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U.S. Fish and Wildlife Service
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AESO/SE
02-21-03-F-0134

October 20, 2003

Ms. Nora B. Rasure
Forest Supervisor
Coconino National Forest
2323 East Greenlaw Lane
Flagstaff, Arizona 86004-1810

RE: Pack Rat Salvage Project

Dear Ms. Rasure:

This letter constitutes the U.S. Fish and Wildlife Service's biological opinion based on our review of the Pack Rat Salvage Project, Mogollon Rim Ranger District, Coconino National Forest, Coconino County, Arizona. The biological opinion analyzes the project's effects 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.*, Act). We received your July 18, 2003, request for formal consultation on July 23, 2003. In that request, you determined that activities associated with salvage logging adjacent to the Immigrant protected activity center (PAC) (#040414) would likely adversely affect the MSO. In your letter you also requested our concurrence that the proposed action may affect, but is not likely to adversely affect, the threatened Little Colorado spinedace (*Lepidomeda vittata*). We concur with your determination. The basis for our concurrence is found in Appendix A.

This biological opinion is based on information provided in the July 3, 2003, Biological Assessment and Evaluation (BAE), conversations with your staff, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the MSO, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation History

Details of the consultation history are summarized in Table 1.

Table 1. Summary of consultation history

<i>Date</i>	<i>Event</i>
January 22, 2003	We received a description of the proposed action from the Forest Service.
February 21, 2003	We provided comments on the proposed action to the Forest Service.
March 19, 2003	We met with your staff to discuss the project and opportunities to minimize impacts to listed species.
July 9, 2003	We received the Environmental Assessment for the proposed salvage project.
July 23, 2003	The Forest Service requested formal consultation on effects of implementing the Pack Rat Salvage Project.
August 27, 2003	We met with your staff to discuss the project and consultation deadlines.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Pack Rat Salvage Project is located approximately 70 miles southeast of Flagstaff, Arizona on the Mogollon Ranger District, Coconino National Forest (Township 12 North, Range 10 East, Sections 2, 3, 5, 9, 10, 11, 16, and 17). In August 2002, the Pack Rat Fire burned approximately 1,074 acres of mixed conifer on the Mogollon Rim Ranger District, Coconino National Forest and approximately 2,020 acres on the Payson Ranger District, Tonto National Forest (see Consultation #02-21-03-F-0175). The proposed action is to salvage dead trees, twelve inches diameter at breast height (DBH) and greater, on approximately 550 acres of the area burned by the Pack Rat Fire. The project area will exclude the Immigrant MSO protected activity center (PAC) (#040414) and the Mogollon Rim Botanical Area. A dead tree will be defined as any tree with no green needles. This will include trees killed by the Pack Rat fire and trees killed by bark beetles.

The Forest Service proposes to:

1. Fell hazard trees less than 12 inches DBH along a 130-foot corridor adjacent to Forest Roads 300, 320, 141H, and 501 where safety is a concern. Only trees that are tall enough to hit the road will be removed to avoid creating a 130-foot “swath” devoid of trees.
2. Lop and scatter small diameter slash (3 to 12 inches DBH) created by felling activities in high-intensity burn areas.
3. Open Forest Roads 9360L and 9266 for use during salvage activities and close them after completion of project (approximately 1.7 miles of road).
4. Keep 1.0 miles of Forest Road 659 open and close 0.2 mile at an alternate entrance to protect the General Crook Trail.
5. Keep 0.1 mile of Forest Road 9266A open and close the last 0.2 mile to restrict access to MSO habitat and the Mogollon Rim Botanical Area.
6. Keep 0.1 mile of Forest Road 300J open and close the last 0.1 mile to restrict access to MSO habitat and the Mogollon Rim Botanical Area.
7. Construct 0.4 mile of temporary road for salvage activities and obliterate it following use.
8. Mechanically pile slash and burn where total fuel loads (activity slash plus existing slash) are greater than 15 tons per acre.
9. Lop and scatter slash to a two-foot height where total fuel loads (activity slash plus existing slash) are equal to or less than 15 tons per acre.

The proposed action provides for some snag retention by requiring that an average of at least two large (>20 inch DBH) snags per acre be left on the project area. The goal is to leave four to six snags per acre. Snags will be selected based on DBH, physical characteristics (e.g., broken top, lightning scar, state of decay, etc.), and will be distributed in a clumped fashion, and not uniformly distributed across the project area.

