

**United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021
Telephone: (602) 242-0210 FAX: (602) 242-2513**

AESO/SE
02-21-03-F-0175

September 19, 2003

Mr. Karl Siderits
Forest Supervisor, Tonto National Forest
2324 East McDowell Road
Phoenix, Arizona 85006

Dear Mr. Siderits:

Thank you for your request for formal emergency consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request for emergency consultation was dated March 13, 2003, and received by us on March 14, 2003. At issue are impacts associated with suppression and rehabilitation activities on the Pack Rat Fire in Gila and Coconino counties, Arizona on the Mexican spotted owl (*Strix occidentalis lucida*). Your biological assessment and evaluation (BAE) concluded that the suppression and emergency rehabilitation actions likely adversely affected the Mexican spotted owl.

This biological opinion is based on information provided in the January 2003 BAE, a telephone message on August 19, 2002, and survey information from Don Pollock of the Payson Ranger District. A draft biological opinion was sent to the Forest Service on July 29. Comments from the Forest Service received on August 19 were incorporated into this final biological opinion.

Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

BIOLOGICAL OPINION

DESCRIPTION OF THE EMERGENCY ACTION

The Pack Rat Fire started on August 15, 2002, from a lightning strike on top of the Mogollon Rim on the Coconino National Forest, near Kehl Point. Firefighter safety was the primary concern; therefore, indirect attack, using indirect line, was the fire suppression strategy.

Suppression was extremely problematic given the steep terrain and shortage of suppression resources. The fire burned on to the Tonto National Forest in dense vegetation on the face of the Mogollon Rim. Burning material rolled down the steep slopes and started a new run up the face of the Mogollon Rim. This cycle was repeated as prevailing winds pushed the fire east and then northeast across the Rim Road (FR 300). Due to the steep, inaccessible terrain and limited availability of resources, firefighters were unable to hold the fire at times.

Firefighter response was initiated on August 15, 2002. By August 26, 2002, the fire was located in Chase Creek Canyon and about 1 mile west of Chase Creek on the Payson Ranger District. Two control points were chosen and a handline was constructed along the ridge (at the 6,600 feet contour) located one mile west of Chase Creek down to Highline Trail (#31); a second handline started from Highline Trail up a ridge near Miller Point (about 2 miles east of Chase Creek) to about the 6,600 feet contour. The suppression strategy was to use the Highline Trail on the south and the Rim Road on the north, and indirect line on the east and west. Because the indirect lines were not burned out, the attempts to suppress the fire were deemed unsuccessful.

At this point a burnout was deemed necessary to control the fire. The topography of the area made the junction of the East Verde River and the Mogollon Rim the logical place to construct an indirect line, with time to burn the line prior to the arrival of the fire. Actions were then taken to prepare lines for burnout along the Rim Road and down the East Verde River. Within the East Verde drainage, the Colonel Devin Trail (#290) was used as the fire line for approximately 1.5 miles, with the drainage itself being used for the last 0.5 mile up the face of the Rim.

The burnout of the East Verde River was initiated during the night of August 30, 2002, and was completed by the morning of August 31, 2002. The goal was to have a backing fire that would reduce the impact to the watershed. This burn was intended to minimize the impacts to the Mogollon Rim, and protect the Arizona Public Service (APS) powerline adjacent to the fire-line. Other suppression actions included aerial retardant drops on August 25, 26, and 28, 2002.

The fire was successfully contained within the selected perimeter by September 2, 2002. The fire continued to burn within the perimeter until it was ultimately declared out following a precipitation event near the end of September 2002. The total impact area of the fire was determined to be 3,094 acres.

The action area of the suppression activities included portions of the Payson Ranger District on the Tonto National Forest and the Mogollon Rim Ranger District on the Coconino National Forest (Figure 1.). On-the-ground suppression boundaries were located along the Rim Road (FR 300) to the north, Highline Trail (#31) to the south, the East Verde drainage to the east, and a ridge one mile west of Chase Creek to the west.

