



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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SUMMARY

BIOLOGICAL OPINION ON THE EFFECTS TO THE MEXICAN SPOTTED OWL FROM THE PINE SPRINGS LAND EXCHANGE PROPOSAL, LINCOLN NATIONAL FOREST, NEW MEXICO

Cons. # 22420-2009-F-0004

Date of the biological opinion: December 22, 2008

Action agency: Lincoln National Forest

Project: This consultation concerns the effects of the proposed Pine Springs Land Exchange on the Mexican spotted owl (*Strix occidentalis lucida*) (MSO). This proposed project will assist the Lincoln National Forest in consolidating lands within the Forest boundary while providing Lubbock Christian University with the opportunity to expand their existing camp facilities. The Pine Springs Land Exchange involves conveying into private ownership 80 acres of National Forest System land located at T 17S R13E sections 31 and 32, in exchange for 80 acres of private land located at T17S R12E in the North 1/2 of the NW 1/4 section 24. The purpose and need of the proposed action is to fulfill a congressionally mandated action of exchanging private land for National Forest System land of approximate equal value.

Species affected: Mexican spotted owl

Biological Opinion: The proposed action is not likely to jeopardize the Mexican spotted owl.

Incidental take statement: We identified one protected activity center (PAC) that is adjacent to the Pines Springs Camp. We anticipate that incidental take is reasonably certain to occur within the Hidden PAC when the campground expands its facilities because the number of camp participants would subsequently increase, potentially disrupting MSOs. Because of this behavioral disruption, MSOs may be disturbed while nesting or foraging within this area in the future. As such, one pair of MSOs and their young associated are anticipated to be harassed by the proposed action.

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



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December 22, 2008

Cons. # 22420-2009-F-0004

Jacque Buchanan, Forest Supervisor
Lincoln National Forest
1101 New York Avenue
Alamogordo, New Mexico 88310-6992

Dear Ms. Buchanan:

This responds to your September 23, 2008 request for formal section 7 consultation under the Endangered Species Act of 1973, as amended (Act) on the Pine Springs Land Exchange, Sacramento Ranger District, USDA Lincoln National Forest (Forest Service) in Otero County, New Mexico. The USDI Fish and Wildlife Service (Service) received your request, including the biological assessment (BA) for this project, on September 29, 2008 (Forest Service 2008). This consultation concerns the possible effects of the proposed project on the Mexican spotted owl (*Strix occidentalis lucida*) (MSO). There is no MSO critical habitat within the area proposed to be exchanged; therefore, none will be affected.

CONSULTATION HISTORY

This biological opinion (BO) is based on information provided in the BA (Forest Service 2008); email and telephone conversations between our staffs; data in our files; data presented in the MSO Recovery Plan (Recovery Plan), (USDI Fish and Wildlife Service 1995); Forest Service MSO data; literature review; and other sources of information including the final rules to list the MSO as threatened (USDI Fish and Wildlife Service 1993; 58 FR 14248) and final rule to designate critical habitat (USDI Fish and Wildlife Service 2004; 66 FR 8530). References cited in this BO are not a complete bibliography of all literature available on the MSO. A complete administrative record of this consultation is on file at this office. We received all the information necessary to begin formal consultation on September 23, 2008, when you submitted the BA.

The current document constitutes the Service's BO based on our review of the proposed action and its effects on the MSO in accordance with the Act.

BIOLOGICAL OPINION

I. Description of the proposed action

This proposed project will assist the Lincoln National Forest in consolidating lands within the Forest boundary while providing Lubbock Christian University with the opportunity to expand

their existing camp facilities. The Pine Springs Camp is an established summer camp that has proposed the land exchange as part of a planned expansion of their facilities. They have a tract of private land (Private Tract) about 10 miles from the camp that they propose to exchange with the forest.

The Pine Springs Land Exchange involves conveying into private ownership 80 acres of National Forest System land located at T 17S R13E sections 31 and 32, in exchange for 80 acres of private land located at T17S R12E in the North 1/2 of the NW 1/4 section 24. The purpose and need of the proposed action is to fulfill a congressionally mandated action of exchanging private land for National Forest System land of approximate equal value.