Project implementation is scheduled for fall 2003. However, if the contract is not sold or other issues arise, the project may be delayed until the spring/summer of 2004, and implementation of the project would occur during the MSO breeding season. If that happens, the Forest Service will conduct MSO surveys within the project area, plus an additional 0.5 mile area around the project boundary, during the spring of 2004.

STATUS OF THE SPECIES

The Mexican spotted owl was listed as a threatened species in 1993 (USDI 1993). The primary threats to the species were cited as even-aged timber harvest and catastrophic wildfire, although

grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The Service 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 percent of MSO known to exist in the United States between 1990 and 1993 occurred on lands administered by the Forest Service.

Currently, high intensity, stand-replacing fires are influencing ponderosa pine and mixed conifer forest types in Arizona and New Mexico. Mexican spotted owl habitat in the southwestern United States has been shaped over thousands of years by fire. Since MSO occupy a variety of habitats, the influence and role of fire has most likely varied throughout the owl's range. In 1994, at least 40,000 acres of nesting and roosting habitat were impacted to some degree by catastrophic fire in the Southwestern Region (Sheppard and Farnsworth 1995, unpublished Forest Service Report). Between 1991 and 1996, the Forest Service estimated that approximately 50,000 acres of owl habitat has undergone stand replacing wildfires (G. Sheppard, Forest Service, Kaibab National Forest, Arizona, pers. comm.). However, since 1996, fire has become catastrophic on a landscape scale and has resulted in hundreds of thousands of acres of habitat lost to stand-replacing fires. This is thought to be a result of unnatural fuel loadings, past grazing and timber practices, and a century of fire suppression efforts. The 2002 Rodeo-Chediski fire, at 462,384 acres, burned through approximately 55 PACs on the Tonto and Apache-Sitgreaves National Forests and the White Mountain Apache Reservation (all within the Upper Gila RU). Of the 11,986 acres of PAC habitat that burned on National Forest lands, approximately 55% burned at moderate to high severity. Based on the fire severity maps for the fire perimeter, tribal and private lands likely burned in a similar fashion. We define moderate severity burn as high scorch, trees burned may still have some needles and high severity burn as completely scorching all trees (trees completely dead).

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 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 northeastern 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).

Currently, catastrophic wildfire is probably the greatest threat to MSO within the Upper Gila Mountains RU. As throughout the West, fire intensity and size have been increasing within this geographic area. Table 2 shows several high-intensity fires that have had a large influence on MSO habitat in this RU in the last decade. Obviously the information in Table 2 is not a comprehensive analysis of fires in the Upper Gila Mountains RU or the effects to MSO. However, the information does illustrate the influence that stand-replacing fire has on current and future MSO habitat in this RU. This list of fires alone estimates that approximately 11% of the PAC habitat within the RU suffered high to moderate intensity, stand-replacing fire in the last seven years.

Table 2. Some recent influential fires within the Upper Gila Mountains Recovery Unit, approximate acres burned, number of PACs affected, and PAC acres burned.

Fire Name	Year	Total Acres Burned	# PACs Burned	# PAC Acres Burned
Rhett Prescribed Natural Fire	1995	20,938	7	3,698
Pot	1996	5,834	4	1,225
Hochderffer	1996	16,580	1	190
BS Canyon	1998	7,000	13	4,046

Pumpkin	2000	13,158	4	1,486
Rodeo-Chediski	2002	462,384	55	~33,000
TOTAL		525,894	84	~43,645

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). Based on this number of MSO sites, total numbers in the United States may range from 980 individuals, assuming each known site was occupied by a single MSO, to 1,960 individuals, assuming each known site was occupied by a pair of MSOs. The Forest Service Region 3 data are the most current compiled information available to us; however, survey efforts in areas other than National Forest System lands have likely resulted in additional sites being located in all Recovery Units. Currently, we estimate that there are likely 12 PACs in Colorado (not all currently designated) and 105 PACs in Utah.

Since the owl was listed, we have completed or have in draft form a total of 120 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 325 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, we 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, consultation on individual actions under the amended Forest Plans have resulted in 240 PACs adversely affected, with 129 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 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 from which to assess the effects of the action now under consultation.