Emergency rehabilitation efforts began even before the fire was controlled. Water bars were constructed on hand lines on the western end of the fire as suppression continued on the east. Shortly after containment, all dozer lines had water bars constructed and were seeded with a native grass mix. Emergency rehabilitation also included the placement of approximately 100

sediment logs (18"x10' rolls of aspen shavings) in key areas on the eastern edge of the fire to minimize sediment and ash flow into the East Verde River and the Washington Park Guest Ranch.

A Burned Area Emergency Rehabilitation (BAER) team completed additional rehabilitation efforts immediately after the fire. Approximately 3,500 lbs. of annual rye grass seed was applied by helicopter to some areas of the fire that burned hotter, and were prone to erosion. Erosion log barriers (burned trees felled and anchored perpendicular to the slope) were constructed on some of the steeper slopes on top of the Rim where crown fire had occurred. Additional sediment logs were also installed under the BAER plan, mainly in areas on top of the Rim. In December, helicopter seeding was done again with a mix of native perennial grasses.

STATUS OF THE SPECIES

The Mexican spotted owl was listed as a threatened species in 1993 (USDI 1993). Critical habitat was designated on February 1, 2001 (USDI 2001), but does not include Forest Service lands in Arizona. The primary threats to the species were cited as even-aged timber harvest and the threat of catastrophic wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The FWS appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan for the Mexican Spotted Owl (Recovery Plan) in 1995 (USDI 1995).

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 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, the MSO does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Surveys have revealed that the species has an affinity for older, well-structured forest, and the species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico.

The U.S. range of the MSO has been divided into six recovery units (RU), as discussed in the Recovery Plan. The primary administrator of lands supporting the MSO in the United States is the 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 Upper Gila Mountains RU, which includes the action area, 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 west 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). Most 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 also support MSOs.

The Upper Gila Mountains RU 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. 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 had been partially or completely harvested prior to the species' listing as threatened in 1993, however, MSO nesting habitat remains in steeper areas. 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).

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. However, Ganey *et al.* (2000) estimates approximately $2,950 \pm 1,067$ (SE) MSOs in the Upper Gila Mountains RU alone. The Forest Service Region 3 most recently reported a total of approximately 980 protected activity centers (PACs) established on National Forest lands in Arizona and New Mexico (USDA Forest Service, Southwestern Region, December 19, 2002). The Forest Service Region 3 data are the most current compiled information available to us; however, surveys efforts in areas other than National Forest system lands have resulted in additional sites being located in all Recovery Units.

Since the owl was listed, we have completed or have in draft form a total of 114 formal consultations for the MSO in Arizona and New Mexico. These formal consultations have anticipated incidental take of MSO in 289 PACs. The form of this incidental take is almost entirely harm or harassment. These consultations have primarily dealt with actions proposed by the Forest Service, Region 3. However, in addition to actions proposed by the Forest Service, Region 3, we have also reviewed the impacts of actions proposed by the Bureau of Indian Affairs, Department of Defense (including Air Force, Army, and Navy), Department of Energy, National Park Service, and Federal Highway Administration. These proposals have included timber sales, road construction, fire/ecosystem management projects (including prescribed natural and management ignited fires), livestock grazing, recreation activities, utility corridors,

military and sightseeing overflights, and other activities. Only one of these projects (release of site-specific owl location information) has resulted in a biological opinion that the proposed action would likely jeopardize the continued existence of the MSO.

In 1996, the FWS issued a biological opinion on Forest Service Region 3's adoption of the Recovery Plan recommendations through an amendment of their Forest Plans. In this non-jeopardy biological opinion, we anticipated that approximately 151 PACs would be affected by activities that would result in incidental take of MSOs, with approximately 91 of those PACs located in the Upper Gila Mountains RU. In addition, we completed a reinitiation of the 1996 Forest Plan Amendments biological opinion which anticipated the additional incidental take of five MSO PACs in Region 3 due to the rate of implementation of the grazing standards and guidelines, for a total of 156 PACs. To date, individual actions under the amended Forest Plans have resulted in 204 PACs adversely affected, with 93 of those in the Upper Gila Mountains RU.

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 within 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 in the action area to provide a platform to assess the effects of the action now under consultation.