II. Status of the species (range-wide)

STATUS OF THE SPECIES (range-wide)

Mexican spotted owl

Listing/threats to survival

The MSO was listed as a threatened species in 1993 (USDI Fish and Wildlife Service 1993). The primary threats to the species were cited as even-aged timber harvest and stand-replacing wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The Fish and Wildlife Service appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan in 1995 (USDI Fish and Wildlife Service 1995). Another factor that contributed to declines included the lack of adequate existing regulatory mechanisms. The Recovery Plan (USDI Fish and Wildlife Service 1995) also notes that forest management has created habitats favored by great horned owls, increasing the likelihood of predation. Other threats include the potential for increasing malicious and accidental anthropogenic harm (e.g., shooting and vehicle collisions), and for the barred owl to expand its range, resulting in competition or hybridization with the MSO.

Global climate change may also be a threat to the MSO (e.g., see GAO 2007). The global average temperature has risen by approximately 0.6 degrees Celsius during the 20th Century (Intergovernmental Panel on Climate Change 2001). Warming temperatures have been documented in recent decades in the southwestern United States. In New Mexico, mean annual temperature has increased by 0.6 degree per decade beginning in 1970, and warming is greatest in spring (Lenart 2005). High elevation environments influenced by snow, such as the Sacramento Mountains, and the uppermost limits of vegetation and other complex life forms, are among the most sensitive to climate changes occurring on a global scale (Thompson 2000). Studies have shown that since 1950, the snowmelt season in some watersheds of the western United States has advanced by about 10 days (Dettinger and Cayan 1995, Dettinger and Diaz 2000, Stewart et al. 2004). Such changes in the timing and amount of snowmelt are thought to be signals of climate-related change in high elevations (Smith et al. 2000, Reiners et al. 2003). The impact of climate change is the intensification of natural drought cycles and the ensuing

stress placed upon high elevation montane habitats (Intergovernmental Panel on Climate Change 2001, Cook et al. 2004, Breshears et al. 2005, Mueller et al. 2005).

Life history

A detailed account of the taxonomy, biology, and reproductive characteristics of the MSO is found in the Final Rule listing the MSO as a threatened species (USDI Fish and Wildlife Service 1993) and in the Recovery Plan (USDI Fish and Wildlife Service 1995). The information provided in those documents is included herein by reference. Although the MSOs entire range covers a broad area of the southwestern United States and Mexico, the MSO does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Surveys have revealed that the species has an affinity for older, uneven-aged forest, and the species is known to inhabit a physically diverse landscape in the southwestern U.S. and Mexico.

The U.S. range of the MSO has been divided into six RUs, as discussed in the Recovery Plan (USDI Fish and Wildlife Service 1995). The primary administrator of lands supporting the MSO in the U.S. is the Forest Service. Most MSOs have been found within Forest Service Region 3 (including 11 National Forests in Arizona and New Mexico). Forest Service Regions 2 and 4 (including two National Forests in Colorado and three in Utah) support fewer MSOs. According to the Recovery Plan (USDI Fish and Wildlife Service 1995), 91 percent of MSO known to exist in the United States between 1990 and 1993 occurred on lands administered by the Forest Service.

Habitat impacts

Historical and current anthropogenic uses of MSO habitat include both domestic ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development. These activities have the potential to reduce the quality of MSO nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season. Livestock and wild ungulate grazing is prevalent throughout Region 3 National Forest lands and is thought to have a negative effect on the availability of grass cover for prey species. Recreation impacts are increasing on all forests, especially in meadow and riparian areas. There is anecdotal information and research that indicates that MSOs in heavily used recreation areas are much more erratic in their movement patterns and behavior (Swarthout and Steidl 2001, 2003). Fuels reduction treatments, though critical to reducing the risk of severe wildfire, can have short-term adverse effects to MSO through habitat modification and disturbance. As the population grows, especially in Arizona, small communities within and adjacent to National Forest System lands are being developed. This trend may have detrimental effects to MSO by further fragmenting habitat and increasing disturbance during the breeding season. West Nile Virus also has the potential to adversely impact the MSO. The virus has been documented in Arizona, New Mexico, and Colorado, and preliminary information suggests that MSOs may be highly vulnerable to this disease (Courtney et al. 2004). Unfortunately, due to the secretive nature of

MSOs and the lack of intensive monitoring of banded birds, we will most likely not know when MSOs contract the disease or the extent of its impact to MSO range-wide.