A. Status of the species within the action area

The area surrounding the proposed project area has been surveyed at least twice for MSO between 1990 and 2001, and includes MSO protected, threshold, restricted, and foraging habitat (as defined by the Recovery Plan). Past surveys for MSO in and near the project area are shown in Table 3. Additionally, the proposed project area, plus areas within 0.5 miles of the area, was surveyed in May - June, 2003, and no MSO were detected. The Tonto National Forest also conducted MSO surveys below the Mogollon Rim in the area burned by the Pack Rat Fire. In 2003, MSO associated with the East Chase Creek PAC (#120412) successfully fledged two young approximately 0.5 mile from the project boundary, below the Mogollon Rim.

Table 3. Mexican spotted owl survey blocks for the Pack Rat Salvage Area

Project Name	Activity	Acres Surveyed	Year(s) Surveyed
Immigrant	Timber Sale	10,060	1990
Miller	Timber Sale	2,138	1989
Baker	Timber Sale	6,035	1989, 1990
Crackerbox	Timber Sale	5,132	1990-1992,1997,1999

The Immigrant MSO territory on the Coconino National Forest was established in 1990 and converted to a PAC (#040414) following finalization of the Recovery Plan. The PAC is based on an audio response, followed by a visual confirmation of a single roosting male near Immigrant Springs, above the Mogollon Rim. Nesting status was not determined during follow-up visits. Informal monitoring occurred in 1992 and 1994, but no responses were detected in either year. The 2002 Pack Rat fire burned approximately 200 acres of the Immigrant PAC and suppression activities within the PAC were intense. Extensive hand line and about 1.0 mile of dozer line

were constructed within the PAC. Additionally, a three-acre area on the edge of the 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. Burned area rehabilitation efforts in the PAC included the construction of water bars on dozer and hand lines, seeding and pulling slash back onto dozer/hand lines, and seeding and pulling slash onto the safety zone. We analyzed the effects of the suppression and rehabilitation activities on the Immigrant PAC in a biological opinion (#02-21-03-F-0175) issued on September 19, 2003. In this opinion, we anticipated the take of one pair of MSO and/or associated juveniles in the form of harm/harassment associated with the Immigrant PAC during the 2002 breeding season.

A small portion of the Maple Draw Restoration Project (Consultation #02-21-03-I-0060) is currently on-going within the Immigrant MSO PAC. Three, one-acre exclosures (225 feet by 400 feet) were constructed in the PAC during the fall of 2003, using eight-foot high elk-proof fence. Fence construction within the PAC occurred outside the breeding season to minimize disturbance. In addition to the fence, the Forest Service thinned out trees less than nine inches diameter at breast height (DBH) within the exclosures and six trees greater than nine inches DBH to protect exclosure fences. Based on the minimization measures implemented by the Forest Service, we concurred with their determination that the project would not likely adversely affect the MSO.

B. Factors affecting species' environment within the action area

Other activities occurring within and adjacent to the Immigrant PAC include recreation, firewood cutting and gathering, Forest Road 300 improvements, the Maple Draw Restoration Project (Consultation #02-21-03-I-0060), and past salvage logging. The action area runs along the Mogollon Rim, a large fault cutting across central Arizona for some 200 miles in a southeast to northwest direction. The level of recreational use during the summer within the project area has grown dramatically and includes dispersed camping, hiking, horseback riding, bicycling, hunting, and Off-Highway Vehicle (OHV) use. The primary forest roads, including the Rim Road, all receive heavy use during the summer months. A large number of side roads (including a jeep trail which runs through the PAC), originally constructed for timber harvest, are used for dispersed camping, recreational activities, and fuelwood collection. In addition, the Mogollon Rim Botanical Area, which shares the same boundary as the Immigrant PAC, is a local attraction.

The 1991 Bray and Dude fires burned several thousand acres along the Mogollon Rim, immediately adjacent to the west and east of the Pack Rat Salvage project area. Following these fires, large-scale salvage operations removed most of the snags created by these fires and reduced the availability of snags near the Pack Rat Salvage analysis area. Many of the snags retained for wildlife in these areas have since fallen, further reducing snag availability. Furthermore, the areas burned by the Bray and Dude fires is now open habitat with virtually no trees.

