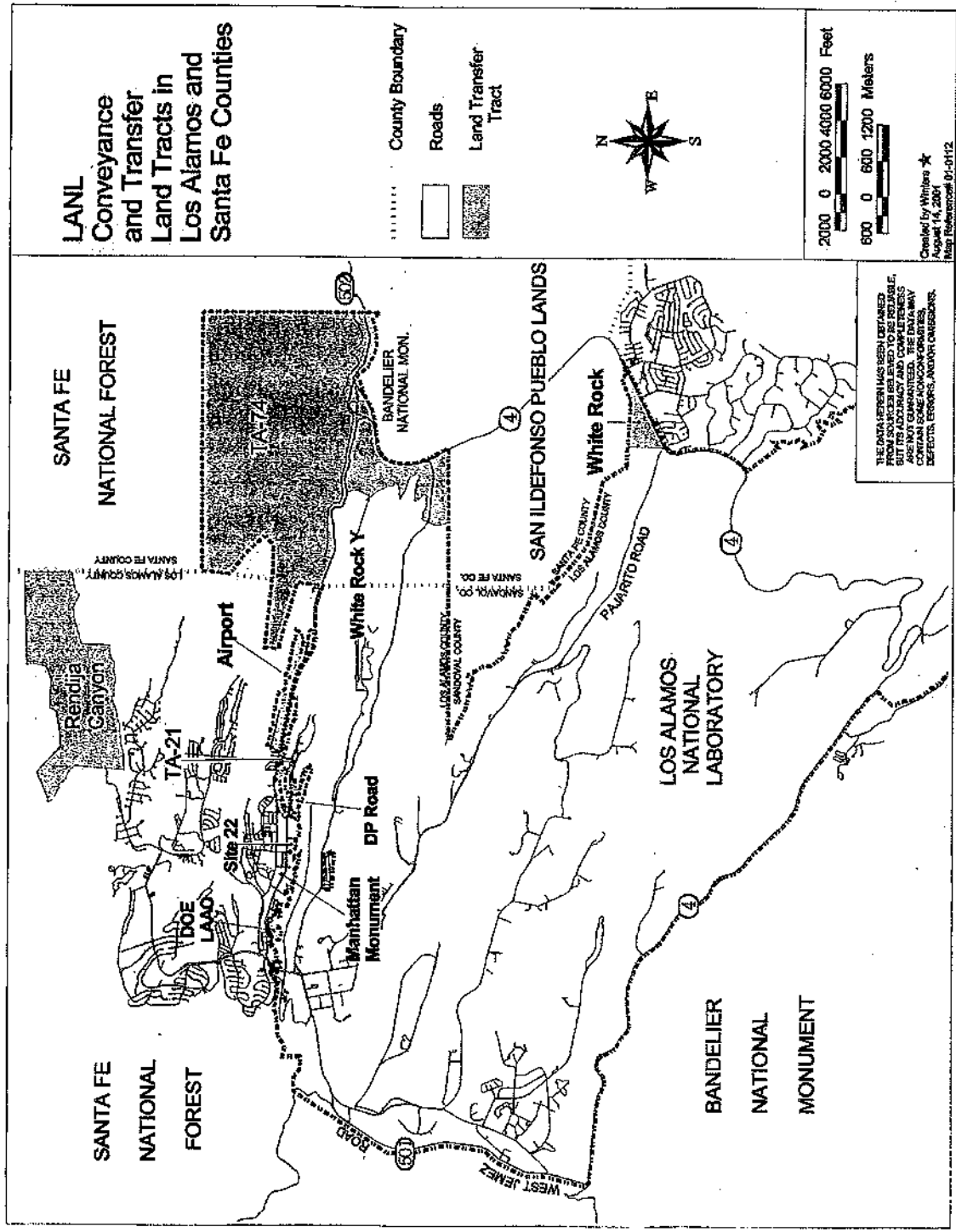
## BIOLOGICAL OPINION

### I. Description of the Proposed Action

The proposed action is a congressional mandate (PL 105-119) that DOE convey fee title of ten land tracts (Figure 1) to the County or Secretary of the Interior, in trust for the Pueblo. Table 1 illustrates the identity and size of each tract.

Table 1. DOE land tract sizes, and receiving party of conveyed or transferred land tracts.

Tract Identification	Tract Size	Conveyance or Transfer Party
Rendija Canyon	910 ac (364 ha)	County
LAAO	15 ac (6 ha)	County
Site 22	<0.5 ac (<0.2 ha)	County
Manhattan Monument	<0.5 ac (<0.2 ha)	County
DP Road	50 ac (20 ha)	County
TA-21	20 ac (8 ha)	County
Airport	110 ac (44 ha)	County
White Rock Y	125 ac (50 ha)	County and San Ildefonso
TA-74	2,715 ac (1,086 ha)	County and San Ildefonso
White Rock	100 ac (40 ha)	County and San Ildefonso
<b>Total Area</b>	<b>4,046 ac (1,618 ha)</b>	



The locations of the ten land tracts (Figure 1) are described as follows:

- Rendija Canyon Tract consists of about 910 ac (369 ha) and is mostly undeveloped. A shooting range (Los Alamos Sportsman's Club) provides recreational opportunity and portions are leased from DOE to Los Alamos.
- LAAO Tract is about 15 ac (6 ha) in size and within the town of Los Alamos. DOE employees occupy offices at this site. The LAAO Tract is located within the Los Alamos Canyon Areas of Environmental Interest (AEIs). An estimated 35 percent of the tract is roads, parking lots, buildings, or artificially maintained landscape. Remaining areas are primarily ponderosa pine forest. There is a great deal of human activity associated with LANL personnel who picnic and hike in the area. Lighting sources within the tract include those used for security, residential, and commercial developments.
- Site 22 Tract consists of less than 0.5 ac (<0.2 ha). It is a Los Alamos townsite parcel overlooking Los Alamos Canyon. The tract is undeveloped, disturbed land and currently used as an unsanctioned vehicle parking area.
- Manhattan Monument Tract consists of less than 0.5 ac (<0.2 ha). This tract is a small, rectangular site found within County land and next to Ashley Pond, where most of LANL work was first conducted. A small log structure occupies the site.
- DP Road Tract consists of about 50 ac (20 ha). DP Road Tract is between TA-21 and a major Los Alamos commercial district and near active operations of LANL. The approximate size of the tract is 50 ac (20 ha) and it contains two structures on approximately two acres (0.8 ha). A short hiking trail crosses the southeastern portion of the tract. No other recreational opportunities exist at this site. It is generally undeveloped and vegetation includes ponderosa pine forest, pinyon-juniper woodlands, open shrub, grasslands and wildflowers.
- TA-21 Tract consists of about 20 ac (8 ha) at the eastern end of DP Mesa, near Los Alamos central business district. This tract contains roads, water towers, and other structures that support ten primary buildings on the east end. Each primary building is 10,000 square feet or more in size. University of California workers occupy offices and LANL operations are conducted at the facility.
- Airport Tract consists of approximately 110 ac (44 ha) and is on the northeastern edge of the mesa above Pueblo Canyon and east of Los Alamos. It is close to a Small Business Center Annex (on East Gate Drive). Since 1948, Airport Tract has been used for commercial air transportation. It served as a landfill before the Los Alamos Airport was constructed on it. The airport handles commercial, private, and emergency transportation. The remainder of the tract is undeveloped.
- White Rock Y Tract consists of about 125 ac (50 ha). It is undeveloped and is associated with major transportation routes connecting Los Alamos with northern New Mexico.
- This TA-74 Tract represents a large area of LANL buffer lands, consisting of approximately 2,715 ac (1,086 ha) that are largely undeveloped. The TA-74 Tract is east of Los Alamos. TA-74 Tract is isolated from LANL operations and contains many archaeological sites and sensitive wildlife habitats. Existing

activities include the maintenance and use of the State highway. Existing structures on this tract include two buildings, water wells, and tanks. Three well-established hiking trails cross the tract. This parcel was restored to public domain by Presidential Proclamation 3539 on May 27, 1963; PL 105-110 provides necessary legislation for tract disposal by DOE. Adjacent land uses include the Bayo Wastewater Treatment Plant in the west-central portion, Pueblo land practices to the east, and ongoing airport activities to the west.

The tract has four potential release sites (PRSs) that have been designated by the LANL Environmental Restoration Project as having actual, suspected or potential releases of contamination. All four PRSs have been characterized, and remediation has been performed. Further cleanup is not likely to be necessary.

- White Rock Tract consists of about 100 ac (40 ha). Utility lines, a water pump station, and a small building used by the County are found on site. The remainder is generally undeveloped.

Land-use proposals by the County and Pueblo for conveyed lands include industrial, commercial, and residential development, and environmental, historical, and cultural preservation. According to the Conveyance and Transfer EIS (CTEIS), cultural preservation is the only land use practice that will not result in significant impacts on endangered and threatened species' habitat. Proposed actions will complete steps considered necessary to provide self-sufficiency for Los Alamos and return land that was part of the Pueblo before the creation of LANL.

The County and Pueblo submitted land use information for future projects within the conveyance and transfer tracts. Potential effects on endangered and threatened species and their habitats for this BO were evaluated using information and boundaries described in the CTEIS and BA.

As required by PL 105-119, some tracts of land have been recognized by DOE and LANL as now or likely to become nonessential within the next ten years to meet LANL's current and foreseeable programmatic missions. In the CTEIS, DOE tentatively identified ten tracts of land for transfer, totaling about 4,800 acres (ac) (1920 hectares [ha]). The BA further defined those tracts and reduced the transfer amount to approximately 4,046 ac (1,618 ha).

These ten tracts were identified as potentially suitable for conveyance or transfer through an informal dialog between the County and DOE. The County identified more than 20 parcels of land that they considered to have high potential development value. Those parcels and several others were evaluated by DOE and LANL management. They decided whether the parcels were required for current and future national security mission support purposes. Included in their determinations were health and safety buffer zones between LANL operations and members of the public living near LANL. In 1996, the list of parcels was divided into three groups: (1) recommended for transfer, (2) tracts having unresolved issues, and (3) tracts not recommended for transfer. The list was further reviewed regarding the criteria established in PL 105-119. Ten tracts were identified for transfer in early 1998.

Nine of 10 tracts contain potential or known contaminated sites or that may require some degree of environmental remediation or restoration to be suitable for uses approved by PL 105-119. Only the Manhattan Monument Tract is not known to have contamination issues.

