United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 FAX: (602) 242-2513

In Reply Refer To:

AESO/SE
02-21-05-F-0750 September 6, 2005

Ms. Jill Leonard
District Ranger
North Kaibab Ranger District
P.O. Box 248
430 South Main Street
Fredonia, Arizona 86022-0248

RE: Biological Opinion for the Dry Park Vegetation Management Project

Dear Ms. Leonard:

Thank you for your request for formal 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 formal consultation regarding effects of the Dry Park Vegetation Management Project on Mexican spotted owl (MSO) (*Strix occidentalis lucida*) critical habitat was dated August 22, 2005 and received by us on August 22, 2005. At issue are impacts that may result from the subject project which is located on the North Kaibab Ranger District (District) in Coconino County, Arizona.

This biological opinion is based on information provided in biological evaluations (BEs), supplements to the BEs, meetings, telephone conversations, email messages, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, the types of actions and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

CONSULTATION HISTORY

Table 1 is a summary of the consultation history for the project. All tables are included at the end of this document.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Most of the information regarding the project in this biological opinion is from the BE (Sanders 2005a). The project involves continued implementation of the Dry Park Vegetation Management Project on the North Kaibab Ranger District in recently designated MSO critical habitat. Informal consultation (02-21-98-I-0237) on effects of the project on the MSO was concluded on May 13, 1999, with issuance of our written concurrence with a not likely to adversely affect determination. MSO critical habitat was subsequently designated on August 31, 2004, with an effective date of September 30, 2004. No activities have proceeded since that time.

Implementation of the project began in June 2002. Approximately 14,740 hundred cubic feet (CCF) of sawtimber (9" or greater in diameter at base height [dbh]) and 6,380 CCF of roundwood (less than 9" dbh) were marked for harvest. Harvest of the area has been implemented on about 53% of the areas scheduled for treatment. No other activities have yet been implemented. Approximately 1,659 acres of mixed conifer areas have been harvested as of September 24, 2004, and 1,272 acres remain to be harvested.

Continued implementation of the Dry Park Vegetation Management Project would include the following:

- Coniferous trees will be thinned and regenerated using uneven aged silvicultural harvest systems focused on reducing fuels, improving growth, and retaining natural clump and group qualities of the residual stands.
- 7,170 acres of logging slash from existing down woody material will be treated.
- About 28 road-miles of fuelbreaks will be maintained.
- Conifer trees will be removed from selected meadows.
- Selected conifers will be removed from some aspen clones.
- Approximately 67 miles of terminal roads will be closed.
- About 11 acres of severely infected dwarf mistletoe areas will be treated.
- About 40 acres of old growth surrounding the Dry Park Lookout Tower will be burned by prescription.

Because it was not then designated, MSO critical habitat was not considered in the development of project design criteria. However, several measures may contribute to retention of primary constituent elements, including the following:

- Ground disturbance during slash removal will be kept to a minimum in retention areas.

- Tree clumps will maintain interlocking crowns.

- To provide for future snags, living spike-topped trees and dying trees will not be cut unless they pose a threat to safety or property.

- Areas where piling of slash occurs will have at least one pile per five acres left unburned for wildlife habitat.

- In regeneration groups, large down woody debris will average three pieces per acre, at least 10 feet long and greater than 12" in diameter, where available.

- Where possible, a higher tree density than the remaining stand will be retained around red squirrel cone caches and nests.

- No new roads or skid trails will be placed in drainage bottoms or meadows, except for designated skid trails crossing drainages.

- Meadows, designated drainages, and sinkholes will be protected by a 33-feet no-machine-entry zone from the normal high water level in the drainages, the edge of the meadow, or the slope of the break of the sinkhole.

- 5-7 tons per acre of down woody debris greater than three inches in diameter will be left scattered in ponderosa pine stands, and 10-15 tons per acre will be left in mixed conifer stands where visual aspect, fuel loading, insects, and diseases are not a concern.

- Sinkholes greater than 0.25 acre in size or with sideslopes greater than 25 percent will have a 33-foot no-machine-entry zone around them, and the sinkholes will not have trees harvested in them. Other sinkholes may have trees harvested in them, but the logs will be endlined out. Slash and debris will not be pushed into the sinkholes for disposal.

