

AESO/SE  
2-21-00-F-326

May 31, 2001

Mr. Corey Wong  
Acting Forest Supervisor  
Kaibab National Forest  
800 South 6<sup>th</sup> Street  
Williams, Arizona 86046

Dear Mr. Wong:

The U.S. Fish and Wildlife Service has reviewed the biological assessment (BA) for the Pumpkin Fire Emergency Action, in accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. 1531 *et seq.*). Your June 27, 2000, request for formal consultation was received on June 30, 2000. Formal consultation was initiated on November 16, 2000, upon receipt of all information necessary for the consultation. This document represents our biological opinion on the effects of the emergency action on the Mexican spotted owl (*Strix occidentalis lucida*) (MSO).

According to the June 21, 2000, BA, the Forest Service determined that the emergency fire suppression effort of the Pumpkin Fire may have affected the MSO. Because critical habitat for the MSO was revoked (63 FR 14378) at the time of the emergency action, no conferencing or consultation is required for critical habitat for this species.

This biological opinion is based on information provided in the BA, information provided during informal consultation, and other sources of information. Literature cited in this biological opinion does not represent a complete bibliography of literature available on the MSO, the effects of fire on the species, or other subjects that may have been considered in this opinion. A complete administrative record of this consultation is on file in the Arizona Ecological Services Field Office.

#### CONSULTATION HISTORY

Informal consultation on the Pumpkin Fire began on May 26, 2000, when the Forest Service notified us of the incident and requested informal emergency consultation. Another telephone message on May 26, 2000, briefly identified MSO Protected Activity Centers (PACs) that were threatened by the wildfire. In a meeting on May 26, 2000, the Forest Service briefed us on the current status of, and some plans regarding, the wildfire. On May 30, and June 1 and 7, 2000, the

Forest Service either telephoned or met with us and provided updated information regarding fire progress and suppression efforts. Details of the consultation history are summarized in the Table 1 below.

Table 1. Summary of Consultation History

| <i>Date</i>  | <i>Event</i>   |
|--------------|--|
| May 30, 2000 | We recommended that aerial retardant drops over PACs be avoided if possible.   |
| June 1, 2000 | We recommended that the Forest Service consider doing aerial ignition outside of PACs or in only a portion of them to minimize impacts, if doing so would be a feasible option. We also generally recommended lessening effects to MSO habitat and PACs, if possible, without affecting the overall mission of controlling the fire.   |
| June 1, 2000 | We recommended that the Forest Service provide PAC location information to the Incident Command team, and forwarded a copy of a 1999 Service memorandum regarding emergency consultation procedures for fire suppression efforts to the Forest Service. That memorandum included two general recommendations for the period during wildland fire emergencies. The memorandum also states that the recommendations are offered to minimize impacts to listed species when they do not conflict with the appropriate management response necessary to address the emergency. The recommendations were: (1) minimize or, where possible, avoid dropping fire retardant in or near riparian areas or wetlands and other ecologically sensitive areas, and (2) minimize disturbance to large woody material, standing snags, and other key structural elements that can provide habitat for listed species. |
| June 1, 2000 | The Forest Service advised us that the Coconino National Forest would be conducting the informal emergency consultation.   |
| June 7, 2000 | The Forest Service contacted us with questions regarding the formal consultation process for emergency actions, and advised us that the Kaibab National Forest would be conducting formal consultation for the entire incident.  |

|                   |  |
|-------------------|--|
| June 10, 2000     | The Forest Service sent an email message to us notifying that the Pumpkin Fire had been contained the previous day, and again advising that the Kaibab National Forest would be conducting the consultation from that point. |
| June 16, 2000     | The Forest Service contacted us and requested the data and information we had available regarding informal consultation for the purpose of conducting formal emergency consultation.   |
| June 30, 2000     | The Forest Service requested formal consultation on the emergency action.  |
| July 27, 2000     | We responded to the request by advising the Forest Service that we had not received all of the information needed to begin formal consultation, and we identified the needed information.                                    |
| November 16, 2000 | The Forest Service provided most of the remaining necessary information which was further clarified in a telephone conversation on December 7, 2000.   |
| December 21, 2000 | We notified the Forest Service that the formal consultation had been initiated.  |
| March 14, 2000    | We issued a draft biological opinion to the Forest Service for review.   |
| May 7, 2000       | We received comments from the Forest Service on the draft biological opinion.  |