Actual disposition of each tract, or portion of a tract, will be subject to DOE's continuing or future need for an individual tract, or part of a tract, to meet a national security mission support



function. Additionally, disposition of each tract, or portion of a tract, would be subject to DOE's ability to complete any necessary environmental restoration or remediation.

DOE has concluded that significant portions of TA-21 and Airport Tracts will not be available for conveyance or transfer within the ten-year period specified by PL 105-119. This is due to identified national security operational needs of both facilities within TA-21 and need for surrounding areas to be retained as security, health, and safety buffer areas. All other tracts or their portions will be conveyed or transferred before the end of 2007.

## II. Status of the Species/critical habitat

### Mexican Spotted Owl

The owl was listed as threatened on March 16, 1993 (58 FR 14248). Critical habitat was designated on June 6, 1995 (60 FR 29914) but was withdrawn on March 25, 1998 (Coalition of Arizona-New Mexico Counties for Stable Economic Growth v. U.S. Fish and Wildlife Service, No. 95-1285-M Civil). On March 13, 2000, the United States District Court for New Mexico, (Southwest Center for Biological Diversity and Silver v. Babbitt and Clark, CIV 99-519 LFG/LCS-ACE), ordered the Service to propose critical habitat within four months. Final critical habitat designation was to be completed and published by January 15, 2001. Critical habitat was proposed on July 21, 2000 (65 FR 45336) and designated on February 1, 2001 (66 FR 8530). Background and status information is found in the Final Rule listing the owl as a federally-threatened species (58 FR 14248), previous biological opinions issued by the Service, and the Recovery Plan for Mexican Spotted Owl (*Strix occidentalis lucida*) (Recovery Plan) (USFWS 1995a). Information on species description, life history, population dynamics, status, distribution, and range-wide trends provided in those documents is included herein by reference and is summarized below.

The American Ornithologist's Union recognizes three spotted owl subspecies: California spotted owl (*Strix occidentalis occidentalis*); the Mexican spotted owl (*S. o. lucida*); and northern spotted owl (*S. o. caurina*). The Mexican spotted owl is distinguished from the California and northern subspecies chiefly by geographic distribution and plumage. The owl is mottled in appearance with irregular white and brown spots on its abdomen, back and head. The owl's spots are larger and more numerous than in other subspecies giving it a lighter appearance. Several thin white bands mark its brown tail. Unlike most owls, spotted owls have dark eyes.

*S. o. lucida* is a distinguishable taxon based on allozyme electrophoresis (Barrowclough and Gutiérrez 1990). Analysis of mitochondrial DNA shows further evidence that three subspecies are valid. Phylogenetic relatedness and reduced gene flow between the subspecies, suggests they should be treated as separate conservation units (Barrowclough *et al.* 1999).

Mexican spotted owls have the largest geographic range of the three subspecies. Its range extends from Aguas Calientes, Mexico, through the mountains of Arizona, New Mexico, and western Texas, the canyons of southern Utah, and southwestern Colorado, and the Front Range of central Colorado. Because this is a broad area of southwestern United States and Mexico, much remains unknown about owl distribution within its range. This is especially true in Mexico where much of the owl's range has not been surveyed. The owl has a fragmented distribution throughout its range corresponding to forested mountains and rocky canyon lands. Historic populations size estimates and range distribution are not known, however, present population size and distribution are thought to be similar.

According to the Recovery Plan, 91 percent of owls known to exist in the United States between 1990 and 1993 occurred on land administered by the Forest Service; therefore, it is the primary administrator of lands supporting owls. Most owls have been found within Region 3, which includes 11 National Forests in New Mexico and Arizona. Forest Service Regions 2 and 4 support fewer owls. The Recovery Plan divided its range into 11 Recovery Units (RUs), five in Mexico and six in the United States. The Recovery Plan also identifies recovery criteria and provides distribution, abundance, and density estimates by RU. The Upper Gila Mountain RU has the greatest known concentration of owl sites (55.9 percent), followed by the Basin and Range-East (16.0 percent), Basin and Range-West (13.6 percent), Colorado Plateau (8.2 percent), Southern Rocky Mountain-New Mexico (4.5 percent), and Southern Rocky Mountain-Colorado (1.8 percent) RUs.

Reliable owl population estimates are not available because of limited information. Fletcher (1990) estimated 2,074 owls were in Arizona and New Mexico in 1990 using information gathered by Forest Service, Region 3. The Recovery Plan reports an estimate of owl sites based on 1990-1993 data. An owl "site" means a visual sighting of at least one adult owl or a minimum of two auditory detections in the same vicinity of the same year. The 1990 through 1993 surveys show one or more owls had been observed at a minimum of 758 sites in the United States and 19 sites in Mexico. Those surveys indicate that owls persist in most locations reported before 1989.

In 1996, the Forest Service estimated a total of 869 management territories and 1,738 individual owls. Their assumptions were that each known site was occupied by a single owl or an owl pair. The Forest Service has not updated that data for Arizona or New Mexico.

