

BIOLOGICAL OPINION SUMMARY  
Greif Easement

**Date of opinion:** September 8, 1998

**Action agency:** U.S. Forest Service

**Project:** Greif Easement

**Location:** Yavapai County, Arizona

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

**Biological opinion:** Non-jeopardy

**Incidental take statement:**

Level of take anticipated: Anticipated take of two owls due to harm and harassment due to habitat modification and disruption of normal foraging and reproductive behavior. This harm and harassment is in the form of disturbance caused by the construction and subsequent use of the access road on NFS land, and the effects of the anticipated actions of the private landowner(s) on the adjacent private parcel. Exceeding this level may require reinitiation of formal consultation.

Reasonable and prudent measures: The biological opinion presents three measures for assisting in the reduction of incidental take: 1) The Forest Service shall minimize adverse effects of the access road located on NFS land; 2) The Forest Service shall survey the Smith Ravine PAC to determine occupancy and to assist in the implementation of reasonable and prudent measure 3, and; 3) The Forest Service shall inform the landowner(s) of the requirements of section 9 of the ESA, the potential effects to the MSO of the actions on this property, and how the landowner(s) can minimize these adverse effects. Implementation of these measures through the terms and conditions is mandatory.

Terms and conditions: Nine mandatory terms and conditions are included to implement the reasonable and prudent measures.

Conservation recommendations: Five conservation recommendations are given. These include the actions of developing a MSO conservation strategy, monitoring the recreation use of NFS lands adjacent to the private parcel, developing an education program for the landowners, actively minimizing disturbance to the affected PAC, and providing the Service with detailed information on the condition of MSO habitat on the Prescott National Forest. Implementation of conservation recommendations is discretionary.



# United States Department of the Interior

## Fish and Wildlife Service

Arizona Ecological Services Field Office

2321 W. Royal Palm Road, Suite 103

Phoenix, Arizona 85021-4951

(602) 640-2720 Fax (602) 640-2730

September 9, 1998



AESO/SE  
In Reply Refer To:  
2-21-98-F-035

Mr. Ernest Del Rio  
District Ranger  
Bradshaw Ranger District  
Prescott National Forest  
2230 East Highway 69  
Prescott, Arizona 86301

Dear Mr. Del Rio:

The U.S. Fish and Wildlife Service has reviewed the biological assessment and evaluation and other documentation for the proposed Greif Easement Project located on the Bradshaw Ranger District, Prescott National Forest, Yavapai County, Arizona. Your January 20, 1998, request for formal consultation was received on January 26, 1998. This document represents the Service's biological opinion on the effects of that action on the threatened Mexican spotted owl (*Strix occidentalis lucida*) (MSO) in accordance with section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.). Because critical habitat for the MSO was revoked (63 FR 14378), no conferencing or consultation is required for critical habitat for this species.

This biological opinion is based on information provided in an undated environmental assessment, an October 1, 1997, biological assessment and evaluation, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, permitting and construction of roads and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file in this office.

### CONSULTATION HISTORY

On August 11, 1997, the Service received an undated environmental assessment of the Greif Easement project which included an August 1, 1997, request for comments. On October 16, 1997, the Service received an October 1, 1997, biological assessment and evaluation of the Greif Easement project with an October 15, 1997, request for informal consultation. On November 14, 1997, the Service issued a letter stating that the Service could not concur with the Forest Service's determination that the project was not likely to adversely affect the Mexican spotted owl, and the letter included a recommendation that formal consultation be initiated. On January 26, 1998, the Service received a January 20, 1998, request to initiate formal consultation on the Greif Easement project. On April 8, 1998, the Service issued a letter accepting the request for formal consultation on the Greif Easement project.

## BIOLOGICAL OPINION

### DESCRIPTION OF PROPOSED ACTION

The action that is the subject of this biological opinion is the granting of an easement across National Forest System (NFS) land to access private land (Prescott National Forest no date). A citizen applied to build a road off of the Blue Jay Road near the community of Walker. The road would access private property owned by the Bald Mountain Property Owners Association. There is currently no vehicular access into the property. There is no adjoining private land through which access might be obtained. The parcel is totally surrounded by NFS land. An easement into the property, granted by way of a special use permit, would provide appropriate access to private property. The road would be all new construction and would require tree removal.

The primary objective of this project would be to provide appropriate access to private property owners in accordance with the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. ANILCA requires that private lands be provided access when there is no other route possible through private lands (Prescott National Forest no date).

The project is located in Township 13 North, Range 1 West, sections 29 and 32 on Bald Mountain just north of Walker, Arizona (Prescott National Forest 1997). The applicant would construct a 14-foot wide roadway within a 27-foot wide easement across NFS lands to private property. The proposed road/easement would be approximately one mile long. A standard 20-foot easement was originally proposed for the project. It was determined that a 27-foot easement would be required due to side slopes encountered in the proposed location. The proposal is for a native surface road designed to accommodate construction and personal vehicles.

