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In Reply Refer To:  
AESO/SE  
02-21-01-F-0411

April 28, 2006

Memorandum

To: Superintendent, Grand Canyon National Park, Grand Canyon, Arizona

From: Field Supervisor

Subject: Biological Opinion for the Vista Fire

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 (ESA). We are conducting this consultation under the provisions of the ESA emergency consultation procedures at 50 CFR 402.05. Your request for formal consultation regarding effects of the Vista Fire on the Mexican spotted owl (MSO) (*Strix occidentalis lucida*) and its critical habitat was dated July 26, 2001, and received by us on July 27, 2001. At issue are impacts that may have resulted from the Vista Fire in Grand Canyon National Park (GRCA) in Coconino County, Arizona.

We received a supplement to a biological assessment (BA) of the Vista Fire on November 2, 2005. Your November 2 letter included a request for concurrence with a determination that the proposed action was not likely to have adversely affected the California condor (*Gymnogyps californianus*). Our concurrence with that determination is included in Appendix A.

This biological opinion is based on information provided in the BA and supplements, 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 type 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 proposed action. All tables are included at the end of this document.

## BIOLOGICAL OPINION

### DESCRIPTION OF THE ACTION

#### *Vista Wildland Fire Use Fire*

The Vista Fire was started by a lightning strike on the north-central portion of the Walhalla Plateau in GRCA (Grand Canyon Science Center 2005) and was first reported on July 15, 2001. A helicopter reconnaissance flight resulted in a fire size estimate of 0.1 acre and an observation that the fire was smoldering and creeping in litter, duff, a downed log, and a snag. By July 16, GRCA had decided to manage the start as a “wildland fire use (WFU) fire for resource benefits.”

During July 22-29, the fire moved rapidly to the east and northeast burning a total of 789 acres which included areas burned at moderate and high intensity. By July 23, the fire had crossed the Cape Royal Road and reached the canyon rim south of the Vista Encantada overlook, and fire management was transferred to a Type II Fire Use Management Team (FUMT). From July 24 to 29, 100-gallon bucket loads of water were dropped daily along the eastern flank to check the fire from spreading into the canyon. On July 28, approximately 0.5 mile of containment line was constructed to stop fire spread north and east into the canyon.

Between July 30 and August 1, fire activity was minimal and the fire use team rehabilitated fire line and burned out approximately 50 acres in the northeast corner of the fire perimeter at low intensity. Fire growth was less than 200 acres from August 2 to September 7 due to rain.

Fire activity increased again September 8-10, resulting in a new fire size of 1,446 acres. Fire approached the Cape Royal Road from both the east and northwest, and spot fires east of the Cape Royal Road were suppressed due to public safety concerns. The Cape Royal Road was closed while sections of it were blacklined to keep the fire west of the road.

From September 11 through 22, rain reduced fire activity to smoldering and creeping through duff layers. At the end of this period, the size of the fire was 1,693 acres.

Changing weather conditions and fire behavior on September 23 and 24 prompted the FUMT and GRCA to declare the fire a wildfire. A Northern Arizona Type II Incident Management Team took command on September 25. By that time, the size of the fire had increased to 2,735 acres.

#### *Vista Wildfire and Suppression Activity*

A strategy was developed to try to keep the fire on the Walhalla Plateau and not breach the Coconino layer of the canyon or allow additional acres to burn. The plan was to limit forward progress by direct attack and indirect attack with blacklining, burnouts, and holding at improved roads and trails. Managing smoke impacts was a high priority because the visibility index was beyond the established acceptable minimum.

A burnout was conducted on the northwestern portion of the fire which stopped the fire from progressing north of the Cape Royal and E4 roads. However, the fire continued to grow elsewhere and the fire size was 3,576 acres by September 25.

On September 27, a total of 25,806 feet of fire line was completed along the southern flank and a section of the northwest flank. Fire activity decreased resulting in only three additional acres burned and 50 percent containment.

On September 28, fire activity was low and the containment line was completed. Crews began focusing on holding the line within the current perimeter and mopping up within 200 feet of the fire line. Engines, hose lays, and minimal bucket drops were used to support the suppression activities. The size of the fire increased to 3,650 acres with 75 percent containment.

On September 29, crews completed the mop-up. No new growth of the fire occurred. From September 30 to October 10, fire crews monitored the fire and rehabilitated the fire line.

### **Conservation Measures**

During the course of the action, we recommended some measures that could be taken to protect MSO and their habitat. The Grand Canyon Science Center (2005) reported implementation of those measures.