Status of the species within the action area

At present, three PACs are known to occur in the action area and are described in detail below. The fire itself burned the majority of the acreage in the two PACs on the Tonto NF, leaving the third PAC on the Coconino NF (Immigrant) largely unburned. In total, burned areas within the action area include 3,094 acres.

The Shadow Rim territory on the Tonto NF was established in 1989 and converted to a PAC (#120408) following the finalization of the MSO Recovery Plan. PAC delineation was based on the confirmation of a single owl (sex undetermined) at night in 1989. Informal monitoring resulted in confirmation of a pair over the next five years (1990 - 1994). In 2001 a pair was also confirmed in the PAC. Formal surveys did not occur in 2002; however, informal monitoring resulted in no owl observations. Approximately 400 acres of this PAC was burned. Suppression activities were minimal in this PAC due to hazardous terrain, lack of firefighting resources, and concerns for firefighter safety. Suppression within the PAC consisted of a fire line constructed by hand along the western boundary of this PAC, buckets of water dropped along the escarpment of the rim by helicopter, and removal of brush and small trees along the Highline Trail to serve as a fire line. Two confirmed roost sites identified in this PAC in 1992 and 1993 are located more than 1/4 mile south of the Highline Trail, which served as the southern boundary of the fire, and were therefore not affected by the fire suppression activities. The hand line on the west flank of the fire was constructed along the western boundary of the Shadow Rim PAC, but represents a

relatively minor impact to habitat. Rehabilitation efforts in this PAC were the construction of water bars on the hand line and aerial seeding.

The Chase Creek East territory, also on the Tonto, was established in 1991 and was converted to a PAC (#120412) following finalization of the MSO Recovery Plan. PAC delineation was based on a single roosting female. The following year, nesting was confirmed based on the presence of a single fledgling; however the actual nest tree was not located. Informal monitoring the following three years (1993 - 1995) resulted in no owl observations, until a single owl was confirmed again in 1996. The PAC was not monitored again until 2001 when a pair was again confirmed with nesting status undetermined. Informal monitoring in 2002 resulted in no owl observations. Approximately 540 acres of this PAC were burned. Suppression activities included construction of two helispots (about 1 acre each) in the PAC, and brush and small trees were removed from the Highline Trail to serve as a fire line. The area around and including the three confirmed roost sites identified in 1991, 1992, and 1996 was completely consumed by the high-intensity fire. There were no fire suppression activities around the three confirmed roost sites. The only rehabilitation effort in this PAC was aerial seeding.

Surveys for MSO were completed in the Chase Creek East PAC on June 8 and June 9, 2003. Two adults (one male and one female) and two nestlings were found in a sandstone cliff face where previous roost sites were recorded. This is the same area that was subject to complete consumption by the high-intensity fire. The survey information above suggests that the adult owls found this year were likely nesting/roosting within the PAC in 2002 and likely left the PAC after the fire started or perhaps during suppression activities but returned to the area safely post-fire. Because the fire started late (August) in the breeding season, if successful breeding had occurred, juvenile owls may have been located in the PAC during suppression activities. Information is not available to determine the presence/absence of juvenile owls at the time of the fire or their response to suppression activities.

The Immigrant MSO territory on the Coconino NF was established in 1990 and converted to a PAC (#040414) following finalization of the MSO Recovery Plan. PAC delineation was based on an audio response followed by a visual confirmation of a single male in 1990 in the Immigrant Springs area, above the Mogollon Rim. One roost was located in 1990, but nesting status was not determined during follow-up visits. Informal monitoring occurred in 1992 and 1994, but no response was detected in either year. Approximately 200 acres of this PAC were burned, and suppression activities were most intense in this PAC. Extensive hand line and dozer line were constructed including about 1.0 mile of dozer line within the PAC. Additionally, a 3-acre area on the edge of this PAC was cleared of all trees and scraped to mineral soil with a bulldozer, to serve as a safety zone for firefighters. The one confirmed roost site located in this PAC was not burned; however, the dozer line was constructed in the PAC approximately 650 feet from the roost location. Rehabilitation efforts in this PAC included the construction of water bars on dozer/hand lines, seeding and pulling slash back onto dozer/hand lines, and seeding and pulling slash onto the safety zone.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, that will be added to the environmental baseline.