The Forest Service has indicated that road construction would require the removal of a total of 324 trees (Prescott National Forest 1997). Of that total, 167 are ponderosa pine, and 157 are oak trees that were not identified as to species in the biological assessment and evaluation. Eighty-five of the ponderosa pine trees are <9 inches diameter at breast height (dbh), 81 trees are >9 and <18 inches dbh, and 1 is >18 and <24 inches dbh. One hundred and eight of the oak trees are <9 inches dbh, 46 trees are >9 and <18 inches dbh, and 3 are >18 and <24 inches dbh. Of the ponderosa pine trees, 25 are proposed to be removed from an established Mexican spotted owl Protected Activity Center (PAC). Five of those trees are <9 inches dbh, and 20 are >9 and <18 inches dbh. Of the 15 oak trees that are to be removed from the PAC, 10 are <9 inches dbh, and 5 are >9 and <18 inches dbh.

Several management components are included in the project description (Prescott National Forest 1997) that are relevant to affects to the MSO. A gate (paid for, installed by, and maintained by the applicant) would be required at the junction of the proposed road and easement with the Blue Jay Road allowing access only to property owners in the Bald Mountain Property Owners Association and their guests. The range division fence would be re-aligned by the applicant along the proposed easement. A timing restriction as per the amended Forest Plan would allow

construction and maintenance activity on the easement between September 1 and February 28 (outside of the breeding season) unless the owls in the territory are determined not to be reproducing. The Forest Service indicated that if nonreproduction by owls can be confirmed, then at the recommendation of the district biologist, the timing restriction may be modified to permit construction and maintenance activity during the breeding season. In order to retain large-tree habitat components for MSO, as per the amended Forest Plan, no additional trees  $\geq 9$  inches dbh would be cut within the easement unless approved by the district biologist. All slash, logs, and tree stumps are to be removed from NFS lands during road construction. Slash may be chipped and blown across the forest floor as an alternative to removal.

### STATUS OF THE SPECIES

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 1993) and in the Final MSO Recovery Plan (USDI 1995). The information provided in those documents is included herein by reference.

Although the MSO's entire range covers a broad area of the southwestern United States and Mexico, much remains unknown about the species' distribution and ecology. This is especially true in Mexico where much of the MSO's range has not been surveyed. The MSO currently occupies a broad geographic area but does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to forested isolated mountain systems, canyons, and in some cases, steep, rocky canyon lands. The primary administrator of lands supporting MSO in the United States is the U.S. Forest Service. Most owls have been found within Forest Service Region 3 (including 11 National Forests in Arizona and New Mexico). Forest Service Regions 2 and 4 (including 2 National Forests in Colorado and 3 in Utah) support fewer owls. According to the Recovery Plan, 91% of MSO known to exist in the United States between 1990 and 1993 occurred on lands administered by the Forest Service.

Surveys have revealed that the species has an affinity for older, well-structured forest, and the species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico. The range of the MSO has been divided into six Recovery Units (RUs), as discussed in the MSO Recovery Plan (USDI 1995). The Recovery Plan reports an estimate of owl sites. An owl "site" is defined as a visual sighting of at least one adult owl or a minimum of two auditory detections in the same vicinity in the same year. This information was reported for 1990-1993. The greatest known concentration of known owl sites in the United States occurs in the Upper Gila Mountains RU (55.9%), followed by the Basin and Range-East RU (16.0%), Basin and Range-West RU (13.6%), Colorado Plateau Ru (8.2%), Southern Rocky Mountain-New Mexico RU (4.5%), and Southern Rocky Mountain-Colorado RU (1.8%). Owl surveys conducted from 1990 through 1993 indicate that the species persists in most locations reported prior to 1989.

A reliable estimate of the absolute numbers of MSO throughout its entire range is not available (USDI 1995) and the quality and quantity of information regarding numbers of MSO vary by

source. USDI (1991) reported a total of 2,160 owls throughout the United States. Fletcher (1990) calculated that 2,074 owls existed in Arizona and New Mexico.

At the end of the 1995 field season, the Forest Service reported a total of 866 management territories (MTs) established in locations where at least a single MSO had been identified (U.S. Forest Service, *in litt.* November 9, 1995). The information provided at that time also included a summary of territories and acres of suitable habitat in each RU. Subsequently, a summary of all territory and monitoring data for the 1995 field season on Forest Service lands was provided to the Service on January 22, 1996. There were minor discrepancies in the number of MTs reported in the November and January data. For the purposes of this analysis we are using the more recent information. Table 1 displays the number of MTs and percentage of the total number of each Forest (U.S. Forest Service, *in litt.*, January 22, 1996).

**Table 1.** Number of management territories (MTs) as reported by the Forest Service (U.S. Forest Service, *in litt.*, January 22, 1996), percent of MTs as a proportion of the MTs in Region 3, and the percent of suitable habitat surveyed in each Forest by National Forest (Fletcher and Hollis 1994).