Currently, high severity, stand-replacing fires are influencing ponderosa pine and mixed conifer forest types in Arizona and New Mexico. Uncharacteristic, severe, stand-replacing wildfire is one of the greatest threats to MSO within the action area. As throughout the West, fire severity and size have been increasing within this geographic area. Bond et al. (2002) described short-term effects of wildfires on MSOs throughout the species' range. The authors reported that relatively large wildfires that burned nest and roost areas appeared to have little short-term (1-year) effect on survival, site fidelity, mate fidelity, and reproductive success of MSOs, as rates were similar to estimates independent of fire. However, Elliot (1995), MacCracken et al. (1996), and Gaines et al. (1997) reported in some cases, large stand-replacing wildfires appeared to have a negative effect on MSOs. Jenness (2000) reported low- to moderate-severity fires did not adversely affect MSOs. Bond et al. (2002) hypothesized that MSOs may withstand the immediate, short-term effects of fire occurring at primarily low- to moderate-severities within their territory. The Forest Service reported similar results following the 2002 Lakes Fire in the Jemez Mountains of north-central New Mexico (USDA Forest Service 2003). Danney Salas (USDA Forest Service, pers. comm., 2003) reported that of the 10 protected activity centers (PACs) that are monitored within the footprint of the Scott Able Fire, MSOs were detected in 9 of them. He also reported that the same number of MSO pairs before and after the Bridge Fire were detected and reproduced within the burn area. He also indicated that there were two MSO nest areas found in areas where fire retardant (slurry) was used during suppression activities. Given historical fire regimes within its range, the MSO may be adapted to survive wildfires of various size and severities. Therefore, prescribed burning and other forest management activities could be an effective tool to reduce fire risk and restore forests to natural conditions with short-term impacts to MSOs. For example, prescribed fire may prove useful in the creation or maintenance of habitat for MSOs or their prey (Gutierrez et al. 2003). Bond et al. (2002) cautioned that programmatic prescribed burning in MSO territories could not be justified solely on their observations. Manipulative experiments are needed to evaluate effects of fire (or other forest management activities) on MSOs (Bond et al. 2002).

Population dynamics

A reliable estimate of the numbers of MSOs throughout its entire range is not currently available (USDI Fish and Wildlife Service 1995) and the quality and quantity of information regarding numbers of MSO vary by source. USDI Fish and Wildlife Service (1991) reported a total of 2,160 MSOs throughout the United States. Fletcher (1990) calculated that 2,074 MSOs existed in Arizona and New Mexico. However, Ganey *et al.* (2000) estimates approximately $2,950 \pm 1,067$ (SE) MSOs in the Upper Gila Mountains RU alone. The Forest Service Region 3 most recently reported a total of approximately 1,025 PACs established on National Forest Service lands in Arizona and New Mexico (B. Barrera, pers. comm. June 18, 2007). The Forest Service Region 3 data are the most current compiled information available to us; however, survey efforts in areas other than National Forest Service lands have resulted in additional sites being located in all recovery units.

Researchers studied MSO population dynamics on one study site in Arizona (n = 63 territories) and one study site in New Mexico (n = 47 territories) from 1991 through 2002. The Final Report, titled "Temporal and Spatial Variation in the Demographic Rates of Two Mexican Spotted Owl Populations," (*in press*) found that reproduction varied greatly over time, while survival varied little. The estimates of the population rate of change (Λ =Lamda) indicated that the Arizona population was stable (mean Λ from 1993 to 2000 = 0.995; 95 percent Confidence Interval = 0.836, 1.155) while the New Mexico population declined at an annual rate of about 6 percent (mean Λ from 1993 to 2000 = 0.937; 95 percent Confidence Interval = 0.895, 0.979). The study concludes that spotted MSO populations could experience great (>20 percent) fluctuations in numbers from year to year due to the high annual variation in recruitment. However, due to the high annual variation in recruitment, the MSO is then likely very vulnerable to actions that impact adult survival (e.g., habitat alteration, drought, etc.) during years of low recruitment.

Prey species and habitat

MSO foraging habitat includes a wide variety of forest conditions, canyon bottoms, cliff faces, tops of canyon rims, and riparian areas (Gutierrez and Rinkevich 1991, Willey 1993). Ganey and Balda (1994) reported that MSOs foraged more frequently in unlogged forests containing uneven-aged stands of Douglas-fir and white fir, with a strong component of ponderosa pine, than in managed forests.