In addition to the direct loss of MSO nesting and roosting habitat caused by the wildfire, effects to owls may have also resulted from the actions taken to suppress the fire. In most cases it is difficult to differentiate the significance of the effects caused by wildfire and those caused by suppression actions. Suppression activities occurred during the breeding season (August), most likely while juvenile owls, if any, were still dependent on the adults. Thus, the discussion that follows describes the effects that likely resulted from the emergency suppression actions within each PAC.

1. Extensive hand and dozer lines occurred within Immigrant PAC. About 1.0 mile of brush and trees were removed to serve as a fire line and a 3-acre safety zone was cleared of all vegetation.
2. Fire line was constructed by hand along the western edge of Shadow Rim PAC, and was ultimately the western boundary of the fire.
3. Two helispots, each about 1-acre, were constructed in Chase Creek East PAC. Helispot construction entailed cutting all trees and removing all brush in a 1/4-acre area.
4. Brush and small trees were removed along Highline Trail in Shadow Rim and Chase Creek East PACs.
5. Buckets of water and a total of approximately 55,276 gallons of retardant were applied to the fire in all three PACs.

These above mentioned suppression activities resulted in MSO habitat modification and/or loss of key habitat components in all three PACs. These activities may have lead to the loss of nest and/or roost trees and may have included microhabitat alteration and increased edge effects along fire lines in Immigrant PAC and Chase Creek East PAC. MSO may have been impacted through injury by water or retardant drops if nest or roosts received direct hits. Depending on the level of suppression within each PAC, these disturbances may have included failed reproductive efforts, abandonment of the nest, starvation of young, or may have been limited to temporary disturbance.

6. Back-burning conducted in MSO habitat resulted in the loss of key habitat components, and may have contributed to general disturbance and smoke inhalation to all three PACs. Back-burning and burnout operations were not conducted off the dozer lines inside Immigrant PAC or along the contingency lines on ridgetops.

Burnout and backfiring operations included backfiring from several control points or lines, felling 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. Owls nesting or roosting in the area where back-burning occurred may have been injured or killed. However, death of or injury to MSO as a result of these actions has not been documented, and is therefore not reasonably certain to have occurred.

7. Noise from equipment and resources assigned to the Pack Rat Fire may have contributed to the disturbance of MSO in all three PACs.

Equipment and resources assigned to the Pack Rat Fire included: 3-4 air tankers, 3 fixed wing aircraft, 2 heavy helicopters, 2 light helicopters, 1 other helicopter, 4 dozers, 30 engines, 9 lowboy transports, 26 water tenders, 8 type I handcrews, and 8 type II handcrews. Low-level flights have the greatest potential to disturb owls, because they move slowly and are relatively noisy (Delaney *et al.* 1997).

8. Rehabilitation efforts may have created additional disturbance to MSO in all three PACs.

The two PACs that received the majority of impacts due to the suppression actions mentioned above are Chase Creek East and Immigrant. Because adult owls were recently found in Chase Creek East PAC (June, 2003) permanent impairment of the adult pair was not likely to have occurred. However, if the pair were forced to move from or remain at the nest site during the fire they would have been impacted by the fire and a number of suppression activities to such an extent as to significantly disrupt normal behavior patterns. If breeding occurred in Chase Creek East PAC, juvenile owls would have been harassed as a result of suppression actions within the PAC and experienced the same fate as the adults (significant disruption of normal behavior patterns). The historical Arizona sandstone cliff face may have protected juvenile owls from the suppression activities if the nest/roost area was not subjected to crown fire. Because the habitat surrounding the cliff face was consumed by high-intensity fire, nestlings would have been forced from the protection of the cliff face and out into the open where suppression actions were being implemented.

The intensity of suppression actions in Immigrant PAC were higher than in the other two PACs. Immigrant PAC is located on top of the Rim where the terrain permits safer and easier implementation of suppression actions. Therefore fire crews were able to create a 1.0 mile fire line with a dozer. If breeding occurred in Immigrant PAC, juvenile owls and/or adults may not have moved safely out of the area and would have been injured from suppression actions.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Since the project occurred on Forest Service land, there are no actions that would occur in the action area that would not require additional section 7 consultation.