- Manage the fire to reduce impacts to the key habitat components of MSO habitat as defined in the MSO Recovery Plan.

To facilitate protection of large diameter (greater than 18 inches in diameter at breast height [dbh]) trees and snags, resource advisors were present for the duration of the fire and all suppression crews were instructed on Minimum Impact Suppression Tactics (MIST). Crews were asked to avoid cutting large diameter trees or snags when possible. Several methods were employed to reduce the number of large trees and snags felled: fire line was put in around large trees or snags, hazard trees/snags were marked and avoided, and foam and water were used to extinguish flames at the base of large trees/snags. Suppression actions were taken throughout the fire when fire behavior and conditions indicated that the fire would have unacceptable effects on key habitat components.

- Monitor and, if possible, reduce the amount of smoke in MSO habitat.

A smoke monitor was on site at all times for the duration of the fire. Fire line was constructed on the fire edge to reduce the need for burnout. The use of burning as a tool for controlling the fire was avoided when possible. Suppression actions were taken throughout the fire to slow the spread of fire and production of smoke.

## STATUS OF THE SPECIES

### *Mexican Spotted Owl*

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. 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, uneven-aged 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 Vista Fire occurred in the Colorado Plateau Recovery Unit which 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, include 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, FWS, pers. comm. 2006). Eighteen (approximately 9 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.

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  $\Lambda$  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  $\Lambda$  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 165 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 361 PACs. The form of this incidental take is almost entirely in the form of 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, 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.

### *Mexican Spotted Owl Critical Habitat*

At the time (July-October 2001) of the action, MSO critical habitat was designated under the February 1, 2001, final rule (66 FR 8530). The February 1, 2001, final rule states that the primary constituent elements (PCEs) that occur in the mixed conifer forest type, as described in the Recovery Plan, which currently contains or may attain the habitat attributes believed capable of supporting nesting and roosting owls include: high basal area of large-diameter trees; moderate to high canopy closure; wide range of tree sizes suggestive of uneven-aged stands; multi-layered canopy with large overstory trees of various species; high snag basal area; high volumes of fallen trees and other woody debris; high plant species richness, including hardwoods; and adequate levels of residual plant cover to maintain fruits, seeds, and regeneration to provide for the needs of MSO prey species.

## **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**

#### *Mexican Spotted Owl*

Mexican spotted owls have been reported in GRCA since the 1920s (Grand Canyon Science Center 2005). The presence of MSO within GRCA was confirmed in 1992 through surveys of approximately 6,000 acres of suitable habitat on the North and South rims and in canyons extending up from the Colorado River. Surveys were also conducted on the South Rim in 1994 and 1995, and in 1998 and 1999 on the North Rim; no owls were confirmed during these

surveys. In 1998 and 1999, a large-scale survey was undertaken on the North Rim. Those surveys covered all MSO habitat on the North Rim plateau area including the Walhalla Plateau. No responses were elicited from MSO during the surveys.

Surveys were conducted in 1999 in side canyon habitat along the Colorado River corridor and MSO were detected at six locations. In 2001, a large-scale river-based inventory was undertaken and approximately 30 additional side-canyon MSO were detected. Surveys were also conducted along a 30-mile stretch of the South Rim and in the Cape Royal and Point Imperial areas with negative results.

In 2001, an additional survey was conducted on the Walhalla Plateau for the purposes of fire clearance. The survey covered all MSO habitat on the Walhalla Plateau. No MSO were detected.

Five MSO PACs (Manzanita, Cottonwood, Nankoweap South, Walhalla, and Cape Royal East) are in the vicinity of the Vista Fire. All of the PACs are below the canyon rim and are outside of the Maximum Manageable Area (MMA) of the Vista Fire. However, two PACs are within 0.5 mile of the MMA. The MMA contained 3,658 acres of MSO forest habitat.

#### *Mexican Spotted Owl Critical Habitat*

The Vista Fire action area was within MSO critical habitat unit CP-10. The action area contained 3,658 acres of MSO critical habitat in the form of the mixed-conifer cover type.

## **B. FACTORS AFFECTING SPECIES' ENVIRONMENT WITHIN THE ACTION AREA**

#### *Mexican Spotted Owl*

Mexican spotted owls may be affected by the special flight rules (overflights) that may overlap a portion of the Vista Fire project area. In the biological opinion (02-21-97-F-0085) developed for the special flight rules, we anticipated that the incidental take is unquantifiable, but is expected to be in the form of harassment. The biological opinion cited the presence of owls as well as a significant amount of unsurveyed potential habitat present under the overflight routes.