The primary MSO prey species are woodrats (*Neotoma* spp.), peromyscid mice (*Peromyscus* spp.), and microtine voles (*Microtus* spp.) (USDI Fish and Wildlife Service 1995, Young et al. 1997, Delaney et al. 1999, Seamans and Gutierrez 1999). Mexican woodrats (*N. mexicana*) are typically found in areas with considerable shrub or understory tree cover and high log volumes, or rocky outcrops associated with pinon-juniper woodlands (Sureda and Morrison 1998 Ward 2001). Sureda and Morrison (1998) and Ward (2001) found deer mice (*P. maniculatus*) to be more abundant and widespread in the 60 to 100 year old stands of mixed-conifer forests. Mexican voles (*M. mexicanus*) are associated with mountain meadows and high herbaceous cover, primarily grasses whereas, long-tailed voles (*M. longicaudus*) are found in dry forest habitats with dense herbaceous cover, primarily forbs, many shrubs, and limited tree cover (Ward 2001). High levels of MSO reproductive success and production may be due to prey abundance (Delaney et al. 1999). Ward and Block (1995) documented an increase in MSO production when moderate to high levels of woodrats, peromyscid mice, and voles, were consumed. A diverse prey base is dependent on availability and quality of diverse habitats. MSO prey species need adequate levels of residual plant cover, understory cover, and high log volume. Therefore, a wide variety of forest and vegetative conditions are important to the MSO and its prey.

Consultations

Since the owl was listed, we have completed or have in draft form a total of 199 formal consultations for the MSO. These formal consultations have identified incidences of anticipated

incidental take of MSO in 408 PACs. The form of this incidental take is almost entirely harm or harassment, rather than direct mortality. These consultations have primarily dealt with actions proposed by Forest Service Region 3. However, in addition to actions proposed by Forest Service Region 3, we have also reviewed the impacts of actions proposed by the Bureau of Indian Affairs, Department of Defense (including Air Force, Army, and Navy), Department of Energy, National Park Service, and Federal Highway Administration. These 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 activities. Only two of these projects (release of site-specific owl location information and existing forest plans) have resulted in biological opinions that the proposed action would likely jeopardize the continued existence of the MSO. The jeopardy opinion issued for existing Forest Plans on November 25, 1997 was rendered moot as a non-jeopardy/no adverse modification BO was issued the same day.

In 1996, we issued a biological opinion on FS Region 3 adoption of the Recovery Plan recommendations through an amendment to their Land and Resource Management Plans (LRMPs). In this non-jeopardy biological opinion, we anticipated that approximately 151 PACs would be affected by activities that would result in incidental take of MSOs. In addition, on January 17, 2003, we completed a reinitiation of the 1996 Forest Plan Amendments biological opinion, which anticipated the additional incidental take of five MSO PACs in Region 3 due to the rate of implementation of the grazing standards and guidelines, for a total of 156 PACs. Consultation on individual actions under these biological opinions resulted in the harm and harassment of approximately 243 PACs on Region 3 NFS lands. FS Region 3 reinitiated consultation on the LRMPs on April 8, 2004. On June 10, 2005, the FWS issued a revised biological opinion on the amended LRMPs. We anticipated that while the Region 3 Forests continue to operate under the existing LRMPs, take is reasonably certain to occur to an additional 10 percent of the known PACs on NFS lands. We expect that continued operation under the plans will result in harm to 49 PACs and harassment to another 49 PACs. To date, consultation on individual actions under the amended Forest Plans, as accounted for under the June 10, 2005, biological opinion has resulted in the incidental take of owls associated with 39 PACs. Incidental take associated with Forest Service fire suppression actions, which was not included in the LRMP proposed action, has resulted in the incidental take of owls associated with 14 PACs.

III. Environmental baseline

Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the 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. Status of species within the action area

Mexican spotted owl

The Forest is within the Basin and Range - East RU. This RU is an important source population for other areas (USDI Fish and Wildlife Service 1995). MSOs here occur in isolated mountain ranges scattered across the region, the largest portion occurring in the Sacramento Mountains. In this RU, MSOs have been reported on Forest Service lands in the Sandia, Manzano, Sacramento, and Guadalupe Mountains, and in Guadalupe National Park, Carlsbad Caverns National Park, and the Mescalero Apache Reservation. MSOs are most common in mixed-conifer forest, but have been found in ponderosa pine forest and pinon/juniper woodland (Skaggs and Raitt 1988, USDI Fish and Wildlife Service 1995).