CONCLUSION

After reviewing the current status of Mexican spotted owl, the environmental baseline for the action area, the effects of the emergency action and the cumulative effects, it is the FWS's biological opinion that the emergency action did not likely jeopardize the continued existence of the Mexican spotted owl. We present these conclusions for the following reasons:

1. As reported in the BAE, suppression and rehabilitation actions were restricted to three PACs.
2. Suppression actions resulted in short-term disturbance from possible harassment to the Shadow Rim PAC, but did not impact the long-term viability of the site for spotted owls.
3. Suppression actions may have caused short-term disturbance and/or harassment to Immigrant and Chase Creek East PACs and may have resulted in long-term habitat degradation/modification throughout sections of this PAC. Although these disruptions may be long-term, the overall area affected by suppression actions within these PACs was less than ten percent, and these actions did not preclude regeneration of habitat in the future.

The conclusions of this biological opinion are based on full implementation of the project as described in the Description of the Emergency Action section of this document, including any Conservation Measures that were incorporated into the rehabilitation efforts.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR 17.3) as intentional or negligent 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 defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as the part of the agency action is not considered to be prohibited taking under the Act 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 or injury of individual birds, or the alteration of habitat that affects 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.

Using the best available data as summarized within this document, we have identified conditions which were reasonably certain to have resulted in incidental take of MSOs associated with suppression activity in the Chase Creek East PAC and the Immigrant PAC. Although it is likely that adverse effects to these PACs resulted from the suppression actions and the wildfire itself, it is the effects of the suppression actions which must be addressed in this emergency consultation. Even though take occurred, we recognize the suppression activities as necessary and beneficial as they likely prevented further loss to the species or its key habitat components. Based on the best available information concerning the MSO, habitat needs of the species, and the project description and other information furnished by the Forest Service, take is reasonably certain to have occurred for the MSO as a result of the following:

1. The combination of two 1-acre helispots constructed by fire crews, air tankers and helicopters dropping water and retardant from above, dozers and fire crews cutting line and backfiring on the ground, and smoke from the associated backfiring resulted in injury, disturbance, or harm in the Chase Creek East PAC. These activities removed large trees, snags, and coarse woody debris from the PAC.
2. The combination of one 3-acre safety zone constructed by fire crews, a dozer line removing habitat 1 mile long, air tankers and helicopters dropping water and retardant from above, fire crews cutting line and backfiring on the ground, and smoke from the associated backfiring, all resulted in disturbance, injury, or harm to MSO in Immigrant PAC. These activities removed large trees, snags, and coarse woody debris from the PAC and resulted in significant habitat modification.

Amount or Extent of Take Anticipated

The following forms and amount of take may have resulted from the emergency action:

One pair of MSO and/or associated juveniles in the form of harassment associated with the Chase Creek East PAC during the 2002 breeding season.

One pair of MSO and/or associated juveniles in the form of harm and/or harassment associated with the Immigrant PAC during the 2002 breeding season.

Effect of the Take

In this biological opinion, we determined that this level of anticipated take did not likely 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 on-going action related to the emergency (U.S. Fish and Wildlife Service 1998). The Forest Service has not advised us of any on-going 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).

DISPOSITION OF DEAD, INJURED, OR SICK MSO

Upon locating a dead, injured, or sick spotted owl, initial notification must be made to the Service's Law Enforcement Office, 2450 West Broadway Suite #113, Mesa, Arizona 85202 (telephone: 480/967-7900) within three working days of its finding. Written notification must be made within five calendar days and should 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 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 the 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 the treated owl(s) survive, the AESO should be contacted regarding the final disposition of the animal.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purpose of the Act by carrying out conservation programs for the benefit of endangered and

threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that the Shadow Rim PAC, Chase Creek East PAC, and Immigrant PAC be monitored annually for at least five years and that the results of the monitoring be provided to us.
2. We recommend that the Forest Service pursue monitoring and research opportunities to determine actual effects to, and recovery of, MSO habitat from the wildfire, and particularly in relation to future site occupancy.
3. We recommend that the Forest Service involve the expertise of a resource specialist immediately following the initiation of a wildfire to aid in the protection of listed species and their habitat.