- Skid trail locations will be approved by the Timber Sale Administrator, and skidders will be restricted to the skid trails.

STATUS OF THE SPECIES

The MSO 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 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.

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). 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.

The proposed project will occur in the Colorado Plateau Recovery Unit. The Colorado Plateau RU includes most of southern and south-central Utah, plus portions of northern Arizona, northwestern New Mexico, and southwestern Colorado.

MSO habitat appears to be naturally fragmented in this RU, with most owls found in disjunct canyon systems or isolated mountain ranges. In northern Arizona, MSO have been reported in both canyon and montane situations. Recent records of MSO exist for the Grand Canyon and Kaibab Plateau, as well as for the Chuska Mountains, Black Mesa, Fort Defiance Plateau, and the Rainbow/Skeleton Plateau on the Navajo Nation. Federal lands account for 44 percent of this RU. Tribal lands collectively total 30 percent, with the largest single entity being the Navajo Nation. Threats in this RU, according to the MSO Recovery Plan, included timber harvest; overgrazing; catastrophic fire; oil, gas, and mining development; and recreation.

Approximately 200 MSO PACs have been designated in the Colorado Plateau Recovery Unit (Shaula Hedwall, pers. comm. 2003). Eleven (approximately 5.5 percent) of those PACS have been involved in actions where incidental take has been anticipated.

Historical and current anthropogenic uses of MSO habitat include both domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development. These activities have the potential to reduce the quality of MSO nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season.

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, survey efforts in areas other than National Forest System lands have likely resulted in additional sites being located in all Recovery Units.

Researchers studied MSO population dynamics on one study site in Arizona (n = 63 territories) and one study site in New Mexico (n = 47 territories) from 1991 through 2002. The Final Report, titled "Temporal and Spatial Variation in the Demographic Rates of Two Mexican Spotted Owl Populations," (*in press*) found that the Arizona population was stable (mean Λ from 1993 to 2000 = 0.995; 95% Confidence Interval = 0.836, 1.155) while the New Mexico

population declined at an annual rate of about 6% (mean Λ from 1993 to 2000 = 0.937; 95% Confidence Interval = 0.895, 0.979). The study concludes that spotted owl populations could experience great (>20%) fluctuations in numbers from year to year due to the high annual variation in recruitment. However, due to the high annual variation in recruitment, the MSO is then likely very vulnerable to actions that impact adult survival (e.g., habitat alteration, drought, etc.) during years of low recruitment.

Since the owl was listed, we have completed or have in draft form a total of 155 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 357 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 two of these projects (release of site-specific owl location information and existing forest plans) have resulted in biological opinions that the proposed action would likely jeopardize the continued existence of the MSO.

In 1996, we issued a biological opinion on Region 3 of the Forest Service adoption of the Recovery Plan recommendations through an amendment to their Land and Resource Management Plans (LRMPs). In this non-jeopardy biological opinion, we anticipated that approximately 151 PACs would be affected by activities that would result in incidental take of MSOs, with approximately 2 of those PACs located in the Colorado Plateau RU. In addition, on January 17, 2003, we completed a reinitiation of the 1996 Forest Plan Amendments biological opinion, which anticipated the additional incidental take of five MSO PACs in Region 3 due to the rate of implementation of the grazing standards and guidelines, for a total of 156 PACs. Consultation on individual actions under these biological opinions resulted in a determination that owls associated with approximately 243 PACs on Region 3 National Forest System Lands would be harmed and/or harrassed. Region 3 of the Forest Service reinitiated consultation on the LRMPs on April 8, 2004. On June 10, 2005, the FWS issued a revised biological opinion on the amended LRMPs. We anticipated that while the Region 3 Forests continue to operate under the existing LRMPs, take is reasonably certain to occur to an additional 10 percent of the known PACs on Forest Service lands. We expect that continued operation under the plans will result in harm to owls in 49 PACs and harassment to owls in another 49 PACs. To date, consultation on individual actions under the amended Forest Plans, as accounted for under the June 10, 2005, biological opinion, has resulted in 5 PACs adversely affected (owls in 3 PACs harassed, 1 PAC harmed, and 1 PAC harmed and harassed), with none of those in the Colorado Plateau RU.