National Forest	Number of MTs	Percent of MTs	Percent Suitable Habitat Surveyed
Apache-Sitgreaves	122	14.0	99
Carson	3	0.3	62
Cibola	43	5.0	41
Coconino	155	17.8	87
Coronado	108	12.4	49
Gila	197	22.7	50
Kaibab	6	0.7	96
Lincoln	126	14.5	90
Prescott	10	1.2	42
Santa Fe	33	3.8	44
Tonto	66	7.6	55
TOTAL	869	100	

The Forest Service has converted some MTs into PACs following the recommendations of the Draft MSO Recovery Plan released in March 1995. The completion of these conversions has typically been driven by project-level consultations with the Service and varies by Forest.

The Greif Easement project is located within the Basin and Range West RU as defined by the MSO Recovery Plan (USDI 1995). This RU encompasses a small portion of New Mexico and the majority of southern Arizona. The northern border of this RU is defined by the slopes of the Mogollon Rim. The RU is characterized by numerous mountain ranges which arise abruptly from broad plain-like valleys and basins. MSO occupy a wide range of habitat types within this RU. The majority of owls occur in isolated mountain ranges where they inhabit encinal oak woodlands, mixed conifer and pine-oak forests, and rocky canyons (USDI 1995). Recreation dominates land use within this RU. In addition, urban and rural development and mining modify portions of this units landscape. Timber harvest occurs mainly on the Prescott National Forest and San Carlos Apache Indian Reservation. Of the 869 total MTs on Forest Service land throughout the Region, 150 occur in this RU. Within this RU the MSO occupies primarily Forest Service lands, and the majority occur within the Coronado National Forest.

This RU ranks as the second largest RU in the United States. Though it probably does not support as large a MSO population as the Upper Gila Mountains RU, the known population ranks third highest in the United States despite limited survey efforts in many areas. Therefore, the Recovery Plan regards this RU as an important unit for the recovery of the MSO. According to the Recovery Plan, the potential for catastrophic wildfire is the primary threat to MSO in this RU.

Much of the MSO nest/roost habitat on the Prescott National Forest consists of forested, steep sloped canyons and drainages. The habitat occurs in disjunct patches. A considerable amount of the habitat on the Prescott National Forest contain private inholdings, and residential and localized mining activity occurs in many of these areas.

## ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal actions in the action area which have undergone formal or early section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultation in progress. The environmental baseline defines the current status of the species and its habitat to provide a platform to assess the effects of the action under consultation.

According to inventories on the Prescott National Forest, the Smith Ravine PAC immediately adjacent to the private parcel was first identified in 1991 (Prescott National Forest 1997). This portion of the PAC was subsequently monitored informally in 1993, 1994, 1995, and 1996. During those four years, attention was focused in the area of the 1991 responses. It was not until 1997 that it was determined that surveyors were not obtaining complete coverage of the PAC. In fact, the highest quality nesting/roosting habitat, on the north side of Spruce Mountain, had not been surveyed. In 1997 the Smith Ravine PAC was surveyed according to R3 Forest Service protocol. Complete coverage of the PAC was obtained. Occupancy by a single male MSO was confirmed.

The Forest Service indicated the Smith Ravine PAC can be divided into two habitat types (Prescott National Forest 1997). The eastern half of the PAC, roughly from Forest Road 52A (Spruce Mountain Road) to the eastern boundary of the PAC, is open Pinus ponderosa and Juniperus depeanna woodland with no understory and chaparral plant communities in the drier areas. Quercus gambelii occurs in isolated stands in this eastern portion of the PAC, often surrounded by chaparral species and Juniperus depeanna. This area is poor quality MSO foraging habitat. The western half of the PAC, roughly from Forest Road 52A to the western boundary of the PAC, appears to be very good quality MSO nesting/roosting habitat. This area is multistory mixed conifer forest (Abies concolor, Psuedotsuga menzeisii, and Pinus ponderosa) with a thick understory of Quercus gambelii and Robinia neomexicana, and a significant component of dead and down wood. The canopy closure in this part of the PAC is greater than 80%. This area compares favorably with the best known MSO nesting/roosting habitat on the Forest.

The PAC was originally established after a single female owl was located near Smith Ravine Spring in 1991 (Prescott National Forest 1997). Inspection of information provided in the BAE reveals that a total of five responses from a female MSO were obtained from June through August of that year in this eastern portion of the PAC. Despite continuous informal monitoring, no owls have been detected in the eastern portion of the PAC since 1991. It is important to note that the western half of the PAC was not monitored between 1991 and 1997.

In 1997 this PAC was informally monitored and included, for the first time, the mixed conifer nesting/roosting habitat in the western portion. On the second survey of this PAC, a possible MSO was heard near the far western boundary of the PAC. Due to the distance and noise interference from campers and barking dogs it could not be confirmed. During the fourth visit to the PAC, a single male MSO responded vocally within one minute and visually within ten minutes of the beginning of the survey. The response came from the same place as the undetermined response in June in the western portion of the PAC.