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 this biological opinion. As provided in 50 CFR Section 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) 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.

We appreciate your consideration of the threatened Mexican spotted owl. For further information, please contact Ryan Gordon at (x225) or Debra Bills (x239). Please refer to the consultation number 02-21-03-F-0175 in future correspondence concerning this project.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

Mr. Karl Siderits

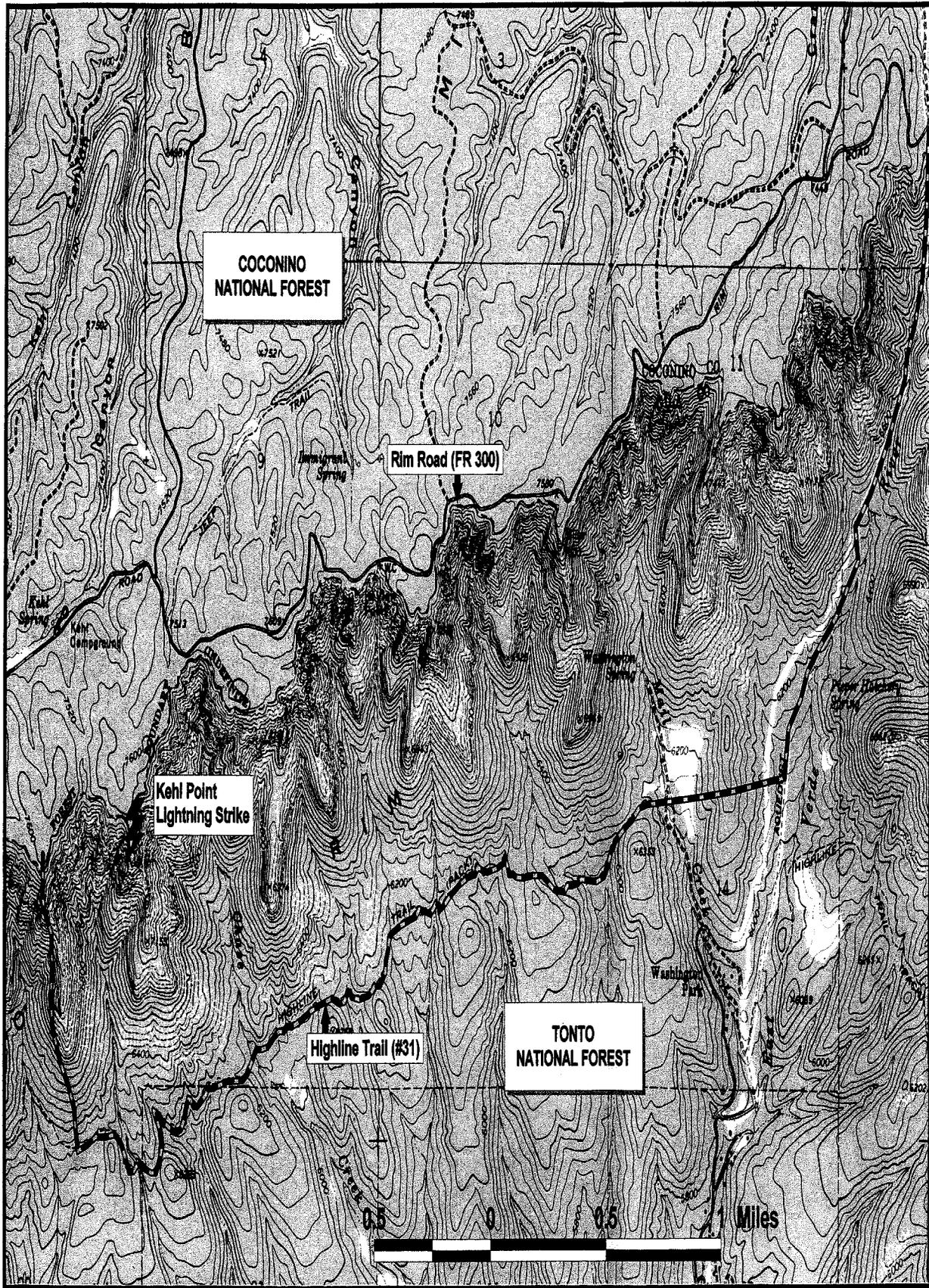
13

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)
District Ranger, Payson Ranger District, Payson, AZ
District Ranger, Mogollon Rim Ranger District, Coconino National Forest, Happy Jack, AZ
Shaula Hedwall, Fish and Wildlife Service, Flagstaff, AZ
John Kennedy, John Kennedy, Arizona Game and Fish Department, Phoenix, AZ

W:\Ryan Gordon\Tonto NF\2001 Fire Program\Wildfire\Pack Rat Wildfire BO.wpd:egg

LITERATURE CITED

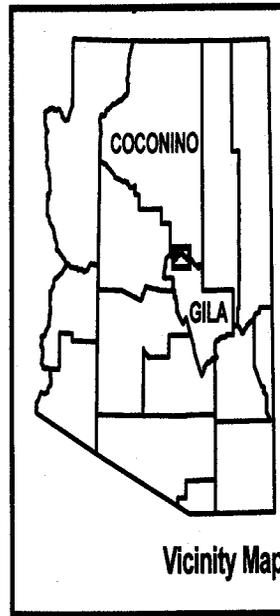
- Delaney, D.K., T.G. Grubb, and L.L. Pater. 1997. Effects of helicopter noise on nesting Mexican Spotted owls. A report to U.S. Air Force 49 CES/CEV, Holloman Air Force Base. Project order No. CE P.O. 95-4. 49 pp.
- Delaney, D.K., T.G. Grubb, P. Beier, L.L. Pater, M. Hildegard Reiser. 1999. Effects of helicopter noise on Mexican spotted owls. *Journal of Wildlife Management* 63:60-76.
- Fletcher, K. 1990. Habitat used, abundance, and distribution of the Mexican spotted owl, *Strix occidentalis lucida*, on National Forest System Lands. U.S. Forest Service, Southwestern Region, Albuquerque, New Mexico. 78 pp.