Mexican Spotted Owl Critical Habitat

The final MSO critical habitat rule (USDI 2004) designated approximately 8.6 million acres of critical habitat in Arizona, Colorado, New Mexico, and Utah, mostly on Federal lands (USDI 2004). Within this larger area, proposed critical habitat is limited to areas that meet the

definition of protected and restricted habitat, as described in the Recovery Plan. Protected habitat includes all known owl sites and all areas within mixed conifer or pine-oak habitat with slopes greater than 40 percent where timber harvest has not occurred in the past 20 years. Restricted habitat includes mixed conifer forest, pine-oak forest, and riparian areas outside of protected habitat.

The primary constituent elements for proposed MSO critical habitat were determined from studies of their habitat requirements and information provided in the Recovery Plan (USDI 1995). Since owl habitat can include both canyon and forested areas, primary constituent elements were identified in both areas. The primary constituent elements which occur for the MSO within mixed-conifer, pine-oak, and riparian forest types that provide for one or more of the MSOs habitat needs for nesting, roosting, foraging, and dispersing are in areas defined by the following features for forest structure and prey species habitat:

Primary constituent elements related to forest structure include:

- A range of tree species, including mixed conifer, pine-oak, and riparian forest types, composed of different tree sizes reflecting different ages of trees, 30 percent to 45 percent of which are large trees with dbh of 12 inches or more;

- A shade canopy created by the tree branches covering 40 percent or more of the ground; and,

- Large, dead trees (snags) with a dbh of at least 12 inches.

Primary constituent elements related to the maintenance of adequate prey species include:

- High volumes of fallen trees and other woody debris;

- A wide range of tree and plant species, including hardwoods; and

- Adequate levels of residual plant cover to maintain fruits and seeds, and allow plant regeneration.

The forest habitat attributes listed above usually are present with increasing forest age, but their occurrence may vary by location, past forest management practices or natural disturbance events, forest-type productivity, and plant succession. These characteristics may also be observed in younger stands, especially when the stands contain remnant large trees or patches of large trees. Certain forest management practices may also enhance tree growth and mature stand characteristics where the older, larger trees are allowed to persist.

There are eight critical habitat units located in the Colorado Plateau RU totaling approximately 3.4 million acres of designated critical habitat, although not all of those acres meet the definition of critical habitat.

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

A. STATUS OF THE SPECIES WITHIN THE ACTION AREA

The project area was surveyed for MSO according to the survey protocol that existed in 1992, 1995, 1998, and 1999. No owls were detected during those surveys. No surveys were conducted specifically for consideration of the effects of the remaining treatments on designated MSO critical habitat.

The project area is within MSO critical habitat unit Colorado Plateau (CP)-10. The unit contains 918,847 acres, but the amount of mixed conifer or all MSO habitat within that unit is not known.

B. FACTORS AFFECTING SPECIES' ENVIRONMENT WITHIN THE ACTION AREA

The project occurs within the Central Summer grazing allotment area. The potential effects of livestock grazing in the Central Summer allotment on the MSO were considered under a Regional consultation with a determination that the species would not be affected. Informal consultation regarding the potential effects of livestock grazing in the Central Summer grazing allotment on MSO critical habitat is ongoing.

The Dry Park Vegetation Management Project has been partially implemented. See the Description of the Proposed Action section above for status of the project.

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.

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service* (No. 03-35279) to complete the following analysis with respect to critical habitat.

Approximately 1,272 acres of MSO critical habitat previously identified by the District as mixed conifer stands will be mechanically (defined for this project as thinning and timber harvest) treated. Six primary constituent elements (PCEs) of MSO critical habitat are relevant to the proposed action, including three related to forest structure and three related to maintenance of adequate prey species. The proposed action will not occur in canyon or riparian MSO habitat. A summary of the average effects for all cutting units of the proposed action on the six primary constituent elements is in Table 2. Information for each individual cutting unit was not provided.

In addition, approximately 40 acres (stand 003095-0016) of MSO critical habitat will be treated with prescribed fire. The anticipated effects of each component (mechanical treatment and prescribed fire) of the proposed action on each of the six PCEs is discussed below.