Owls breed sporadically and do not nest every year. The owl's reproductive chronology varies across its range. In Arizona, courtship apparently begins in March with pairs roosting together during the day and calling to each other at dusk (Ganey 1988). Eggs are laid in late March or early April. Incubation begins shortly after the first egg is laid, and is done entirely by the female (Ganey 1988). Incubation period for owls is assumed to be 30 days (Ganey 1988). During incubation and the first half of the brooding period, females leave only to defecate, regurgitate pellets, or receive prey from their mate (Forsman *et al.* 1984, Ganey 1988). Foraging is done entirely or mostly by males. Eggs usually hatch in early May, with nestlings fledge four to five weeks later, and disperse in mid-September to early October (Ganey 1988).

Reproductive output varies spatially and temporally. White *et al.* (1995) reported an average annual rate of 1.0 young per pair. Current demographic research in Arizona and New Mexico has documented populations that are declining at greater than 10 percent per year (Seamans *et al.* 1999). Possible reasons are habitat quality declines and regional climate trends (Seamans *et al.* 1999). Radio-tracking studies have suggested that adult annual survival rates are 0.8 to 0.9 and that juvenile survival rates are lower (0.06 to 0.29). Juvenile survival rate estimates may be lower because of permanent dispersal from study areas and lag-time before marked juveniles are detected as survivors through recapture efforts (White *et al.* 1995). Little research has been conducted on mortality causes. Known mortality factors are starvation, accidents, and predation by great horned owls, northern goshawks, red-tailed hawks, and golden eagles.

Owls nest, roost, forage, and disperse in diverse biotic communities. Nesting habitat is typically in complex forest structure or rocky canyons, and contains mature or old-growth stands with uneven-aged, multistoried, high canopy closure (Ganey and Balda 1989a, USFWS 1991). In northern portions of its range (southern Utah and Colorado), most nests are in caves or on cliff ledges in steep-walled canyons. Elsewhere, most nests are in Douglas fir (*Pseudotsuga menziesii*) trees (Fletcher and Hollis 1994, Seamans and Gutierrez 1995). A wider variety of tree species are used for roosting; however, Douglas fir is used most (Ganey 1988, Fletcher and

Hollis 1994, Young *et al.* 1998). Owls generally use a wider variety of forest conditions (mixed conifers, pine-oak, ponderosa pine [*Pinus ponderosa* var. *scopulorum*], piñon-juniper [*Pinus edulis*, *Juniperus* spp.]) for foraging than they use for nesting/roosting.

Seasonal movement patterns of owls are variable. Some owls are year-round residents while others remain in the same general area but show shifts in habitat use patterns. Some owls migrate 12 to 31 miles (mi) (19 to 50 kilometers) in winter, generally migrating to more open habitats at lower elevations (Ganey and Balda 1989b, Willey 1993, Ganey *et al.* 1998). Owl home-range size appears to vary considerably between habitats and geographic areas (USFWS 1995b). They range in size from 647 to 3,688 ac (259 to 1475 ha) for individuals birds, and 945 to 3,846 ac (378 to 1538 ha) per pair (Ganey and Balda 1989b, Ganey *et al.* 1999). Little information exists about habitat use by juveniles during natal dispersal. Ganey *et al.* (1998) found dispersing juveniles in a variety of habitats ranging from high-elevation forests to piñon-juniper woodlands and riparian areas surrounded by desert grasslands.

Owls consume a variety of prey such as woodrats (*Neotoma* spp.), peromyscid mice (*Peromyscus* spp.), and microtine voles (*Microtus* spp.). Owls may consume bats, birds, reptiles, and arthropods (Ward and Block 1995). Habitat correlates of owl's common prey emphasize that each species uses unique habitats. Deer mice (*Peromyscus maniculatus*) are ubiquitous in distribution in comparison to brush mice (*Peromyscus boyleyi*), which are restricted to drier, rockier substrates, with sparse tree cover. Mexican woodrats (*N. mexicana*) are typically found in areas with considerable shrub or understory tree cover and high log volumes or rocky outcrops. Mexican voles (*Microtus mexicanus*) are associated with high herbaceous cover, primarily grasses; whereas, long-tailed voles (*M. longicaudus*) are found in dense herbaceous cover, primarily forbs, with many shrubs and limited tree cover. A diverse prey base is dependant on availability and quality of diverse habitats.

Recreational activities may affect the owl directly by disturbing nests, roosts, or foraging sites. Disturbance may occur indirectly through altered habitat caused by trampling of vegetation, soil damage, or both. Developing new recreational facilities or expanding existing facilities, such as campgrounds and trails, may alter owl habitat and habitat use and perpetuate disturbance impacts caused by recreation.

The Recovery Plan provides for three levels of habitat management: protected habitats, restricted habitats, and other forest and woodland types. "Protected habitat" includes all known owl sites, and all areas in mixed conifer or pine-oak forests with slopes greater than 40 percent where timber harvest has not occurred in 20 years, and all reserved lands. Protected Activity Centers (PACs) are delineated around known owl sites. PACs include a minimum of 600 ac (240 ha) designed to include best nesting and roosting habitat in the area. Recommended sizes are 75 percent of foraging areas used by owls. Management guidelines recommended in the Recovery Plan for PACs are to take precedence for activities within those areas. "Restricted habitat" includes mixed conifer forest, pine-oak forest, and riparian areas; the Recovery Plan provides less specific management guidelines for these areas. The Recovery Plan does not provide owl-specific guidelines for "other forest and woodland types."