## **BIOLOGICAL OPINION**

### DESCRIPTION OF THE EMERGENCY ACTION

The fire suppression activities are the result of a fire started on May 24, 2000, by a dry lightning strike west of Kendrick Mountain approximately 1.5 miles south-southeast of Pumpkin Tank on the Kaibab National Forest, Coconino County, Arizona. On May 25, the fire was reported from Kendrick Mountain Lookout at approximately 1000 hours. The location of the fire was reported as Township 23 North, Range 5 East, Section 7 (Gila and Salt River Meridian). The Kendrick Mountain area includes four PACs: Pumpkin, Jeep, Stocktank, and Newman.

The fire started in ponderosa pine in an invaded grassland with some thick pockets of pine scattered in the area. Suppression of the fire was initiated on May 25. As of June 5, the perimeter of the wildfire surrounded 13,158 acres. No further suppression actions were anticipated that would affect MSO after June 16. The detailed description of the wildfire and the suppression actions undertaken, as provided in Nelson (2000), are incorporated here by reference. Below we list those suppression actions that may have affected the MSO or its habitat.

- Retardant drops in PACs
- Backfire/burnouts in PACs and other protected habitat
- Tree removal for hand- and dozer-line construction in PACs

## 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. The MSO currently occupies a broad geographic area but does not occur uniformly throughout most of its range. Instead, it occurs in disjunct localities that correspond to forested mountain systems and canyon lands. The species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico, although surveys have identified the species' preference for older, complex forest structure in the action area.

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.

The range of the MSO has been divided into six U.S. Recovery Units (RUs), as discussed in the MSO Recovery Plan (USDI 1995). As of 1993, the greatest known number of owl sites in the United States occurred 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%). The action area is within the Upper Gila Mountains RU.

A reliable estimate of the numbers of owls throughout its entire range is not currently 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. In January, 1996, the Forest Service provided a summary of all territory and monitoring data for the 1995 field season on Forest Service lands. There were minor discrepancies in the number of MTs reported in the November and January data. For the purposes of this analysis and in tracking the environmental baseline we are using the more recent information.

The Upper Gila Mountains RU is a relatively narrow band bounded on the north by the Colorado

Plateau RU and to the south by the Basin and Range West RU. The southern boundary of this RU includes the drainages below the Mogollon Rim in central and eastern Arizona. The eastern boundary extends to the Black, Mimbres, San Mateo, and Magdalena Mountain ranges of New Mexico. The northern and western boundaries extend to the San Francisco Peaks and Bill Williams Mountain north and east of Flagstaff, Arizona. This is a topographically complex area consisting of steep foothills and high plateaus dissected by deep forested drainages. This RU can be considered a "transition zone," because it is an interface between two major biotic regions: the Colorado Plateau and Basin and Range Provinces (Wilson 1969). Habitat within this RU is administered by the Kaibab, Coconino, Apache-Sitgreaves, Tonto, Cibola, and Gila National Forests. The north half of the Fort Apache and northeast corner of the San Carlos Indian Reservations are located in the center of this RU and are believed to constitute an important habitat link between owl subpopulations at the western and eastern ends of the RU and the subpopulations directly south within the Basin and Range West RU.