A range of tree species; including mixed conifer and pine-oak forest types, composed of different tree sizes reflecting different ages of trees, 30-45 percent of which are large trees with a 12 inch or greater dbh.

The 1,272 acres of MSO critical habitat to be mechanically treated do not currently meet the conditions of this primary constituent element. Table 3 summarizes the additional loss of trees greater than 12 inches in diameter as a result of the project. Only one 32-acre unit of the six cutting units approaches meeting the conditions of this primary constituent element after treatment. Although the range of tree species present following treatments should not be affected, different tree sizes reflecting different ages of trees will be affected, particularly those in the 12-18" dbh size class. This would affect future recruitment and time for recruitment into the larger size classes.

Stand 003095-0016 currently has 17.8 percent of trees per acre 12 inches dbh and larger. No cutting is proposed in this stand, but prescribed burning would reduce the trees per acre retained that are less than 12 inches dbh. Such reduction would increase the percentage of trees in the 12 inches and above size class. The percentage of trees 12 inches dbh or larger would still be below 30 percent after prescribed fire.

A shade canopy created by tree branches covering 40 percent or more of the ground.

Table 2 indicates that, on average for all six cutting units to receive mechanical treatment, the level of canopy cover addressed by this PCE will be retained. Although the District did not provide data for the individual cutting units, the BE states that "canopy cover will be higher in the treated mixed conifer stands than required by the Final Rule for CH," so we assume this PCE will be retained in each unit.

For stand 003095-0016, current canopy cover is 68.8 percent. After the prescribed fire treatment, maximum anticipated reduction (10 percent) would result in canopy cover remaining above 40 percent.

Large dead trees (snags) with a 12 inch or greater dbh.

Table 2 indicates that, on average for all six cutting units to receive mechanical treatment, the existing amount of snags 12 inches or greater dbh will be retained. However, it is not clear what the condition of the PCE will be for the individual cutting units. Project design requires 6 reserve trees per acre 18" dbh and larger, at least 30 feet tall, be retained for future snag development; and a minimum of 3 snags per acre 18" dbh and larger be retained. Snags will not be targeted for removal during thinning. Due to continued bark beetle mortality in this area, recruitment of additional large dead trees is expected within the treatment unit.

For stand 003095-0016, there are currently on average 9.6 snags 12 inches dbh and larger per acre in the stand. After prescribed fire, 6.2 large snags per acre are expected to remain. This loss represents a 35 percent reduction of this PCE in this stand. Previous research has indicated that a decrease of at least 20 percent of snags can be expected as a result of prescribed fire (Randall-Parker and Miller 2000).

<u>High volumes of fallen trees and other woody debris</u>.

Table 2 indicates that, on average for all six cutting units, the existing amount of downed logs addressed by this PCE will be retained. There will be a 32-45% loss, on average for the six cutting units, of other woody debris.

Project mitigation measures require the retention of 10-15 tons per acre following fuels treatments in mixed conifer stands, and the retention of at least 5 down logs per acre measuring a minimum of 12" at midpoint and 10 feet in length. Crews conducting piling activities consider log soundness, size, length, and degree of decay when selecting logs to be left in place. One pile per five acres is left unburned to serve wildlife needs in addition to 10-15 tons per acre of scattered woody debris.

Currently, there are on average 5.7 large down logs per acre in stand 003095-0016. Study areas on the Coconino and Kaibab National Forests have shown a 50 percent reduction in down logs after prescribed fire (Randall-Parker and Miller 2000). However, prescribed fires on the North Kaibab Ranger District have shown a higher rate of retention when application methods are applied judiciously; retention of 40-60 percent of large down logs can be expected during fall burning, and 60-80 percent retention during spring burning (Sanders 2005b). Project documentation requires retention of 5 large down logs per acre which would be an 88 percent retention rate.

Stand 003095-0016 is typical of other mixed conifer stands in the project area. Approximately 22 tons per acre of down woody debris exists, and 10-15 tons per acre will be retained after prescribed fire using retention lighting techniques, contribution of new wood by burned-through snags, and fuel moistures at the time of ignition. This result is a 32-55 percent reduction of down woody debris.