Timber harvest practices in Forest Service, Region 3 and catastrophic wildfires, were cited as primary factors leading to listing of the owl as a Federally-threatened species. Other factors that have or may lead to declines include lack of adequate regulatory mechanisms. The Recovery Plan also notes that forest management has created ecotones favored by great horned owls, increasing the likelihood of predation. Finally, there is a potential for increasing malicious and accidental anthropogenic harm, and for the barred owl to expand its range, resulting in competition or hybridization with the owl.

## ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR 402.02) define environmental baseline as past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are anticipated impacts of all proposed Federal projects that have undergone section 7 consultation, and impacts of State and private actions that are contemporaneous with the consultation in progress.

A total of 524 projects have undergone formal consultation for the owl in Arizona and New Mexico. Of that aggregate, 258 projects resulted in a total anticipated incidental take of 490 owls plus an additional unquantifiable number of owls. These consultations have primarily dealt with actions proposed by the Forest Service, Region 3. Consultations also addressed actions and impacts proposed by the Bureau of Indian Affairs, Department of Defense (including Air Force, Army, and Navy), DOE, National Park Service, and Federal Highway Administration. Those proposals have included timber sales, road construction, fire/ecosystem management projects (including prescribed natural and management ignited fires), livestock grazing, recreation activities, utility corridors, military and sightseeing overflights, and other construction activities.

### Status of the Mexican Spotted Owl (within the Action Area)

Owl requirements in the Jemez Mountains include nesting, roosting, and foraging habitat. Nesting habitat includes cavities in cliffs and small rock outcrops. To date, all known owl nests in this area have been found on cliffs, with stands of mixed conifers nearby. Roosting habitat consists of any area with suitable microclimate for roosting during hot summer months. Foraging habitat is described as widely varying and requiring hunting perches. Johnson (1997) reported low nest occupancy in the Jemez Mountains from 1992 through 1996. By 1997, nest occupancy rates had increased to 67 percent of known nest locations (Johnson 1997). The BA reported less than half the historic nest locations were occupied in 2001.

LANL has designated suitable owl habitat and protective buffer areas surrounding the habitat as AEIs. AEIs are areas within LANL that are managed and protected because of their significance to biological or other resources. Overall, an owl AEI consists of a core area containing important breeding or wintering habitat and a buffer area surrounding the core. Owl AEI core areas were defined geographically based on owl habitat requirements. Buffer zones were established around each core based on regulatory guidance and literature information on the species' reaction to disturbance. An AEI is different from a PAC; a PAC must be or has been occupied. Alternatively, AEIs were defined based on a conservative estimate of potential foraging habitat, but may not suggest suitable nesting areas. Only an occupied AEI would be comparable to a PAC. The AEIs were designed to be consistent with the Recovery Plan.

LANL lands were surveyed from 1994 to 2001 as part of the Threatened and Endangered Species Habitat Management Plan for LANL (HMP). In combination with habitat modeling, these efforts resulted in establishing six owl AEIs on LANL (Figure 2). A brief discussion of the three AEIs affected by the proposed action is provided below.

1. Los Alamos Canyon Mexican Spotted Owl AEI. A total of 8325 ac (4133-ac core and 4192-ac buffer) (3330 ha, 1653-ha core and 1677-ha buffer) delineates this AEI. The AEI contains one canyon system and surrounding mesas. It overlaps two other AEIs: Sandia-Mortandad Canyon, and Pueblo Canyon. DOE controls only 27.5 percent of this AEI. Of that amount, 143 ac (57.3 ha) of core and 339 ac of buffer (136 ha) have been developed. During 1995, 1996, 1997, and 2001 owl surveys, no responses were obtained in this AEI. Either all or part of the LAAO, DP Road, and TA-21 Tracts are within this AEI.

2. Pueblo Canyon Mexican Spotted Owl AEI. A total of 2450 ac (1058-ac core and 1392-ac buffer) (980 ha; 423-ha core and 557-ha buffer) delineates this AEI. This AEI is found in Pueblo, Walnut, and Acid canyons and includes Barranca Mesa, Kwage Mesa, North Mesa, and the mesa supporting the commercial centers of Los Alamos. This AEI also overlaps the Los Alamos Canyon AEI. DOE has control of 12 percent of this AEI (70 ac [28 ha] of core and 230 ac [92 ha] of buffer). Of that amount, 56.5 percent of DOE-controlled core and 19.2 percent buffer are developed. During owl surveys in 2001, no responses were obtained in this AEI. Portions of Airport and TA-74 Tracts are within this AEI.
3. Sandia-Mortandad Canyon Mexican Spotted Owl AEI. A total of 2585 ac (1180-ac core and 1405-ac buffer) (1034 ha, 472-ha core and 5621-ha buffer) delineates this AEI. DOE manages 99 percent of this AEI. It overlaps with the Pajarito Canyon and Los Alamos Canyon AEIs. Developments occupy 9.6 percent of DOE-controlled core and 13.2 percent of buffer. During 1998 and 2001 owl surveys, no responses were obtained in the AEI. Portions of Airport, DP Road, and TA-21 Tracts are within the AEI.