On the Prescott National Forest, past and present Federal State, private, and other human activities that affect habitat within this RU include fuelwood gathering activities, development of recreation sites, timber sales, road construction and maintenance activities, land exchanges, small mining claims, and private property housing development projects throughout the area. The Forest Service reported (see below) several Federal projects that have or will occur in the vicinity of the project area (Prescott National Forest 1997).

A recent action that would impact MSO habitat is the Maverick Ecosystem Project, which was designed to improve and enhance MSO habitat using vegetative manipulation including various methods of timber harvest to manage MSO habitat. Formal section 7 consultation was conducted for this project.

The Smith Ravine Trail Reconstruction includes re-routing an existing trail off of private land to NFS land and changing the status from motorized to non-motorized. The trail is located within the same PAC as this project. Historical use of the PAC by a single MSO has been

documented in 1991 and 1997. The PAC was informally monitored in 1997 and a single MSO was located approximately 1.5 miles from the trail, near the western boundary of the PAC. The trail will be in the eastern portion of the PAC which provides small pockets of roosting and dispersal habitat. The habitat on the north slope of Spruce Mountain extending west to the western boundary of the PAC provides the largest and the best nesting and roosting habitat within the PAC. This is the area of the 1997 response. Informal section 7 consultation was conducted for this project.

The Curry Easement decision granted, within the MSO PAC, a 24-foot easement along an existing two-track road with controlled access. A short portion of the existing road would be realigned to bring that portion within Forest Service Road Engineering Standards. Approximately 46 trees of various diameters would be removed for road width improvement. A timing restriction for MSOs would allow construction activities between September 1 and February 28. Formal consultation was conducted on this project. The biological opinion anticipated the project and subsequent road and land use could result in the incidental take of two MSO due to harm and harassment from habitat modification and disruption of reproductive behavior and/or mortality due to vehicle collision. Formal section 7 consultation was conducted for this project.

The Crooks Canyon/Maverick Ecosystem Project is designed to achieve multiple forest management objectives. The primary project action that would directly affect both MSOs and their habitat is the insect and disease treatment designed to reduce dwarf mistletoe infection in ponderosa pine. The action has been deferred from decision at this time.

The Walker Land Exchange addresses the issue of fragmented land ownership and trespass on NFS lands. While acquiring several isolated parcels on several different forests, the exchange is proposed to relinquish 222 acres of NFS lands into private ownership within the immediate vicinity of Walker. According to the Forest Service, the area neither meets threshold conditions for MSO nor provides any nesting or roosting habitat. Formal section 7 consultation was conducted for this project.

The Grapevine Botanical Area Designation would protect valuable riparian habitat considered "restricted" in the Forest Plan. The portions of the proposed botanical area near Grapevine Springs provide both nesting/roosting and foraging habitat for the MSO.

The Forest Service has formally consulted on 196 timber sales and other projects in Arizona and New Mexico since August 1993. These projects have resulted in the anticipated incidental take of 102 owls. In addition, the Bureau of Indian Affairs has consulted on one timber sale on the Navajo Reservation which resulted in an anticipated take of five MSO, and a highway reconstruction which resulted in the anticipated incidental take of two MSO. The Federal Highway Administration has consulted on one highway project that resulted in an undetermined amount of incidental take. The take associated with this action will be determined following further consultation. The Department of the Navy consulted on an observatory project with an anticipated take of one MSO. Additionally, the biological opinion for the Kachina Peaks

Wilderness Prescribed Natural Fire (PNF) Plan (#2-21-94-F-220) determined thresholds for incidental take and direct take as follows: 1) one spotted owl or one pair of spotted owl adults and/or associated eggs/juveniles; 2) harm and harassment of spotted owls located in up to two PACs per year; 3) disturbance to spotted owls and habitat modification of a total of seven PACs during the life of the Kachina Burn Plan related to management ignited fire occurring in PACs for which the nest site information is three or more years old; 4) harm and harassment of spotted owls and habitat caused by PNF for which adequate surveys have not been conducted, and; 5) harm and harassment of spotted owls and habitat modification of up to one PAC and 500 acres of potential nest/roost habitat caused by wildfire as an indirect result of PNF during the life of the Kachina Burn Plan. The biological opinion for the Sedona Ecosystem Management Forest Plan Amendment (#2-21-98-F-209) anticipated that 1) two spotted owls and/or associated eggs/juveniles could be taken every other year associated with one PAC, and 2) one spotted owl and/or associated eggs/juveniles associated with five PACs, due to harassment. Consultation with Langley Air Force Base (#2-22-96-F-334) for overflights in both New Mexico and Arizona concerning German Air Force operations at Holloman Air Force Base in New Mexico (for flights over the southern half of New Mexico, southwest Texas, and 40 square miles in eastern Arizona), determined that incidental take of MSO would occur due to harassment. The precise level of the take was impossible to predict due to lack of adequate data. However, incidental take is considered to be exceeded if 5% of monitored PACs are believed to have become nonfunctional through harassment from the overflights.