<u>A wide range of tree and plant species, including hardwoods</u>.

Timber harvesting activities will focus on merchantable species, usually harvested according to a species' relative frequency (Sanders 2005a). Current implementation methods consider

distribution on the landscape, focusing on leaving groups and clumps intact, and removing trees between groups, but not removing a species completely from any area. Most thinning activities will be done from below, leaving an intact overstory suitable for seed production. Although the percent compositions across a harvest unit may change, the range of tree species on a given site will be retained. Subsequent reduction in competition may improve the ability of more species to occupy an area following disturbance. Therefore, the range of tree and plant species, including hardwoods, will not be affected by treatments.

Forty acres of prescribed fire in the 208-acre stand 003095-0016 will result in a patch change within the larger area. After burning, plant species richness at ground level will be reduced to those species that thrive in a fire disturbance condition. However, the patch affected by fire will still be subjected to seeds from the full compliment of species on the landscape. This PCE will be temporarily reduced in the short-term, and re-seeding will be influenced by the plant species in the area, but no species will be excluded.

Adequate levels of residual plant cover to maintain fruits, seeds, and allow plant regeneration.

Selectively harvesting trees will result in some damage or loss of understory plants from crushing during thinning activities. Fruit and seed production and plant regeneration will be adversely affected in the short-term.

Over the long-term, uneven-aged management will result in a mosaic of microhabitats across the treated units. The opening size created by this type of management is generally between 0.25-0.5 acre; only small gaps will be created in the canopy. The focus on leaving groups and clumps of trees will retain microclimates suitable for species adapted to shady, moist conditions. Small openings may increase the number and distribution of understory plant species available in treated areas over time, as well as increasing hiding cover by allowing understory plants to occupy larger portions of a stand. Prescribed fire will temporarily reduce the amount of understory vegetation. Release of nutrients back to the soil from burning, coupled with an increase in sunlight, is expected to result in vigorous regrowth of understory vegetation.

After prescribed fire in stand 003095-0016, ground vegetation would shift toward brush species that provide fruits and seed for small mammals for several years before tree species would reoccupy the site. This may temporarily improve habitat for some prey species of the MSO by increasing the complexity and composition of the ground-level vegetation.

In summary, PCEs of MSO critical habitat will be affected by the project. The approximately 1,312 acres of MSO critical habitat in the treatment units does not currently have 30-45 percent of its trees in the 12 inch or greater dbh size class. That PCE will not be met after treatment, and most of the treated units will sustain further reduction of the PCE. In addition, approximately 45 percent of existing woody debris will be removed in the 1,272 acres of MSO critical habitat that will receive mechanical treatment. Approximately 35 percent of existing large dead trees (snags) with a 12 inch or greater dbh will be lost, and approximately 55 percent of existing woody debris will be removed, as a result of prescribed fire in 40 acres of MSO critical habitat.

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.

The land within the project boundary is of Federal ownership. Recreation is the primary non-Federal activity that occurs in the project area. The recreation activity may result in disturbance effects to the MSO. The extent of such possible disturbance is unknown but is expected to be relatively minor. Wildfires inadvertently started by recreationists could affect MSO critical habitat to an unknown extent.

CONCLUSION

After reviewing the current status of MSO critical habitat, the environmental baseline for the action area, the effects of the proposed actions and the cumulative effects, it is the FWS's biological opinion that the Dry Park Vegetation Management Project is not likely to destroy or adversely modify designated MSO critical habitat. We present this conclusion for the following reasons:

1. Although primary constituent elements of MSO critical habitat will be adversely affected by the proposed action, the scope of the project is limited to only 0.1 percent of the critical habitat unit. Specifically, the proposed action will adversely affect approximately 1,312 acres in the 918,847- acre MSO critical habitat unit CP-10.

2. Conservation measures will contribute to retention of PCEs in the project area.

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

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 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 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.

AMOUNT OR EXTENT OF TAKE

This consultation addresses effects to MSO critical habitat, and consideration of incidental take of the species is not relevant. Effects to the species were addressed in a previous informal consultation (02-21-98-I-0237).