The Outlet Fire in GRCA occurred from April 25 to June 15, 2000. The wildfire burned in 837 acres of protected, and 5,370 acres of restricted, MSO habitat. Although information regarding fire severity in MSO habitat was not available, 23 percent of the fire burned at high severity and 34 percent burned at moderate severity. In the biological opinion (02-21-01-F-267) on the emergency suppression actions taken on the fire, we did not anticipate any incidental take of MSO.

The Swamp Ridge Complex Fire occurred from August 17 to October 12, 2001. The fire complex consisted of the Swamp Ridge and Tower fires. The entire action resulted in 127 acres of MSO habitat burned at high or moderate-to-high severity which resulted in the loss of key habitat components. A pending biological opinion (02-21-01-F-0414) will also address the effects of fire management and smoke on nearby PACs.

### *Mexican Spotted Owl Critical Habitat*

The MSO habitat that was affected by the Swamp Ridge Complex Fire as described above was also MSO critical habitat. The PCEs that could be affected by fire were lost in the areas that sustained moderate-to-high and high-severity fire.

### **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.

### *Mexican Spotted Owl*

The Vista Fire burned in 3,658 acres of MSO restricted habitat over a period of 88 days (Grand Canyon Science Center 2005). We discuss effects here during two time periods: the WFU phase of the fire (the area that burned from July 15 through September 25, 2001) and the wildfire suppression phase (the area that burned after September 25). During these periods, the possible sources of effects to MSO included noise and disturbance from human activity, smoke, and fire.

#### Noise and Disturbance

Disturbance of MSO by noise and activity on the Walhalla Plateau was likely minimal. The area affected had been previously surveyed with no MSO detected.

Helicopters were used during the WFU and wildfire suppression phases of the Vista fire. Helicopters did not fly within 1,000 feet of known PACs.

During the WFU phase of the Vista Fire, water bucket drops were conducted along the eastern flank below the Roosevelt Point area where the fire had dropped down into the canyon. The bucket work consisted of dropping approximately 100 buckets (100 gallons each) of water onto the fire from July 24-29. While no known PACs were within 1,000 feet of the bucket work, two PACs were established within 0.25 mile of the area one year after the fire.

During the wildfire phase of the Vista Fire, bucket work was conducted on September 28 on the west flank where the fire dropped into the canyon. Suppression actions included more than 150 bucket drops (at 100 gallons/bucket) that were primarily used to check fire spread on the western and eastern flanks where the fire exceeded the MMA. No bucket drops occurred within 1,000 feet of PACs.

Suppression actions that affected MSO habitat included at least five miles of fire line constructed by hand. The hand line was up to 18 inches wide and was rehabilitated. Twenty-six large diameter (greater than 18 inches dbh) trees or snags were felled.

Noise and activity can disturb the normal breeding, feeding, and sheltering behavior of MSO. Disturbance can result in reduced time at nests and caring for young, which could lead to lowered reproductive success. Disturbance can result in individuals feeding less efficiently in foraging areas, which could reduce survival. Disturbance can also result in individuals avoiding areas that would otherwise provide an appropriate microclimate and protection from predators.

### Smoke

Simultaneous burning of other fires (Swamp Ridge Complex Fire) complicated monitoring of smoke from the Vista Fire. Monitoring instruments detected air quality not meeting Arizona Department of Environmental Quality visibility standards for a total of 166 hours between August 4 and October 7. Fourteen of those hours occurred during the WFU phase and 142 hours occurred during the wildfire suppression phase of the Vista Fire. Three of the hours occurred during the MSO breeding season and 163 hours occurred after the MSO breeding season.

Prevailing winds over the Walhalla Plateau were from the southwest. Smoke impacts were likely greatest to the Nankoweap PAC, which is northeast of the Walhalla Plateau and within 0.5 mile of the MMA of the Vista Fire. The Manzanita and Cottonwood PACs, which are southwest of the fire, could also have been impacted by smoke. The Cape Royal East and Cape Royal West PACs were likely the least impacted by smoke due to their location relative to prevailing winds and distance from the fire.

Smoke inundation can disturb the normal breeding, feeding, and sheltering behavior of MSO. Since most of the smoke impacts occurred after the breeding season, adults or juveniles in the area would likely have moved away to avoid these impacts. However, this disturbance would have resulted in additional stress and disruption of normal feeding and sheltering. Smoke can make an otherwise appropriate microclimate that is also secure from predators uninhabitable, thus exposing individuals to a higher predation risk.

### Fire

The Vista Fire burned 3,658 acres of MSO restricted habitat on the Walhalla Plateau in a period of 88 days (Grand Canyon Science Center 2005). Of that total amount, 2,735 acres burned during the WFU phase, and 924 acres burned during the wildfire phase.