## EFFECTS OF THE ACTION

Affected habitat within the project area consists of widely scattered, open canopy ponderosa pine. Arizona white oak is the primary understory. Juniper is scattered throughout the area. Ground cover consists of manzanita and ceanothus. Dead and down material and snags are scarce. Woody fuel loading is light. There will be approximately 500 feet of road construction within the eastern edge of the Smith Ravine PAC. The Forest Service indicated the entire route for the proposed easement would be classified as marginal MSO foraging habitat, including the portion within the PAC (Prescott National Forest 1997).

As stated in the project description above, the road construction will result in the removal of 167 ponderosa pine and 157 oak, trees. Of the ponderosa pine trees, 25 are proposed to be removed from an established PAC. Five of those trees are <9 inches dbh, and 20 are >9 and <18 inches dbh. Of the 15 oak trees that are to be removed from the PAC, 10 are <9 inches dbh, and 5 are >9 and <18 inches dbh.

The Recovery Plan (USDI 1995) states that no new road construction should occur within MSO PACs, and recommends that no trees over 9 inches dbh be removed in PACs. Both of these actions will occur in the granting of the Greif easement.

The Forest Service indicated that this project may impact MSO and their habitat by influencing potential MSO use of the habitat and altering the physical components of the habitat (Prescott National Forest 1997). The Forest Service stated that a timing restriction allowing road building

between September 1 and February 28 will alleviate disturbance during construction to any owls that might use the eastern portion of the Smith Ravine PAC and surrounding area during the breeding season. A gate on the road will limit use of the completed road to only those people travelling to and from the private parcel. The habitat through which the easement is located is considered foraging habitat. The Forest Service believes that owl use of the area would be nocturnal when vehicle traffic on the easement would likely be the lowest. The road will be designed for vehicles travelling at speeds less than 15 miles per hour. The Forest Service believes the likelihood of owls being hit on the proposed road is practically nonexistent considering the limited access to the road due to the gate, the slow rate of vehicle travel, the location of the road near the edge of the PAC in habitat that is not likely used much by owls, and the infrequency of vehicle encounters due to nocturnal habits. The Forest Service indicated that the proposed location minimizes impacts to resources by removing the fewest and smallest trees possible in the least disruptive location to gain the desired access. They believe that road construction would not impact any key components of Mexican spotted owl habitat.

The Service believes the permitting of access to the private parcel through the granting of an easement may adversely affect the MSO. The Service believes that the mitigating actions proposed by the Forest Service, namely completing construction activity outside of the MSO breeding season, and the installation of a gate at the junction of the proposed road and Blue Jay Road will assist in reducing the immediate impacts of the access road to the Smith Ravine PAC. Long-term impacts of the road remain, however, in that tree removal will occur and 500 feet of new road will be constructed in the Smith Ravine PAC. In addition, maintenance of this road will continue for as long as access to the private parcel is desired. Vehicular traffic may impact the ability of MSO in this PAC to forage successfully, and/or to successfully nest in proximity to the road. Again, although no information was provided to evaluate a possible correlation of owl absence with human activity, at least five responses (including discovery of a roost) were obtained from a female MSO in 1991 in the eastern portion of the PAC, and no responses have been obtained since.

Because this project involves a permitting action that is connected to activities to be conducted on private land, the Service must consider the indirect effects, as well as the effects of interdependent and interrelated actions to the MSO from permitting this access. Indirect effects are those that are caused by, or result from, the proposed action, and are later in time, but are reasonably certain to occur. Interrelated actions are actions that are part of a larger action, and are dependent on the larger action for their justification. Interdependent actions are actions that have no independent utility apart from the action under consideration.

The interrelated and/or interdependent actions of granting an easement to the private parcel considered in this Biological Opinion are the construction of the road, the maintenance of that road over time, the harvest of trees on the private parcel for the purpose of building homes and roads, and the effects of human habitation including noise disturbance and increased access to the adjacent NFS lands. Since the private parcel cannot be accessed without an easement across NFS lands, homesite development would not occur without the issuance of this easement.

Spotted owls have been known to be hit by vehicles (USDI 1995; Gutierrez *et. al*, 1995; USDI 1992; USDA 1992). Owls may be hit by vehicles for a variety of reasons including such factors as the speed the vehicle is travelling, the number of vehicles, the time of day, and the use of the area by owls. Vehicle headlights may also play a role if they blind the owl. MSO may be attracted to the opening in the forest created by the road because potential prey may be more visible in that area. While it is not of major concern in this situation, the Service believes the risk of MSO being hit by vehicles using the access road is a possibility because of the road location in the Smith Ravine PAC, and because the road will be used to access homes, therefore use during the periods the MSO are most active (sunset, sunrise, and nighttime) is likely.