This RU consists of deep forested drainages on the Mogollon Plateau. Vegetation generally consists of pinyon/juniper woodland, ponderosa pine/mixed conifer forest, some spruce/fir forest, and deciduous riparian forest in mid- and lower-elevation canyon habitat. The climate is characterized by cold winters, and over half the precipitation falls during the growing season. Much of the mature stand component on the gentle slopes surrounding the canyons has been partially or completely harvested. Most of the forest habitat on steeper ground that may serve as MSO nesting habitat is in suitable condition. MSO are widely distributed and use a variety of habitats within this RU. Owls most commonly nest and roost in mixed-conifer forests dominated by Douglas fir and/or white fir and canyons with varying degrees of forest cover (Ganey and Balda 1989; USDI 1995). Owls also nest and roost in ponderosa pine-Gambel oak forest, where they are typically found in stands containing well-developed understories of Gambel oak (USDI 1995).

This RU is located near the center of the MSO's range within the United States and is contiguous to four of the other five RUs within the United States. Because of its central location and its large and relatively continuous spotted owl population, the MSO Recovery Team believes that the population in this RU could be uniquely important to the overall stability and persistence of the MSO population in the United States. Specifically, this population could serve as the source population, providing immigrants to smaller, more isolated populations in other RUs. Although the Recovery Team has few data on dispersal patterns or movements between RUs, they believe that this population should be maintained at current levels and with at least the current level of connectivity within the RU (USDI 1995). Significant discontinuities that develop in the MSO's distribution within this RU, and the loss of habitat to support the local sub-populations, may compromise the recovery of the species.

On July 21, 2000, we proposed designation of approximately 13.5 million acres of critical habitat for the MSO in Arizona, Colorado, New Mexico, and Utah, mostly on Federal lands (FR 65:45336). In Arizona, over 4.6 million acres were proposed, with approximately 3.3 million acres managed by the U.S. Forest Service. On February 1, 2001, the Service designated final

critical habitat (FR 66: 8530). In Arizona, approximately 831,000 acres were designated, none of which included U.S. Forest Service lands.

## ENVIRONMENTAL BASELINE

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

A total of 515 projects have undergone formal consultation for the owl. Of that aggregate, 254 projects resulted in a total anticipated take of 460 MSO, plus an additional unquantifiable number of owls. These consultations have primarily dealt with actions proposed by the Forest Service, Region 3, but have also addressed 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 construction activities.

### Status of the Mexican Spotted Owl in the Project Area

The higher-elevation portion of Kendrick Mountain is dominated by Engelmann spruce (Nelson 2000). The middle zone, where MSO habitat is primarily located, is much more diverse with aspen, southwestern white pine, Douglas fir, white fir, ponderosa pine, and limber pine. The lower-elevation area, where the fire started southwest of Kendrick Mountain, is composed of a homogeneous stand of ponderosa pine. Kendrick Mountain contains the Kendrick Mountain Wilderness Area, which is primarily protected MSO habitat under Recovery Plan recommendations.

Four PACs were previously delineated on Kendrick Mountain that occur within the containment lines established for the control of the Pumpkin Fire (Nelson 2000). Two of the PACs (Pumpkin and Newman) occur on the Kaibab National Forest. The Pumpkin PAC (644 acres in size) is on the northwest side of Kendrick Mountain, and the Newman PAC (820 acres) is located on the southwest side. Two of the PACs (Jeep and Stocktank) occur on the Coconino National Forest. The Jeep PAC (678 acres) is on the northeast side of the mountain, and the Stocktank PAC (685 acres) is on the southeast. The monitoring results for, and the reproductive status of, each of the four PACs for the up to 13 years they have been monitored is illustrated by Table 2.