Owls have not been documented in the Los Alamos Canyon, Pueblo Canyon, or Sandia-Mortandad Canyon AEIs. All six owl AEIs were surveyed in 2001 and in the previous six years, but owl presence was documented in only one.

Canon de Valle is the only occupied AEI within LANL and is not within the proposed project area. When it was first surveyed for owl presence in 1995, owls were found nesting in the canyon (Keller 1997). Food remains from the 1995 nest investigation suggest it had been used before discovery. All subsequent nesting seasons have resulted in owl detection and, in most years, successful nesting and fledging of chicks. A helicopter overflight performed by LANL biologists on May 25, 2000, and ground survey on May 30, 2000, suggested the nesting area in Canon de Valle experienced low intensity burning as the result of the Cerro Grande Fire. Smoke, fire, and suppression activities, including air attack, may have disturbed the owls. Canon de Valle AEI is not called a PAC, as referred to in the Recovery Plan, although it provides similar levels of protection. Moreover, all known suitable and potential owl habitat on LANL was considered in developing this BO.

The 1996 Dome Fire affected habitat of three owl territories. Post fire reconnaissance documented that most fire effects to vegetation in those territories resulted in overstory mortality of less than 30 percent (BAER 2000). The Cerro Grande Fire burned approximately 42,878 ac (17,151 ha) between May 4 and May 28, 2000. On DOE, five of six owl AEIs were partially or completely included in the fire area. They were the Los Alamos Canyon, Sandia-Mortandad, Pajarito Canyon, Three-Mile Canyon, and Canon de Valle AEIs. The Los Alamos and Sandia-Mortandad AEIs are within the proposed action area. The Pueblo Canyon AEI, is within the action area and was not burned, but is likely to be affected by flash flooding because of fire damage above the AEI. Less than three percent of the Pueblo Canyon AEI is within DOE boundaries.

#### **IV. Effects of the Action**

Consideration of the impacts of the proposed action on the owl includes an analysis of both the direct and indirect effects of the action, as well as the effects of any interrelated or interdependent actions. Direct effects are the immediate effects of the proposed action on the species or its habitat. Indirect effects are caused by, or result from, the proposed action, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the action area and may also