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. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Implementation of the proposed salvage project is planned for fall 2003. There is the possibility that if the project is unable to proceed this fall, the project will be implemented during the spring and summer of 2004. Spring implementation of the project would result in salvage logging activities occurring during the MSO breeding season (1 March through 31 August). If this occurs, the project area plus habitat within the 0.5 mile area around the project area will be surveyed for MSO prior to commencement of logging activities. If it is determined that the Immigrant MSO PAC is occupied in 2004, the Forest Service will attempt to determine nesting status. If nesting MSO are located, no project activity will occur within 0.5 mile of the 100-acre nest buffer during the breeding season. If MSO are found to be non-nesting in the Immigrant PAC, then project activity will proceed as described. Regardless of the timing of the project, there will be no project activity within the Immigrant PAC. In addition, if MSO are detected while surveying restricted habitat within or adjacent to the project area, the Forest Service will reinitiate consultation with the Fish and Wildlife Service.

If the Pack Rat Salvage project is conducted during the MSO breeding season, the main effect to MSO would be noise disturbance. The response of wildlife to noise disturbance is complex, being neither uniform nor consistent. Delaney *et al.* (1997) reviewed literature on the response of owls and other birds to noise and concluded the following: 1) raptors are more susceptible to disturbance-caused nest abandonment early in the nesting season; 2) birds generally flush in response to disturbance when distances to the source are less than approximately 200 feet and when sound levels are in excess of 95 dBA; and 3) the tendency to flush from a nest declines with experience or habituation to the noise, although the startle response cannot be completely eliminated by habituation.

None of the proposed salvage logging associated with the project will physically alter habitat conditions for the owl within the Immigrant PAC. However, there is the potential for disturbance to breeding birds within the PAC resulting from the use of heavy machinery during the breeding season, as almost the entire Immigrant PAC is within 0.5 mile of the project area. The gently sloping physical characteristics of the Immigrant PAC do not provide topographic screening between the project area and the Immigrant PAC that might assist in the reduction of noise disturbance. In addition, based on small-mammal trapping information collected in 2003 near the project area, we know that prey population estimates declined (most likely in response to the 2002 drought). This decline may exacerbate the effects of reduced foraging time caused by noise disturbance.

Though the East Chase Creek 2003 nest tree is approximately 0.5 mile from the project boundary, we believe that topographic screening between the area of disturbance and the birds' location will create a noise buffer, and may assist in the reduction of noise disturbance (Knight and Cole 1995). However, the physical structure of canyons can also tend to magnify disturbances and limit escape/avoidance routes for owls (USDI 1995). Based on the extreme topography of the Mogollon Rim, we believe that noise from the logging operation will not affect the East Chase Creek MSO.

Indirect effects to the MSO may result from the removal of snags in potential foraging areas. The forest stands within the project area are mostly restricted mixed conifer habitat. Some of these stands have been previously treated under timber sales. The main timber component within these stands is Douglas-fir and white fir. Snags provide nesting habitat for MSO and small mammals (MSO prey species), and future dead and down material that provides habitat for prey. The proposed action, by definition, removes many of the snags from the analysis area. The Forest Service argues that the effects of removing these snags is largely mitigated by the fact that snags are locally abundant within the PAC and immediately outside the project area.

In summary, we believe that MSO may be adversely affected by actions associated with the Pack Rat Salvage project. Adverse effects may occur as a result of salvage logging in restricted habitat and potential disturbance to MSO within the Immigrant PAC if the project extends into 2004 and surveys are inconclusive.

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 are subject to the consultation requirements established under section 7 and, therefore, are not considered cumulative to the proposed action. Future actions within the project area that are reasonably certain to occur include recreation, fuels reduction treatments and/or commercial logging on the adjacent private land, increased development and other associated actions. These activities have the potential to reduce the quality of MSO nesting, roosting, and foraging habitat, cause disturbance to breeding MSOs, and therefore contribute as cumulative effects to the proposed action. However, because of the predominant occurrence of MSOs on Federal lands in this area, 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 to be of minor impact to the owl population, but may have significant impacts on the Immigrant MSO PAC.