MSOs in this RU occur in isolated mountain ranges, the largest portion occurring in the Sacramento Ranger District. There are 196 PACs within the Basin and Range East RU, with 145 PACs on the Lincoln National Forest. The Sacramento Ranger District has 114 PACs; the Guadalupe Ranger District has 10 PACs; and the Smokey Bear Ranger District has 21 PACs. Additional PACs are located on the Mescalero Apache Reservation (37 PACs), the Guadalupe Mountains National Park (11 PACs), and the Cibola National Forest (3 PACs).

Major threats, in order of potential effects, include: 1) catastrophic, stand-replacement fires, 2) some forms of timber harvest, 3) fuelwood harvest, 4) grazing, 5) agriculture or development for human habitation, and 6) forest insects and disease (USDI Fish and Wildlife Service 1995). Minor threats include: 1) certain military operations, 2) other habitat alterations (e.g. power line and road construction, noxious weed control), 3) mining, and 4) recreation. Minor threats are activities not currently extensive in time or space but are potential threats to the MSO.

The dominant land uses within the RU include timber management and livestock grazing. Recreational activities such as off-road driving, skiing, hiking, camping, and hunting are locally common within the RU (USDI Fish and Wildlife Service 1995).

Past and present Federal, State, private, and other human activities that have undergone informal consultation and conferencing and may affect the MSO and its habitat are as follows: The Hay and Scott Able timber sales, Bridge salvage sale, Walker fire salvage sale, WUI Projects, livestock grazing, recreational activities, recreation and scenic vista developments, road construction, maintenance activities, land exchanges, right-of-way issuances, off-road motorcycle events, power line construction, wildlife research projects, urban development, and catastrophic wildfires, their suppression and rehabilitation activities.

The likelihood of MSOs occurring within the action area is very high. Informal and formal monitoring has confirmed MSO presence, in that, 3 PACs have been designated and monitored within or adjacent to the tracts to be exchanged.

b. Factors affecting species environment within the action areaMexican spotted owl

MSOs in this RU occur in isolated mountain ranges, the largest portion occurring in the Sacramento Ranger District. As noted, the Sacramento Ranger District contains the majority of designated PACs on Forest Service lands (USDA Forest Service 2002).

Fires such as the Peppin, Scott Able, and Walker have modified thousands of acres of habitat and impacted multiple MSO territories. The Peppin Fire in the Capitan Mountains Wilderness burned approximately 65,000 ac (26,315 ha). The Scott Able fire burned 16,034 ac (6,491 ha), of which 14,551 ac (5,889 ha) are administered by the Lincoln National Forest and 1,483 ac (600 ha) were on private land. Approximately 12,291 ac (4,976 ha) that burned were considered suitable MSO habitat. The Scott Able fire affected all or portions of 6 PACs and 2 PACs are adjacent to the burned area. Heavy fuel loads contributed to these large-scale fires, which likely caused relatively short-term (3 to 5 years) adverse impacts on soils and water resources from fire-induced erosion and increased sediment delivery to streams.

IV. Effects of the action

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur. Direct effects are the direct and immediate effects of the project on the species or its habitat. Direct effects result from the agency action including the effects of interrelated actions and interdependent actions.

Mexican Spotted Owl

The proposed action would transfer ownership and authority for lands between the Forest Service and Pine Springs Camp owned and managed by the Lubbock Christian University. The proposed action would remove Federal control and management responsibility on 80 acres within 2 MSO PACs (Federal Tract), and the foreseeable uses would likely result in the alteration of MSO habitat and additional disturbance during the MSO breeding season. The administrative exchange also involves approximately 80 acres of private lands to be conveyed into Federal ownership (Private Tract).

Although MSOs are protected wherever they occur, private landowners do not have a mandate to further the conservation of Federally-listed species. Thus, transfer of MSO habitat to private ownership could lessen the conservation protection provided to such habitat. The land will no longer be managed according to the direction contained within the Lincoln National Forest Plan; therefore, we must assume that the 80 acres of the Federal Tract will no longer be managed as MSO habitat. The Federal Tract contains 73.4 acres of PACs (66.2 acres within the Hidden

PAC; 7.2 acres within the Spring Canyon PAC) and 6.6 acres of MSO restricted habitat. Although reproduction of MSO young has been confirmed with these PACs in recent years, including 2008, none of the Federal Tract is within the 100-acre core areas or previous nesting areas of either PAC.