During our consultation with GRCA on their WFU Program (#02-21-02-F-0118), GRCA provided a discussion of the effects to vegetation structure for the various fire-severity classes. GRCA believes that MSO restricted habitat on the Walhalla Plateau meets the threshold conditions of Table III.B.1 of the MSO Recovery Plan, and that those conditions are maintained with low-severity fire. Following low-severity fire, vegetation structure remains unchanged and overstory vegetation is unburned. Unburned patches remain in the burn area.

Following low-to-moderate-severity fire, foliage is partially scorched, but most overstory vegetation remains and there is limited overstory tree mortality. MSO habitat components are altered, at least for the short term. Snags and downed logs are partially burned, and most ground cover is burned. There may be some loss of trees, particularly in the smaller size classes, and reduced canopy closure. Species diversity may also be reduced, at least on a temporary basis.

Low-to-moderate-severity fire changes the vegetation structure and composition of the understory, and consequently prey availability, for one or more years following the fire.

Moderate-to-high and high-severity fire removes most, if not all, of the characteristics (key habitat components) of MSO restricted habitat. Following moderate-to-high and high-severity fire, there is a greater total loss of understory and overstory vegetation. MSO habitat components lost include downed logs; most trees in all size classes, including the largest trees; overstory and understory canopies; plant species richness; and residual vegetation. Because mineral soil is also altered with these fires, these changes are much longer term.

The WFU phase of the Vista Fire burned 2,735 acres of MSO habitat in a period of 74 days from July 15 through September 25 (Table 2). The key habitat components of MSO habitat were likely maintained where the fire burned at low severity. The key habitat components in the 501 acres of MSO habitat that burned at low-to-moderate severity were adversely affected to some degree, at least temporarily. The key habitat components of the 535 acres of MSO habitat that burned at moderate-to-high and high severity were likely completely lost.

Major or complete loss of key habitat components of MSO habitat can affect MSO by reducing the quality of the habitat over the long term. Important functions of habitat for MSO include providing a suitable microclimate, foraging opportunities, protection from predators, and protected nesting opportunities. Major losses of key habitat components can reduce those functions to the point that the habitat can no longer support MSO and their reproduction efforts.

#### *Mexican Spotted Owl Critical Habitat*

The biological assessment (Grand Canyon Science Center 2005) of the Vista Fire did not include an analysis of effects to MSO critical habitat. However, the effects can be estimated from the analysis provided for effects to the species and from information provided in the consultation with GRCA on their fire use program (# 02-21-02-F-0118) (see the discussion under “Fire” above).

The PCEs of MSO critical habitat were likely maintained where the WFU phase of the Vista Fire burned at low severity (Tables 2 and 3). The PCEs in the 501 acres of MSO critical habitat that burned at low-to-moderate severity were adversely affected to some degree, but less so than the higher severity burns. The PCEs of the 535 acres of MSO critical habitat that burned at moderate-to-high and high severity were completely lost.

Suppression actions that affected MSO critical habitat included at least five miles of fire line constructed by hand. The hand line was up to 18 inches wide and was rehabilitated. Twenty-six large-diameter (greater than 18 inches dbh) trees or snags were felled. Thus, the PCEs of MSO critical habitat were minimally affected by direct suppression actions.

As for the key habitat components of MSO habitat, major or complete loss of the PCEs of MSO critical habitat can affect MSO by reducing the quality of the habitat. Important functions of MSO critical habitat include providing a suitable microclimate, foraging opportunities, protection from predators, and protected nesting opportunities. Major losses of PCEs can reduce those functions to the point that the critical habitat can no longer support MSO and their reproduction efforts.

## 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 project area is completely within GRCA. There is limited human recreation away from developed trails and sites in the GRCA. The Cape Royal road provides access to the fire, and there may be some use of the area by recreationists. The effect of the activity on MSO in the area is unknown, but it is anticipated to be minimal.

## CONCLUSION

The conclusions of this biological opinion are based on the project as described in the “Description of the Proposed Action” section of this document. After reviewing the current status of the Mexican spotted owl, 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 Vista Fire did not likely jeopardize the continued existence of the species, and did not likely destroy or adversely modify designated MSO critical habitat. We note that 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.