The Service is also concerned with the potential impacts to MSO and its habitat as a result of the proposed development on the private parcel. The proposed action of the Forest Service granting an easement to allow access to the private parcel is anticipated to result in impacts to what is likely Mexican spotted owl habitat. It is not known if this habitat provides potential nest/roost habitat for the MSO or if it meets target/threshold conditions as defined by the Recovery Plan. The private parcel is located adjacent to and surrounded on three sides by the Smith Ravine PAC. Surveys in 1991 indicated a cluster of MSO activity within 0.5 mile to the north of the private parcel consisting of multiple nighttime locations of a female MSO and a roost.

The documented MSO locations from 1991 in what is now the Smith Ravine PAC are adjacent to the private parcel. Surveys in 1997 discovered owls on the west end of the PAC. However, there was no information provided regarding the type or level of human activity that occurred in the vicinity of the 1991 owl locations and the private land between 1991 and 1997. Thus, There is no way to determine how or if the normal behavior of owls in the area has already been modified by human activity.

It remains unclear where the nest/roost site for the Smith Ravine PAC is located. No description of the private parcel was provided to the Service. Given the above information, the Service believes it is still possible that the area immediately adjacent to the private parcel, or the private parcel itself, may contain a nest/roost site. The removal of trees for the proposed housing development could directly impact the owl if nest and/or roost trees are cut or foraging habitat is lost. Furthermore, noise disturbance during the breeding season caused by construction activity, could affect breeding on adjacent NFS lands through either disrupting breeding altogether or displacing a nesting female, and thus cause mortality to eggs or chicks. Again, foraging that is assumed to regularly occur outside of PACs by the resident spotted owls is likely to be affected by development expected on the private parcel. The most significant indirect effects are expected to result from the opening of the overstory due to the placement of houses and accompanying roads, and the effects of long-term human habitation. Owls (particularly juveniles) that have been displaced or forage and/or disperse through the open overstory may be more vulnerable to predation; therefore, there may be a greater loss of owls over time.

The Service's concerns focus on the potential adverse effects to MSO in the Smith Ravine PAC and the vicinity. The effects of development and human habitation immediately adjacent to and

almost surrounded by this PAC include possible effects to a nest potentially located on the private parcel, and long-term disturbance in adjacent NFS lands.

## CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, 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 ESA.

The intended purpose of the easement is for a private landowner to gain access to his/her private parcel to develop homesites (Prescott National Forest 1997). The Forest Service believes that if suitable habitat occurred on the private parcel, Forest Service monitoring of the Smith Ravine area over the last seven years would likely have detected any MSO using the habitat on the adjacent private parcel. The Forest Service concluded that because no MSO were detected in the immediate vicinity of the private parcel, that it is not likely that suitable habitat occurs on the private parcel. However, the maps that were provided to the Service clearly indicate that Mexican spotted owls have been detected in the vicinity of the private parcel. No information was provided in the biological assessment and evaluation that would allow the Service to determine whether MSO habitat existed on the private parcel(s) although the parcel that will be connected by the road contains the top of Bald Mountain. Although no specific information was provided to the Service, the parcel of land that appears to be scheduled for private development is surrounded by the PAC on three sides, which would suggest that, in conjunction with its topographical features, if the parcel was not private land it would likely have been included in the PAC. There was also no information provided to the Service regarding the extent of the anticipated development of the private parcel. Thus, due to lack of information, the close proximity of previous locations of owls to the private parcel, and the likelihood that the private parcel contains owl habitat, the Service must consider that the development of the parcel has the potential to directly and indirectly affect MSO.

In past biological opinions, it has been stated that, "Because of the predominant occurrence of the owls on Federal lands, and because of the role of the respective Federal agencies in administering the habitat of the owl, actions to be implemented in the future by non-Federal entities on non-Federal lands are considered a minor impact." However, there has been a recent increase of harvest activities and development on non-Federal lands. Much of the non-Federal lands being harvested are adjacent to or within National Forests (inholdings). In addition, future actions within or adjacent to the Forest Service lands that are reasonably expected to occur include urban development, road building, land clearing, fuelwood gathering, logging, land exchanges, and other associated actions. These activities reduce the quality and quantity of owl nesting, roosting and foraging habitat and cause disturbance to breeding owls and would contribute as cumulative effects to the proposed action.

Of particular concern on the Prescott National Forest is the development of private inholdings in mining claim areas. Many of these developments do not have a Federal connection in that

access does not require an easement across NFS land. Many of these inholdings are located within PACs and owl nest/roost habitat. The current trend in the development of these private inholding is increasing as the Prescott area grows in size. These actions will continue to impact the ability of PACs to function and may already be adversely effecting MSO at the local level. Given the potential adverse effects of cumulative non-Federal actions in nest/roost habitat over time, the Service is concerned about the viability of many of the PACs on the Prescott National Forest in the future.