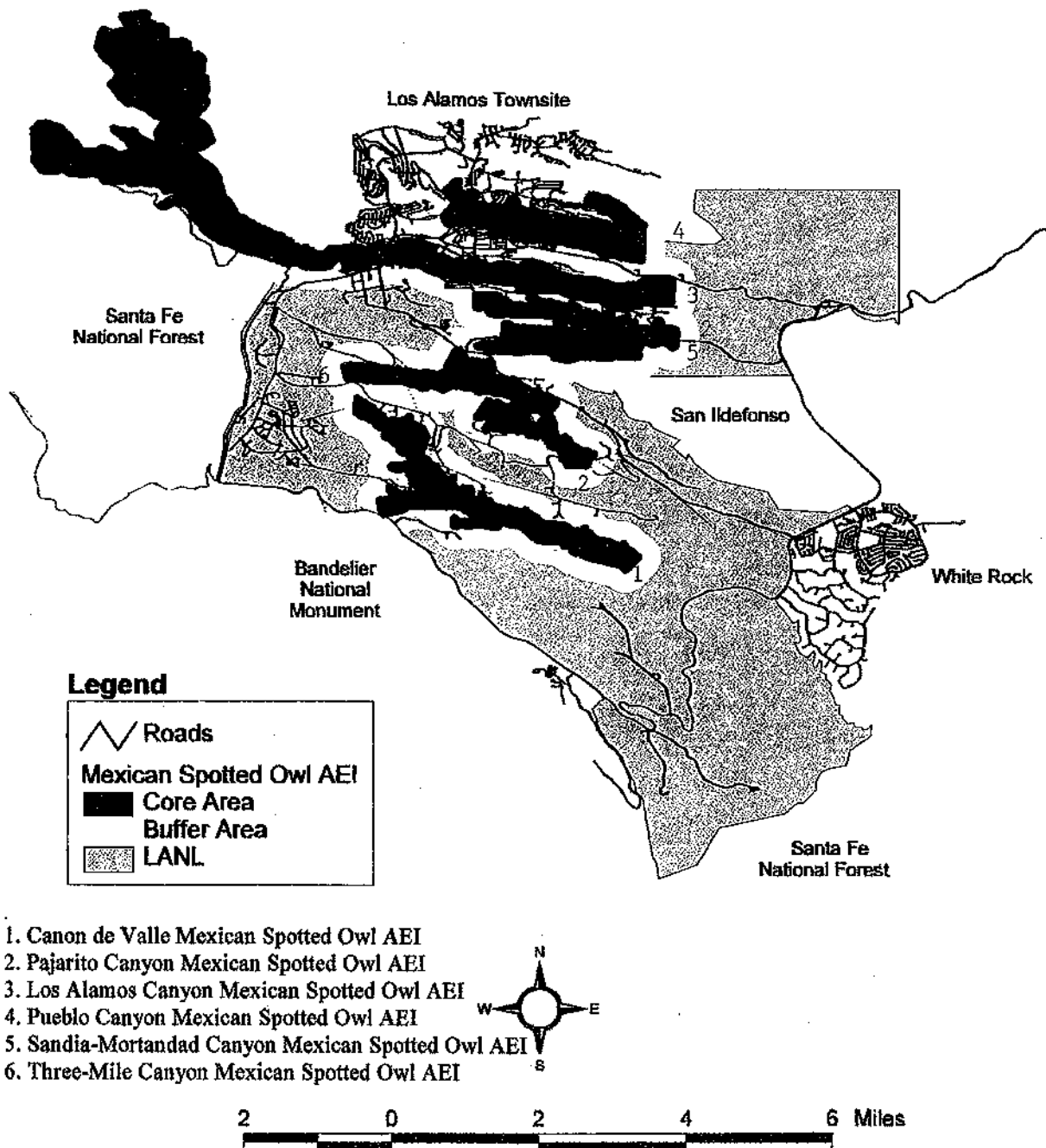


Figure 1. Location of proposed conveyance and transfer land tracts in Los Alamos and Santa Fe Counties.

include other Federal actions that have not undergone section 7 consultation, but may result from the proposed action. Interrelated activities are part of, and depend on, the proposed action for their justification. Interdependent activities have no independent utility apart from the proposed action under consultation. Future Federal actions that are not direct effects of the proposed action are not considered in this BO.

The DOE will not retain jurisdiction or residual authority to enforce compliance of Federal laws which protect threatened and endangered species and their habitats once these tracts are transferred to the County and the Pueblo. The future actions of the County and the Pueblo are included in the proposed action. These possible future actions are considered indirect effects in this BO.

#### LAAO, DP Road, TA-21 and Airport Tracts

Adverse direct effects associated with environmental remediation can result from soil compaction and loss of vegetative cover from heavy equipment use, trench digging, excavation, solvents, and other hazardous chemicals which can lead to the loss of owl suitable habitat. The removal of trees with 9-inch diameters at breast height will result in the reduction of foraging habitat and available owl prey species and reduce potential nesting habitat availability.

The primary indirect effect for these tracts is potential commercial or residential development by the County after conveyance, resulting in the reduction or elimination of existing suitable habitat. Potential adverse effects include: (1) promotion of non-native plants and reduction of prey species densities from disturbance associated with construction; (2) degradation of foraging habitat from increased runoff draining developed areas; (3) reduction in the likelihood of an area becoming occupied because of increased recreational use; (4) reduction in the prey base because of increased numbers of domestic and feral pets.

#### TA-74 Tract

The County has proposed that their portion of TA-74 Tract be kept as a natural area for the purposes of preservation and self-sufficiency. The Pueblo has proposed that their portion be used for cultural preservation. The resulting beneficial effect is that the entire tract will remain primarily undeveloped.

Owls have not been seen in the TA-74 tract however, this tract contains suitable unoccupied owl foraging habitat within the Pueblo and Los Alamos Canyon AELs. Increased recreational usage of this tract could result in significant degradation of suitable habitat.

### **V. Cumulative Effects**

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Cumulative effects analysis as stated here applies to section 7 of the Act and should not be confused with the broader use of this term in the National Environmental Policy Act or other environmental laws. Because the action area is a national laboratory, activities such as livestock grazing is not "reasonably certain" to occur. However, future actions next to LANL and DOE lands that are reasonably expected to occur include urban and land development, road construction, logging, fuelwood gathering and other associated activities. These activities reduce the quality and quantity of owl

nesting, roosting and foraging habitat, cause disturbance to breeding owls, and contribute as cumulative effects to the proposed action.

## **VI. Conclusion**

After reviewing the current status of the owl, the environmental baseline for the action area, the effects of the proposed action (which could result in a reduction of 1300 ac [727 ha] of suitable unoccupied habitat), and the cumulative effects, it is our biological opinion that the implementation of the conveyance and transfer project, as proposed, is not likely to jeopardize the continued existence of the owl.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit take of endangered and threatened species without special exemption. Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm means an act which actually kills listed species. Such acts may include significant habitat modification or degradation that result in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass means an intentional or negligent act or omission that creates likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding or sheltering. Incidental take is take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. In section 7(b)(4)(iv) and section 7(o)(2) of the Act, incidental take not intended as part of agency action is not considered prohibited taking if such taking meets the terms and conditions of this Incidental Take Statement.

It is our opinion that the proposed action will not lead to an incidental take of owls. This determination is consistent with our final policy for conducting section 7 consultations on owls and critical habitat dated July 1, 1996. The policy states that incidental take can be supported when habitat-altering action compromises integrity of a PAC or in cases where areas that may support owls have not been adequately surveyed. Our conclusion is also based on knowledge that owl surveys have been conducted during 2001 and will continue to be conducted annually. Because we do not anticipate incidental take related to the proposed action, no reasonable and prudent measures are provided. However, if during the action, incidental take occurs, such incidental take would represent new information requiring review of the project's effects. The DOE must immediately provide an explanation of the taking and review with us needs for possible addition of reasonable and prudent measures.

## **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. LANL should review and reevaluate their owl habitat model. This information could be used to refine AEI designations and update the HMP.



Mr. David A. Gurule

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2. LANL should provide copies of annual owl AEI surveys to the Service when data become available, or by October 1.