The possible action of development of the Federal Tract as part of the existing Pine Spring Camp is considered interrelated and interdependent with the transference of these lands. The Pine Springs Camp is considering expanding their facilities by constructing additional buildings and bunk houses, which would likely entail the cutting of large trees and decrease the amount of MSO habitat within the Federal Tract. This action would likely alter and degrade existing MSO habitat within the currently designated Hidden PAC and a small area of the existing Spring Canyon PAC. The Forest Service has redesigned the Hidden and Spring Canyon PACs as part of this action. The Forest Service believes that as facilities expand, the number of camp participants using the Federal Tract would subsequently increase (Forest Service 2008). If these facilities expand, the area will be subjected to high levels of disturbance (e.g., noise, lighting, etc.), which also may extend beyond the immediate area into adjacent Forest Service lands. The Forest Service does not anticipate that MSOs will be disturbed on adjacent Forest Service lands within the Spring Canyon PAC because steep topography will shield the nest area from behavioral disruptions and the known nest location approximately 1,000 feet from the areas where construction could occur. However, the newly-configured Hidden PAC will likely still be subjected to disturbance. For these reasons, we find that MSO habitat would be adversely affected within the immediate area of the construction, but anticipate that MSOs would likely continue to nest within both the Hidden and Spring Canyon PACs. We believe that the potential impacts are not likely to cause abandonment or lead to future unoccupancy of the Hidden or Spring Canyon PACs. Therefore, we anticipate that the effects from indirect, interdependent and interrelated actions have the potential to harass MSOs within the Hidden PAC from the alteration of approximately 66 acres of habitat and from disturbances on adjacent lands.

Alternatively, the Forest Service believes that indirect effects associate with the Private Tract coming into Federal ownership will be beneficial for the MSO. We find this to be accurate, since the Private Tract will be managed according to the Forest Plan and the 1996 Forest Plan Amendments. Moreover, the Private Tract contains the structure for high-quality protected nesting/roosting habitat. In fact, MSOs are believed to have nested within the Private Tract in 1991, 1993, and 1999. The proposed action also redesigns the Railroad and Hidden MSO PACs.

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 BO. 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. In past BOs, it has been stated that, "Because of predominant occurrences of the MSO on Federal lands, and because of the role of the respective Federal agencies in administering the habitat of the MSO, actions to be implemented in the future by non-Federal entities on non-Federal lands are considered of minor

impact.” However, there has been a recent increase of harvest activities on non-Federal lands within the range of the MSO.

Future actions on non-Federal lands adjacent to the Forest within or adjacent to the project area that are reasonably expected to occur include livestock grazing, urban development, road construction, logging, fuelwood gathering, vegetation management (e.g., mowing or herbicide treatments), fuels management, fire suppression activities, wildland urban interface vegetative treatments, trail construction, campground activities and other associated recreation. These activities reduce the quality and quantity of MSO nesting, roosting, and foraging habitat, cause disturbance to MSOs and will contribute as cumulative effects to the proposed action.

The major concern in assessing cumulative impacts is the further loss of currently occupied and unoccupied habitat that contributes to a functioning MSO population, including those areas necessary to provide connectivity between populations. We believe that the continuing rate of habitat loss has the potential, to disrupt the population dynamics of this species.

Conclusion

After reviewing the current status of the MSO, the environmental baseline for the action area, the effects of the proposed Pine Springs Land Exchange and the cumulative effects, it is our biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the MSO. We make this finding for the following reason:

1. We find that the proposed action has the potential to cause adverse effects to MSOs within the Spring Canyon and Hidden PACs from the expansion and use of the Pine Springs Camp. Nevertheless, it is anticipated that these impacts would be about 1 percent of the MSO habitat within the Spring Canyon PAC and about 10 percent within the Hidden PAC. We anticipate that harassment take would occur only within the Hidden PAC from disturbance on adjacent lands.
2. Although the Federal Tract lands will no longer be under Forest Service management, the Private Tract has better quality of MSO habitat, resulting in a net increase of quality acres within MSO habitat.
3. The proposed land exchange is not anticipated to reduce the amount of MSO habitat on the Lincoln National Forest, and thus, will not appreciably reduce the likelihood of survival and recovery of the MSO.
4. The Federal Tract lands do not constitute a significant portion of MSO habitat within the Basin and Range East, Recovery Unit.

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 that actually kills or injures 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 the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior that includes, but is not limited to, breeding, feeding or sheltering. Incidental take is incidental to, and not the purpose of, carrying out 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 an Incidental Take Statement.