- Ganey, J.L. and R.P. Balda. 1989. Distribution of habitat use of Mexican spotted owls in Northern Arizona. *Condor* 91:355-361.
- Ganey, J. L., G.C. White, A.B. Franklin, J.P. Ward, Jr., and D.C. Bowden. 2000. A pilot study on monitoring populations of Mexican spotted owls in Arizona and New Mexico: second interim report. 41 pp.
- U.S. Department of Agriculture, Forest Service, Southwestern Region. 2001. Biological Assessment and Evaluation, Urban Interface Fuel Treatment, February 28, 2001. 271 pp.
- U.S. Department of Interior, Fish and Wildlife Service. 2001. Endangered and threatened wildlife and plants; final designation of critical habitat for the Mexican spotted owl. *Federal Register* 66(22):8530-8553.
- U.S. Department of Interior, Fish and Wildlife Service. 1991. Mexican spotted owl status review. *Endangered species report* 20. Albuquerque, New Mexico.
- U.S. Department of Interior, Fish and Wildlife Service. 1993. Endangered and Threatened Wildlife and Plants; final rule to list the Mexican spotted owl as threatened. *Federal Register*. 58:14248-14271.
- U.S. Department of Interior, Fish and Wildlife Service. 1995. Recovery Plan for the Mexican Spotted Owl. Albuquerque, New Mexico.
- U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1998. *Endangered Species Consultation Handbook*.
- Ward, J.P. and D. Salas. 2000. Adequacy of roost locations for defining buffers around Mexican spotted owl nests. *Wildlife Society Bulletin* 28(3):688-698.
- Wilson, E.D. 1969. A resume of the geology of Arizona. University of Arizona Press, Tucson. 140 pp.



ACTION AREA MA

Pack Rat Fire
Emergency Consultation
#02-21-03-F-0175

- East, West, and South Suppression Boundary
- ~ Rim Road North Suppression Boundary



Figure