Table 2. Monitoring results and reproductive status of the MSO PACs on Kendrick Mountain, Coconino and Kaibab National Forests (from Nelson 2000).

| <i>Year</i> | <i>Pumpkin 070210</i>         | <i>Jeep 040229</i>              | <i>Stocktank 040230</i>         | <i>Newman 070201</i>                                  |
|-------------|-------------------------------|---------------------------------|---------------------------------|---|
| 1988        | not located until 1994        | no information                  | no information                  | single response                                       |
| 1989        | not located until 1994        | no information                  | no information                  | pair visual   |
| 1990        | not located until 1994        | no information                  | no information                  | 2 young   |
| 1991        | not located until 1994        | no information                  | no information                  | 1 young   |
| 1992        | not located until 1994        | no information                  | no information                  | 2 young   |
| 1993        | not located until 1994        | no information                  | no information                  | unsuccessful  |
| 1994        | nest found<br>subadult visual | pair located<br>nesting unknown | pair located<br>nesting unknown | pair located<br>nesting unknown                       |
| 1995        | occupied<br>nesting unknown   | not monitored                   | not monitored                   | occupied<br>nesting unknown                           |
| 1996        | occupied<br>nesting unknown   | not monitored                   | not monitored                   | unsuccessful nesting                                  |
| 1997        | occupied<br>nesting unknown   | not monitored                   | not monitored                   | occupied<br>nesting unknown                           |
| 1998        | occupied<br>nesting unknown   | not monitored                   | not monitored                   | occupied<br>nesting unknown                           |
| 1999        | occupied<br>nesting unknown   | no information                  | no information                  | occupied<br>nesting unknown                           |
| 2000        | no information                | no information                  | no information                  | individual detected<br>after fire on<br>June 15, 2000 |

MSO occupancy and reproductive status for the four PACs in 2000 were unknown prior to the wildfire. If MSO were present and reproductively active, they could have had nestlings near the time of the fire initiation. Based on owl nesting chronology elsewhere on the Coconino National Forest in 2000, it would have been too early for the young to fly. Any young associated with the Jeep or Pumpkin PACs would probably have been killed by the wildfire.

#### Possible Effects of the Wildfire

Wildfires within owl habitat during the breeding season may result in the direct death of adult and young MSO. Death of MSO may also occur due to loss of nest/roost trees caused by crown fires. If a wildfire occurs in such habitat during the breeding season, the fire may result in the

loss of owl nests as well as young owls which may not be able to fly to safety. In addition, the effects of smoke on adult and young owls is largely unknown and may directly affect the health of owls or the ability of owls to forage successfully, and therefore may affect the ability of adults to survive and/or successfully fledge young. The result of a stand-replacement wildfire in large areas of nest/roost habitat would include the loss of the use of that habitat by MSO for the year of the action and well into the future.

Patton *et al.* (1991) found lower survival rates among radio-tagged female northern spotted owls following a forest fire. This was attributed to radio tags, but the birds in this study were exposed to dense smoke and high levels of carbon monoxide by an inversion that trapped smoke near the ground for 25 days following a fire which burned for 50 days. Flames and smoke from fire may cause MSO to flush from nests and/or roosts, and may impair hunting opportunities through interfering with audio and visual methods of detecting prey.

Effects of wildfires include the loss of MSO prey habitat components such as herbaceous cover, down logs, and snags. The effects of fire on the prey base of the MSO are complex and are likely dependent on the prey species involved, the variations in fire characteristics, and in prey habitat. Fire intensity, size, and behavior are influenced by numerous factors such as vegetation type, moisture, fuel loads, weather, season, and topography. Fire can effectively alter vegetation structure and composition thereby affecting small mammal habitat. The initial effects of fire are likely to be detrimental to rodent populations both through direct mortality and as cover and plant forage species are reduced.

In December, 2000, we requested an evaluation of the extent of habitat loss in each of the four PACs. The following information was provided:

#### *Pumpkin PAC*

This PAC was impacted on the first day of the fire. The area where the last known (1994) nest was located was completely burned due to the rapid spread of the fire through the canopy. Portions of the PAC to the west did not burn intensively and many trees may have survived the fire. Approximately 400 acres (62.1%) of the Pumpkin PAC were intensely burned by the wildfire. The loss of key habitat components due to the wildfire was probably close to 60%.