Mexican spotted owl

Amount or extent of take

The Service anticipates that the proposed action will result in incidental take of MSOs in the form of harassment due to the potential for behavioral or physiological effects, which could impair essential behavioral patterns. This determination is based on the knowledge that the proposed action has the potential to either indirectly disturb MSOs within the Hidden PAC.

To the extent that this statement concludes that take of MSO, a migratory bird will result from the agency action for which consultation is being made, the Service will not refer the incidental take of any such migratory bird for prosecution under the MBTA of 1918, as amended (16 U.S.C. §§ 703-712), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

For this proposed project, take of MSOs may be in the form of harassment from human activities within or adjacent to the Hidden PAC. Based on the best available information concerning the MSO, habitat needs of this species, the proposed project description, and information furnished by the Forest Service, take is considered likely for the MSO as a result of the following actions:

1. We identified the Hidden PAC that is adjacent to the Pines Springs Camp. We anticipate that incidental take is reasonably certain to occur within this PAC in a given year from development, vehicular traffic, and recreation in and around this parcel, which has a high potential of disturbing nesting and foraging MSOs. When the campground expands its facilities, the number of camp participants using the Hidden PAC would subsequently increase, potentially disrupting MSOs. Because of this behavioral disruption, MSOs may avoid nesting and foraging within the immediate area in the future. We do not believe that the potential impacts are likely to cause abandonment or lead to future unoccupancy of the Hidden PAC because it is our understanding that nesting occurred outside of the

immediate area of the land exchange within the 100-acre core area. As such, one pair of MSOs and their young associated are anticipated to be harassed by the proposed action.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to jeopardize the continued existence of the MSO.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take.

- 1) Conduct all proposed activities in a manner that will minimize disturbance to the MSO.
- 2) Conduct all proposed activities in a manner that will minimize modification and loss of MSO habitat.

Terms and Conditions for the MSO

In order to be exempt from the prohibitions of section 9 of the Act, the Forest Service and their employees, contractors, or subcontractors must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

The following Terms and Conditions are established to implement the Reasonable and Prudent Measures:

- 1.1 PAC boundaries and MSO natural history shall be discussed with the Pine Springs Camp. The Forest Service shall recommend that the Pine Springs Camp avoid removing MSO habitat during the breeding season (March to August).
- 2.1 The Forest Service shall recommend that the Pine Springs Camp follow the guidelines from the Recovery Plan for MSO habitat.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use 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. The recommendations provided here relate only to the proposed action and do not represent complete fulfillment of the agency's section 7(a)(1) responsibility for this species. We recommend the following conservation recommendations be implemented:

1. We recommend that the Forest Service work with adjacent landowners to minimize the impact of human-caused wildfire starts.
2. Following the Recovery Plan, conduct an ecosystem assessment to document that a surplus of threshold habitat exists at the Forest and District Level (i.e., a larger landscape level). Manage this habitat toward target conditions following Table III.B.1. The assessment should be completed by Spring 2009. If a deficit of threshold habitat is found, additional forest stands should be identified that:
 - a. have the site potential to reach target conditions; and
 - b. whose current conditions most closely approach target conditions.

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.

Disposition of dead or injured listed animals

Upon finding dead, injured, or sick individual endangered or threatened species, initial notification must be made to the nearest Service Law Enforcement Office. In New Mexico, contact (505-346-7828) or the New Mexico Ecological Services Field Office (505-346-2525). Written notification must be made within 5 calendar days and include date, time, and location, photograph, and any other pertinent information. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible condition. If feasible, remains of intact specimens of listed species will be submitted to educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, information noted above will be obtained and the carcass left in place.

Arrangements regarding proper disposition of potential museum specimens will be made with the institution before carrying out of the action. A qualified biologist should transport injured

animals to a qualified veterinarian. Should any listed species survive treatment, we should be contacted regarding final disposition of the animal.

REINITIATION - CLOSING STATEMENT

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

In future communications regarding this project, please refer to consultation #22420-2009-F-0004. If you have any questions or would like to discuss any part of this biological opinion, please contact Eric Hein of my staff at (505) 761-4735.

Sincerely,



Wally Murphy
Field Supervisor

cc:

District Ranger, Sacramento Ranger District, Lincoln National Forest, Cloudcroft, New Mexico
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry
Division, Santa Fe, New Mexico

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