Private land ownership of MSO habitat is an important factor affecting the quantity and quality of available habitat for MSO (Prescott National Forest 1997). In the Bradshaw Mountains, 15% of the ponderosa pine forest type which contains suitable nesting and roosting habitat is privately owned. The recent trend to subdivide private parcels for additional homesites reduces available habitat.

A recent non-Federal action in the area is the sale of Hassayampa Lake by the City of Prescott to a local church camp group (Prescott National Forest 1997). The church has plans to develop property it owns adjacent to the lake. The lake is located near three PACs. Future developments may impact MSO habitat on adjacent NFS land.

## CONCLUSION

After reviewing the current status of the species, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the permitting of the Greif Easement is not likely to jeopardize the continued existence of the Mexican spotted owl.

## INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of ESA, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant,

as appropriate, in order for the exemption in section 7(o)(2) to apply. The Forest Service has a continuing duty to regulate the activity covered by this incidental take statement. If the Forest Service (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

For the purposes of consideration of incidental take of MSO by the proposed project now under consultation, incidental take can be broadly defined as either the direct mortality of individual birds, or the alteration of habitat that affects the behavior (i.e. breeding or foraging) of birds to such a degree that the birds are considered lost as viable members of the population and thus "taken". They may fail to breed, fail to successfully rear young, raise less fit young, or desert the area because of disturbance when habitat no longer meets the owl's needs.

In past biological opinions, the management territory was used to quantify incidental take thresholds (see Biological Opinions provided by the Service to the Forest Service from August 23, 1993, to date). The current section 7 consultation policy states that incidental take can only be supported if an activity compromises the integrity of a PAC. Actions outside PACs will generally not be considered incidental take, except in cases when areas that may support owls have not been adequately surveyed.

Using available information as presented within this document the Service has identified conditions of probable take for the Smith Ravine PAC within which the road construction is to occur and which is immediately adjacent and almost surrounds the private parcel that is to be developed upon granting of road access. Based on the best available information concerning the MSO, its habitat needs, the project description, and information furnished by the Prescott National Forest, take is considered likely for the MSO as a result of the following:

- 1) Tree removal caused by construction of the road, and long-term use of the access road in the Smith Ravine PAC, located on NFS land.
- 2) Tree removal and development within occupied habitat and habitat alteration in the Smith Ravine PAC in which a MSO nest/roost has not been located.
- 3) Potential development of the private parcel adjacent to a PAC where the nest site is unknown.
- 4) The immediate and long-term impacts of the proposed housing development on the private parcel associated with the road access will result in loss of functional habitat for the MSO. This may adversely effect the ability of MSO using the Smith Ravine PAC to successfully feed and breed.

## AMOUNT OR EXTENT OF TAKE

The Service anticipates that the proposed Greif Easement may result in incidental take of two MSOs associated with the Smith Ravine PAC in the form of harm and harassment due to habitat modification and disruption of normal foraging and reproductive behavior. This harm and harassment is in the form of disturbance caused by the construction of the access road on NFS land, and the effects of the anticipated actions of the private landowner(s) on the adjacent private land due to the granting of this easement as permitted by the Forest Service.

If, during the course of the action, the amount or extent of the incidental take anticipated is exceeded, the Forest Service must reinitiate consultation with the Service immediately to avoid violation of section 9, and/or the landowner must obtain a section 10(a)(1) permit.

## EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

## REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize the incidental take of owls anticipated for the Greif Easement and associated home development on the private parcel.

- 1) The Forest Service shall minimize adverse affects of the access road located on NFS land.
- 2) The Forest Service shall survey the Smith Ravine PAC to determine occupancy and to assist in minimizing incidental take from actions on private land.
- 3) The Forest Service shall inform the landowner(s) of the requirements of section 9 of the Endangered Species Act, the potential effects to MSO of actions on his property, and how the landowner can minimize adverse effects to the MSO.

## TERMS AND CONDITIONS

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

- 1.1 The Forest Service shall ensure that all maintenance of the access road on NFS lands will be completed outside the MSO breeding season (March 1 -August 31). If maintenance is to be completed by the landowner(s), this stipulation shall be included in the easement permit.