#### *Jeep PAC*

This PAC was impacted by the wildfire fire with a majority of it sustaining stand-replacement fire. Extreme fire behavior was observed in this PAC where flame lengths exceeded 300 feet. Approximately 610 acres (90 %) of the PAC were burned intensively by the wildfire. Loss of key habitat components was high.



*Stocktank PAC*

This PAC was not affected by the wildfire.

*Newman PAC*

Less than 100 acres (12.1 %) of this PAC were affected by the wildfire.

On the evening of June 15, 2000, an adult MSO was detected in the Newman PAC where aerial ignition underburned much of the area. It was heard in a drainage just east of the most-recently known (1992) nest area. The ultimate fate of this individual will likely never be determined.

In addition to the protected habitat in the four PACs, approximately 5,000 acres of other habitat defined as “protected” in the Recovery Plan occur within the perimeter of the fire. Only 500 of the 5,000 acres has been surveyed according to established MSO survey protocol. Thus, up to 4,500 acres of unsurveyed non-PAC MSO habitat occur within the perimeter of the fire. Approximately 2,500 acres (50%) of non-PAC MSO habitat was affected by the wildfire. Key habitat components of MSO habitat were essentially consumed by the wildfire.

#### EFFECTS OF THE ACTION

In addition to the direct loss of owl nest/roost habitat caused by a wildfire, effects to owls may also be caused by the actions taken to suppress the fire. In most cases it is difficult to differentiate effects caused by wildfire and those caused by suppression actions. In addition, while it is probable that additional habitat damage would have resulted had suppression actions not been taken, it is impossible to assess what may have happened in absence of suppression activities. Thus, the discussion that follows describes the effects that may have resulted from the emergency action. We acknowledge that some of these possible effects may also have occurred in absence of suppression activities.

Suppression actions included back-burning to contain the wildfire and prevent its further growth, the cutting of trees, the use of retardant planes and the dropping of slurry, and the use of helicopters and the dropping of water. Human activities in MSO habitat may also cause disturbance to the MSO. Disturbance may be caused by fire resource personnel digging fire lines with shovels and other hand tools, walking and igniting vegetation with drip torches, and monitoring fire conditions from the ground or air. Human disturbance in MSO habitat during the breeding season may result in failed reproductive efforts, abandonment of the nest, and/or starvation of young.

Burnout and backfiring operations may include backfiring from a control point or line, falling dangerous trees and/or snags with potential to spread flames up slopes, clearing or piling brush and downed fuel near the control feature, and limbing and thinning trees to reduce ladder fuels. In certain situations, pre-burn preparation is not possible to implement, and the line is set on fire

downslope to burn fuels in the path of an approaching wildfire, resulting in the consumption and removal of fuels. Back-burning conducted in MSO habitat can result in loss of key habitat components, contribute to general disturbance and smoke inhalation, and possibly even result in loss of individuals.

Bulldozer and hand-line construction can result in modification of MSO habitat. Use of bulldozers, chainsaws, and other equipment to remove fuels can also result in significant losses of key habitat components. Trees removed as a result of line construction could also lead to loss of nest and/or roost trees, and possibly even active nests. Death or injury could occur as a result of falling trees.

Noise from all air operations, especially low-flying aircraft dropping water or retardant, can contribute to the disturbance of MSO. MSO could also be impacted through death or injury by water or retardant drops if nests or roosts receive direct hits. Additional general effects can include microclimate alteration and increased edge effects along fire lines.

#### Pumpkin PAC

Aerial retardant deliveries were made at the head of the fire within the PAC, but the number of drops is unknown. No other suppression activities took place within this PAC at any time during the fire.