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 salvage logging

activities adjacent to the Immigrant PAC and potential 2004 breeding season disturbance will not likely jeopardize the continued existence of the MSO. This conclusion is based on the following:

1. The Forest Service will not conduct any salvage logging in the Immigrant MSO PAC.
2. If project activities extend into 2004, the Forest Service will conduct MSO surveys within the project area, plus an additional 0.5 mile area, during the spring of 2004. If nesting MSO are located, a 0.5 mile buffer will be placed around the 100-acre nest core to project MSO from noise disturbance that may influence nesting success.

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 under section 3 of the Act 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 by regulation (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 under 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 under 50 CFR 402.02 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) of the Act, taking that is incidental to, and not intended as 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 an Incidental Take Statement.

Amount or Extent of Take Anticipated

The Fish and Wildlife Service does not anticipate that the proposed action will incidentally take any Mexican spotted owls. We believe this for the following reasons:

1. Disturbance to MSO will be limited by conducting salvage logging adjacent to the Immigrant PAC outside the breeding season. If activities persist into the 2004 breeding season (1 March through 31 August), the area will be re-surveyed. If nesting MSO are located the project will be modified to protect these birds from disturbance.
2. No salvage logging will occur within the Immigrant MSO PAC.
3. If MSO are located in restricted habitat adjacent to the Immigrant MSO PAC, the project will be modified to protect MSO and the Forest Service will reinitiate consultation.
4. The East Chase Creek PAC is topographically buffered from the proposed action and the proposed action should not result in the harm or harassment of nesting MSO during the 2004 breeding season.

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 our 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 Service 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 purposes of 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 Immigrant MSO PAC be monitored annually for at least five years and that the results of the monitoring be provided to us. Monitoring is needed to locate nest and roost locations in PACs and establish 100-acre nest/roost buffers according to the methods described by Ward and Salas (2000) as outlined in a June 5, 2000, letter from the Fish and Wildlife Service Regional Director to Recovery Team Leader Dr. William Block.
2. We recommend that the Forest Service carefully review the recommendations on post-fire practices as detailed in Beschta et al. 1995. Any actions that will maintain the long-term integrity of the ecosystem and the protection of natural recovery processes should be implemented.

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 §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 Shaula Hedwall at (928) 226-0614 (x103), or Brenda Smith at (928) 226-0614 (x101) of our Flagstaff Suboffice. Please refer to the consultation number 02-21-03-F-0134 in future correspondence concerning this project.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)
Field Supervisor, Fish and Wildlife Service, New Mexico Field Office, Albuquerque, NM
District Ranger, Mogollon Rim Ranger District, Happy Jack, AZ (Attn: Larry Sears)
Wildlife Staff, Mogollon Rim Ranger District, Happy Jack, AZ (Attn: Cathy Taylor)
Forest Supervisor, Coconino National Forest, Flagstaff, AZ (Attn: Cecelia Overby)

John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

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APPENDIX A - CONCURRENCE

Little Colorado Spinedace

The Little Colorado spinedace was listed as threatened with critical habitat designated on October 16, 1987 (USFWS 1987). Threats were identified as habitat alteration and destruction, predation by and competition with non-native aquatic organisms, and recreational fishery management. Forty-four stream miles of critical habitat were designated: 18 miles of East Clear Creek immediately upstream and 13 miles downstream from Blue Ridge Reservoir in Coconino County; eight miles of Chevelon Creek in Navajo County; and five miles of Nutrioso Creek in Apache County. Constituent elements of critical habitat consist of clean, permanent flowing water, with pools and a fine gravel or silt-mud substrate.

Project activities are predicted to enhance soil stabilization and reduce erosion and sedimentation through spreading logging slash and felling small-diameter trees in high-intensity burn areas. In addition, no ground disturbing activities will take place in snowmelt drainages. The project area is greater than 1.0 mile from perennial streams, so the Forest Service believes that the existing vegetation will retain most sedimentation before it reaches perennial waters. They also predict that soil stabilization will help mitigate the negative effects on fish due to increased erosion from the Pack Rat fire.

We concur with the Forest Service's determination that the proposed action may affect, but will not likely adversely affect, the Little Colorado spinedace or its critical habitat. We base this determination on the following:

1. There is no habitat (perennial water) present within the project area, so there will be no direct effects to Little Colorado spinedace.
2. Indirect effects to down-drainage habitat will be minimized through soil stabilization activities.
3. No new permanent roads will be built. The 0.4 mile of temporary road proposed will not be built in riparian habitat.