- 1.2 The Forest Service shall monitor the habitat removal associated with constructing the access road on NFS lands. If the monitoring results differ in any way from that described in the project description, the Service will be contacted immediately.
- 1.3 The Forest Service shall ensure that the private landowner(s) or others with access to the private land, report any dead or injured owls found along the road or within and adjacent to the private inholding to the Bradshaw Ranger District and/or the Arizona Ecological Services Field Office. The Forest Service will inform the Service of any such reports.
- 2.1 Survey the Smith Ravine PAC to determine occupancy and reproductive status of MSO. Surveys will be conducted according to Forest Service survey protocol, with a minimum of four complete visits per year, if needed, for five years. Further survey needs and strategies to address the life of the construction period on the private parcel will be developed cooperatively by the Forest Service and the Service. Due to the location of past owl responses, surveys will include habitat adjacent to the private parcel. The objective of the monitoring effort is to find MSO nest/roost sites and to allow maximum latitude to the Forest Service in using appropriate survey protocols to most efficiently accomplish this objective. Thus if a caller elicits an owl response after more than the protocol standard of 10 minutes, the caller should count this as a response, and follow-up appropriately. The Service believes survey of the PAC is necessary to assist in minimizing incidental take and to provide updated information to the private landowner(s) as stated in term and conditions 3.1, 3.2, and 3.3.
- 2.2 The Forest Service shall submit an annual report to the Service of the results of such surveys of the Smith Ravine PAC. This report will also describe how the terms and conditions of all reasonable and prudent measures in this incidental take statement are being implemented.
- 3.1 The Forest Service shall provide the private landowner(s) with information on the presence of MSO within the Smith Ravine PAC and possible MSO use of the adjacent private land. Release of this information shall be consistent with reasonable and prudent alternative number 1 of the Service's June 13, 1996, biological opinion to the Forest Service Region 3 on the release of site-specific location information on the MSO (consultation number 2-22-95-F-520), as clarified in the Service's January 24, 1997, letter to the Forest Service.
- 3.2 The Forest Service shall advise the landowner(s) that harming or harassing owls without specific authorization is a violation of the Endangered Species Act. The landowner(s) shall be advised of the potential penalties up to a \$25,000 fine and 6 months in prison for taking a listed species without a permit.

- 3.3 The Forest Service shall inform the landowner(s) that if an owl nest or roost site is found within or directly adjacent to the private parcel, compliance with the following protective measures will minimize direct and indirect mortalities, and disturbance to MSO.
- a) Conduct no disturbing activities including the use of heavy equipment (bulldozers, backhoes, etc.), chainsaws, and construction activities, during the MSO breeding season (March 1 - August 31).
- 3.4 The Forest Service shall provide the Service copies of all correspondence, meeting notes, or phone records involving the implementation of the terms and conditions of reasonable and prudent measure 3.

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. The Forest Service is only required to *inform* the landowner(s) of conservation actions that will remove potential impacts to the MSO. Because the actual implementation of these conservation actions on private land are not within the control of the Forest Service, the Service is permitting the Forest Service incidental take of no more than two MSO. 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.

Notice: While the incidental take statement provided in this consultation satisfies the requirements of the Endangered Species Act, as amended, it does not constitute an exemption from the prohibitions of take of listed migratory birds under the more restrictive provisions of the Migratory Bird Treaty Act.

### CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA directs Federal agencies to utilize their authorities to further the purposes of ESA 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. The Forest Service should take an active role in developing a MSO conservation strategy for the Prescott National Forest to help minimize adverse impacts to the PACs located on the Forest.
2. The Forest Service should monitor the recreation use of NFS lands adjacent to the private parcel. If such monitoring indicates that social trails, etc. have developed in

the Smith Ravine PAC, the Forest Service should actively obliterate such trails and provide educational material to the landowners.

3. The Forest Service should actively pursue an information transfer program for the landowners of inholdings within MSO PACs and other sensitive habitats. This effort should include all such landowners on the Forest.
4. Given the awareness by both the Forest Service and the Service of the long-term negative consequences of the development of the private parcel adjacent to the Smith Ravine PAC, the Forest Service should actively attempt to minimize disturbance to this PAC where it is possible on NFS lands.
5. Provide the Service with detailed information and maps depicting the condition of MSO habitat on the Prescott National Forest: acreage of habitat meeting threshold conditions, and location and acreage of identified pine/oak and mixed conifer target/threshold habitat percentages as defined by the MSO Recovery Plan.

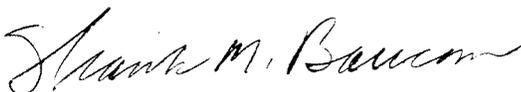
In order for the Service to be kept informed of actions that minimize or avoid adverse effects to the MSO and its critical habitat, the Service requests notification of the implementation of any conservation recommendations.

#### REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the draft biological evaluation and draft environmental assessment. 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 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 agency 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 the listed species or critical habitat that was 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 the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The Service appreciates your continuing efforts to protect and recover listed species. If we can be of further assistance, please contact Bill Austin or Bruce Palmer. Please refer to the consultation number 2-21-98-F-035, in future correspondence concerning this project.

Sincerely,

  
for Thomas A. Gatz  
Acting Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ES; Attn: Steve Spangle)  
Field Supervisor, Fish and wildlife Service, Albuquerque, NM  
Fish and Wildlife Biologist, Fish and Wildlife Service, Flagstaff, AZ

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