#### Jeep PAC

Approximately 50 acres of this PAC were back-burned on Crater Hill and along Forest Road 760. None of the suppression action occurred near any known nest or roost sites. The reduction of key habitat components from the backing fire was approximately 50 percent. Retardant drops were made in the area of the PAC, and were delivered at the head of the fire as it moved downslope toward the 760 road and the Boy's Ranch. Line construction with chainsaws and a feller/buncher impacted no more than 5 acres within this PAC. The stand that was treated was a ponderosa pine doghair thicket with no mixed conifer along Forest Road 760. Potential effects to MSO habitat occurred from the fireline preparation and associated backing fire (Nelson 2000). Approximately 55 (8.1 %) acres of this PAC were affected by suppression activities.

#### Stocktank PAC

No dozer line or handline construction occurred within this PAC. Portions of the PAC were burned by the fire when an east wind pushed the fire up the drainage west of the private land in Crowley Park. Approximately 200 acres of this PAC were back-burned with aerial ignition on the southern portions of the PAC. No retardant drops are known to have been made during the fire in this PAC. Potential effects to MSO habitat occurred as result of the backing fire (Nelson 2000). Approximately 200 acres (29.1 %) of this PAC were affected by suppression activities.

### Newman PAC

Approximately 400 acres of this PAC were treated with a backing fire from aerial ignition. Portions of the PAC were burned by the wildfire when the fire was starting to be pushed out of the west and came around the ridge below the lookout. Approximately 0.5 mile of dozer line was constructed within the PAC. Some retardant drops were made in the upper portion of the PAC just below the lookout tower to protect the tower and cabin nearby. There were some losses of key habitat components within the PAC from both the wildfire and the back-burn (Nelson 2000). Approximately 400 acres (48.7 %) of this PAC were affected by suppression activities.

### Other Protected MSO Habitat

A burnout operation during the first 36 hours on the west flank near Pumpkin Center may have resulted in fire spreading into protected (i.e., steep-slope and wilderness) habitat. Aerial ignition was applied to protected habitat as well as portions of both the Newman and Stocktank PACs. This activity was done in advance of the main fire moving through the same areas of PAC and other protected habitat.

Approximately 1000 acres (20 % of habitat within the perimeter of the fire) of MSO habitat was affected by suppression activities such as back-burning. Approximately 345 acres of that amount were outside of established PACs. It is not likely that those 345 acres were surveyed according to protocol prior to the initiation of the emergency action.

Although the adverse effects of back-burning through aerial ignition in MSO habitat can be determined to some extent, it is not possible to determine what would have happened if the actions had not been taken. It is possible that, but for the suppression activities, even more damage to the MSO habitat would have occurred. Nelson (2000) stated that due to the application of aerial ignition and a burnout at the base of the Newman PAC, only 50% of the habitat in the Newman and Stocktank PACs and protected habitat on the south slopes sustained stand-replacement wildfire. However, we must address and evaluate the effects of the suppression actions that were actually conducted during the emergency fire situation. We cannot address what may have happened in the absence of suppression actions. Furthermore, although there are adverse effects associated with the suppression actions addressed in this biological opinion, that does not necessarily render the actions inappropriate.

### 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 the foreseeable future. Future Federal actions are subject to the consultation requirements established under sections 7, and, therefore, are not considered cumulative to the proposed action. In past Biological Opinions, we have stated that, "Because of the 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." Future actions within the project area that are reasonably expected to occur include road building, land clearing, logging, fuelwood gathering, trail construction, and other associated actions. These activities may reduce the quality and quantity of MSO nesting, roosting, and foraging habitat, cause disturbance to breeding MSO, and would contribute as cumulative effects to the proposed action. No additional information regarding non-Federal actions that are reasonably certain to occur was provided by the Forest Service.

## CONCLUSION

After reviewing the current status of the MSO, the environmental baseline for the action area, the effects of the action, and the cumulative effects, it is our biological opinion that the suppression action conducted for the Pumpkin Fire, did not likely jeopardize the continued existence of the MSO.

## 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 (50 CFR 17.3). 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.