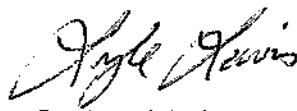
In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

#### REINITIATION NOTICE

This concludes formal consultation on the proposed actions. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) amount or extent of incidental take is exceeded; (2) new information reveals effects of agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this BO; (3) agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In future communications regarding this project, please refer to consultation #2-22-01-F-634. If you have any questions regarding this biological opinion please contact Santiago R. Gonzales at the letterhead address or at (505) 346-2525 ext. 154.

Sincerely,

  
Joy E. Nicholopoulos  
Field Supervisor

cc:  
Field Supervisor, U. S. Fish and Wildlife Service, Arizona Ecological Services Field Office,  
Phoenix, Arizona

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**Department of Energy**  
Albuquerque Operations Office  
Los Alamos Area Office  
Los Alamos, New Mexico 87544

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Dr. Joy Nicholopoulos, Field Supervisor  
U.S. Department of the Interior  
Fish and Wildlife Service  
New Mexico Ecological Services Field Office  
2105 Osuna NE  
Albuquerque, NM 87113

Dear Dr. Nicholopoulos:

Reference: Consultation Regarding the Conveyance and Transfer Project

Periodically over the past four years, Elizabeth Withers of my staff has informally consulted with your office regarding the conveyance and transfer of land tracts as required of the Department of Energy (DOE) by Section 632 of Public Law 105-119 (the Act). I now request the initiation of Formal Consultation with the Service as provided in Section 7 of the Endangered Species Act regarding affects to potentially suitable habitat for threatened or endangered species from the conveyance of land to the Incorporated County of Los Alamos (County), or their designees. Land transferred to the Department of the Interior, in trust for San Ildefonso Pueblo, is subject to the same level of Federal protection afforded these resources by National Nuclear Security Administration (NNSA) and is, therefore, not included in this consultation effort.

The contemplated County activities that would be conducted on each of the 10 subject land tracts, if the tracts were conveyed to the County, were identified by County administrators in 1998. These contemplated activities, and those contemplated activities identified by San Ildefonso Pueblo, served as the basis for the October 1999 *Final Environmental Impact Statement for the Conveyance and Transfer of Certain Land Tracts Administered by the Department of Energy and Located at Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico*, which was prepared and issued by DOE early in 2000. A Record of Decision (ROD) followed in March 2000 in which DOE determined that portions of several of the tracts would be required for national security purposes and these would not be conveyed or transferred as previously considered. The division of the land acreage between the County and San Ildefonso Pueblo identified the County as receiving all, or substantial portions of, each of the 10 subject tracts, excluding those areas held back by the DOE identified in the ROD. The Service should be particularly interested in the development and use planned for tracts located along the Los Alamos Canyon Area of Environmental Interest (AEI), as identified in the Los Alamos National Laboratory (LANL) Threatened and Endangered Species Habitat Management Plan (HMP). The LANL AEIs have not been designated by the Service as critical habitat for any threatened or endangered species. However, these AEIs have been identified by NNSA as containing potentially suitable unoccupied habitat for several threatened or endangered species. A single LANL AEI, which is not located in Los Alamos Canyon or any of the other canyons adjacent to or part of the 10 subject land tracts, contains habitat historically occupied for nesting purposes by the Mexican spotted owl. NNSA is giving this historically occupied nesting habitat special management consideration and protection as though it were critical habitat for the species due to its assumed occupancy at the time the species was first listed as Threatened by the Service, and its subsequent known occupancy by the species since 1995. Each AEI identified for the Mexican spotted owl in the HMP is a complete unit capable of fully supporting a breeding pair of owls.

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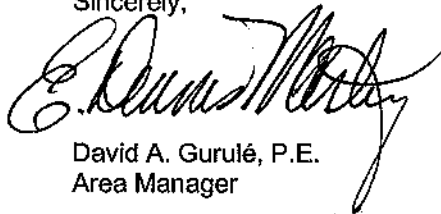
Dr. Joy Nicholopoulos

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NNSA has made determinations as follows regarding conveyance of land tracts to the County of Los Alamos and their subsequent development and use: these actions may affect and are likely to adversely affect the Mexican spotted owl's potentially suitable habitat AEs present in Los Alamos and Pueblo Canyons, and may affect but are not likely to adversely affect this species' potentially suitable habitat AEs within other canyon reaches at LANL; the actions may affect but are not likely to adversely affect the bald eagle or its critical habitat at LANL, and would have no affect on the southwestern willow flycatcher or its critical habitat at LANL. A Biological Assessment, entitled *Biological Assessment for the Conveyance of Land Tracts at Los Alamos National Laboratory*, with additional information is provided to the Service as an enclosure to this letter for your use as we engage in the Formal Consultation process. Direct, indirect and cumulative affects are identified in the Biological Assessment; percentage of total LANL habitat is stated for the bald eagle and southwest willow flycatcher, and affect to the individual AEs are stated for the Mexican spotted owl.

If you have any questions or require additional information, please call Ms. Withers at (505) 667-8690 or Dr. Timothy Haarmann, University of California staff, at (505) 667-5019.

Sincerely,



David A. Gurulé, P.E.  
Area Manager

Cc: without enclosure:  
Tim Haarmann, LANL  
Elizabeth Withers, LAAO  
Diana Webb, LANL  
Ted Taylor, LANL  
Lisa Cummings, LANL