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 W. Broadway Rd, 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 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.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We recommend that the Forest Service work with us to design future projects on the North Kaibab Ranger District to ensure that all primary constituent elements of MSO critical habitat are retained and enhanced.

In order for the FWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the FWS requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the request. 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 not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances

where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The FWS appreciates the Forest Service's efforts to identify and minimize effects to listed species from this project. For further information please contact Bill Austin (x102) or Brenda Smith (x101) at (928) 226-0614.

Sincerely,

Steven L. Spangle
Field Supervisor

cc: Field Supervisor, Fish and Wildlife Service, Albuquerque NM
Forest Supervisor, Kaibab National Forest, Williams AZ
Shaula Hedwall, Fish and Wildlife Service, Flagstaff AZ

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix AZ

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LITERATURE CITED

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TABLES

Table 1. Consultation history for the Dry Park Vegetation Management Project.

Date	*Event*
October 24, 2004	We received a request for concurrence that the Dry Park Vegetative Management Project is not likely to adversely affect proposed MSO critical habitat.
November 3, 2004	We responded with an email message with comments on the proposed action and a request for additional information.
November 23, 2004	We received additional information regarding the proposed action.
January 18, 2005	We and the District met to discuss the proposed action.
February 2, 2005	We and the District met to discuss the proposed action.
June 3, 2005	We received supplemental information regarding the proposed action.
July 21, 2005	We provided additional comments on the proposed action.
August 22, 2005	We received a request for formal consultation on the proposed action.
August 29, 2005	We received additional information regarding a portion of the proposed action.

Table 2. Summary of the pre- and post-treatment conditions of the PCEs of MSO critical habitat to receive mechanical treatment under the Dry Park Vegetation Management Project (from Sanders 2005a).

Primary Constituent Element	**Before Treatment 1999**	**After Treatment 2006[a]**
A range of tree species; including mixed conifer and pine-oak forest types, composed of different tree sizes reflecting different ages of trees, 30-45 percent of which are large trees with a 12 inch or greater dbh.	PCE conditions not met	PCE conditions not met
A shade canopy created by tree branches covering 40 percent or more of the ground.	62.0 %	56.6 %
Large dead trees (snags) with a 12 inch or greater dbh.	6.2	6.2[b]
High volumes of fallen trees and other woody debris.	5	5[b]
Fuel loading (average tons per acre) of down/dead woody material	22	10-15
A wide range of tree and plant species, including hardwoods.	Limited ground-level plant material, hardwoods (avg. 35.7 trees per acre >5") are declining due to competition and shade.	More open canopy resulting in higher plant density and species richness at ground-level. Locust and aspen resprout from roots.
Adequate levels of residual plant cover to maintain fruits, seeds, and allow plant regeneration.	Fruiting and seeding of low-level plants declining from low light levels and competition	No species will be eradicated, some increase in vigor and biomass production from increased sunlight. There will be a short-term reduction immediately following treatments.

[a] The majority of activities should be completed by 2006, but some treatments may be delayed by budget, staffing, time of year, priority, and consecutive treatment arrangement.

[b] Snags will not be targeted for removal, but may be consumed by fire. However, fire and other natural effects will replace these snags so the expected result is little change. A similar effect is expected for down logs.

Table 4. Pre- and post-treatment condition of the 30 percent/12 inch tree PCE of MSO critical habitat to be treated mechanically under the Dry Park Vegetation Management Project (adapted from Sanders 2005a).

Cutting Unit	*Stands*	*Total Area (Acres)*	*Pre-Treatment (Trees 12"+ dbh/acre)*	*Post-Treatment (Trees 12"+ dbh/acre)*	*Net Change (Trees 12"+ dbh by unit)*
1	95-23 95-45 95-60 96-62	524	9.99 %	9.31 %	(-6.8 %)
4	95-45 95-47 95-53	355	8.05 %	7.14 %	(-11.3 %)
11	101-21	39	2.75 %	2.42 %	(-12.0 %)
12	101-31 101-61 101-110	68	6.69 %	6.26 %	(-6.4 %)
14	95-60 95-76 95-77	254	10.33 %	9.87 %	(-4.5 %)
18	101-41	32	27.02 %	29.54 %	+9.3 %