For the purpose of evaluating incidental take of MSO from the action under consultation, incidental take can be anticipated 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 or because habitat no longer meets the owl's needs.

In past Biological Opinions, we used the management territory to quantify incidental take thresholds for the MSO (see Biological Opinions provided to the Forest Service from August 23, 1993 through 1995). The current section 7 consultation policy provides for incidental take 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, we have identified conditions of probable take for the MSO associated with PACs and unsurveyed or inadequately surveyed restricted and protected habitat. This anticipated take is based on suppression actions which are the actions that must be addressed in an emergency consultation. Based on the best available information concerning the MSO, habitat needs of this species, the project description, and information furnished by the Forest Service, take is anticipated for the MSO as a result of the following:

- a) Suppression actions, including back-burning, resulting in the loss of key habitat components, in the Jeep, Newman, and Stocktank PACs.
- b) Suppression actions, including back-burning, resulting in the loss of key habitat components, in 345 acres of unsurveyed/inadequately surveyed restricted and protected MSO habitat.

#### AMOUNT OR EXTENT OF TAKE

This biological opinion anticipates the following forms and amount of take in regard to the emergency action:

One pair of MSO and/or associated eggs/juveniles in the form of direct mortality or harm or harassment due to suppression actions for each of the Jeep, Newman, and Stocktank PACs (for a total of three pairs).

One pair of MSO and/or associated eggs/juveniles in the form of direct mortality or harm or harassment due to suppression actions in unsurveyed/inadequately surveyed MSO habitat.

#### EFFECT OF THE TAKE

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

Incidental take statements in emergency consultations do not include reasonable and prudent measures or terms and conditions to minimize take unless the agency has an ongoing action related to the emergency (U.S. Fish and Wildlife Service 1998). The Forest Service has not advised us of any ongoing actions related to the emergency.

The Fish and Wildlife Service will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. Sections 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. Sections 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

### **DISPOSITION OF DEAD, INJURED, OR SICK MSO**

Upon locating a dead, injured, or sick MSO, initial notification must be made to the our Law Enforcement Office, Federal Building, Room 8, 26 North McDonald, Mesa, Arizona (telephone: 480/835-8289) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state. If possible, the remains of intact owl(s) shall be provided to this office. If the remains of owl(s) are not intact or are not collected, the information noted above shall be obtained and the carcass left in place. Injured animals should be transported to a qualified veterinarian by an authorized biologist. Should treated owls survive, you should contact us regarding the final disposition of the animal.

### **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. We recommend that each of the MSO PACs previously designated within the perimeter of the Pumpkin Fire be monitored, beginning in 2001 and continuing annually for at least the next five years, and that the results of this monitoring be provided to us.
2. We recommend that standard MSO surveys be designed to cover all MSO habitat to protocol within the perimeter of the Pumpkin Fire and be initiated in 2001.
3. We recommend that the Forest Service continue surveying the unsurveyed restricted and protected MSO habitat on the Kaibab National Forest.
4. We recommend that monitoring and/or research opportunities to determine actual effects to, and recovery of, MSO habitat from the wildfire, and particularly in relation to future occupancy of MSO, be pursued by the Forest Service.
5. We recommend that the Forest Service pursue the completion of a forest-wide consultation on wildfire suppression activities.

In order to keep us informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitat, we request 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.

Thank you for your consideration of threatened and endangered species. For further information please contact Bill Austin (520) 226-0714 or Steve Spangle (520) 226-0250. Please refer to the consultation number 2-21-00-F-326 in future correspondence concerning this project.

Sincerely,

/s/ David L. Harlow  
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque NM (ARD-ES)  
Field Supervisor, Fish and Wildlife Service, Albuquerque NM

Forest Supervisor, Coconino National Forest, Flagstaff AZ  
District Ranger, Williams Ranger District, Williams AZ  
District Ranger, Peaks Ranger District, Flagstaff AZ  
John Kennedy, Arizona Game and Fish Department, Phoenix AZ

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