We present these conclusions for the following reasons:

### *Mexican Spotted Owl*

Disturbance of MSO due to suppression actions is estimated to have been minimal. Smoke may have adversely affected up to three MSO PACS, but these effects were mainly after the breeding season. Other than effects from smoke, no other effects to PACs occurred. The key habitat components of a relatively small amount (501 acres) of MSO habitat were adversely affected due to low-to-moderate-severity fire during the WFU phase of the fire. The key habitat components of a relatively small amount (535 acres) of MSO habitat were lost due to moderate-to-high and high-severity fire during the WFU phase of the fire.

### *Mexican Spotted Owl Critical Habitat*

The PCEs of a relatively small amount (501 acres) of MSO critical habitat in critical habitat unit CP-10 were adversely affected due to low-to-moderate-severity fire during the WFU phase of the fire. The PCEs of a relatively small amount (535 acres) of MSO critical habitat were lost due to moderate-to-high and high-severity fire during the WFU phase of the fire.

## 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

#### *Mexican Spotted Owl*

We do not anticipate that the proposed action resulted in incidental take of MSO. Although protected and restricted MSO habitat were adversely affected by the fire, smoke inundation was the only direct effect to known MSO PACs. Although up to three PACs may have been adversely affected by smoke, most of the high levels of smoke occurred after the MSO breeding season.

### 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.

- 1) The BA indicated that some fire-effects analyses for the Vista Fire were preliminary or incomplete. We recommend that the planned or necessary analyses be completed as scheduled and provided to us as they are completed.

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.

We appreciate Grand Canyon National Park's efforts to identify and minimize effects to listed species from the proposed action. For further information please contact Bill Austin (x102) or Brenda Smith (x101) at (928) 226-0614.

/s/ Steven L. Spangle

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)  
Field Supervisor, Fish and Wildlife Service, Albuquerque NM  
Director, Science Center, Grand Canyon National Park, Grand Canyon, AZ  
Shaula Hedwall, Fish and Wildlife Service, Flagstaff, AZ

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

**LITERATURE CITED**

Grand Canyon Science Center. 2005. Supplement to the biological assessment for the Vista Fire, July to September 2001, North Rim, Grand Canyon National Park, Coconino County, Arizona. Grand Canyon National Park. 14 pp. and appendices.

U.S. Department of the Interior (USDI), Fish and Wildlife Service. 1993. Endangered and Threatened Wildlife and Plants; final rule to list the Mexican spotted owl as threatened. Federal Register 58(49):14248-14271. March 16, 1993.

U.S. Department of the Interior (USDI), Fish and Wildlife Service. 1995. Recovery Plan for the Mexican Spotted Owl. Albuquerque, New Mexico.

## TABLES

Table 1. Consultation history for the Vista Fire.

<i>Date</i>	<i>Event</i>
July 17, 2001	We received initial notice (by telephone) of the start of the Vista Fire and GRCA's intention to manage it as a wildland fire use fire on an emergency basis.
July 20, 2001	We advised (by telephone) GRCA to treat the fire as an emergency action and provided some general recommendations to reduce effects to MSO and California condor.
July 27, 2001	We received a biological assessment of the Vista Fire and a request for formal consultation.
August 28, 2001	We issued a thirty-day memorandum in response to the request for formal consultation indicating that the formal consultation could not begin until we received additional information.
September 17, 2001	We received a letter acknowledging our August 28 memorandum. The letter also indicated our previous general recommendations and other conservation measures were being implemented, and we would receive additional information as it was obtained.
May 31, 2002	We received a May 17, 2002, supplement to the biological assessment of the Vista Fire.
June 6, 2002	We provided comments (via email) on the supplement to the biological assessment.
November 4, 2005	We received a supplement to the biological assessment of the Vista Fire.
November 17, 2005	Consultation requests included with the November 4 correspondence were clarified through email correspondence.
February 22, 2006	We issued a draft biological opinion for review.
April 5, 2006	We received an email message from GRCA indicating they had reviewed the draft biological opinion and they had no comments or recommended modifications.

Table 2. Fire severity in MSO habitat for the wildland fire use phase of the Vista Fire.

<i>Severity</i>	<i>MSO Restricted (acres)</i>	<i>MSO Protected (acres)</i>	<i>Total (acres)</i>
High	162	18	180
Moderate/High	283	72	355
Moderate/Low	452	49	501
Low	1,303	72	1,375
Unburned	290	34	324
Total	2,490	245	2,735

Table 3. Fire severity in MSO habitat for the wildfire phase of the Vista Fire.

<i>Severity</i>	<i>MSO Restricted (acres)</i>	<i>MSO Protected (acres)</i>	<i>Total (acres)</i>
High	32	3	35
Moderate/High	78	14	92
Moderate/Low	139	15	154
Low	465	40	505
Unburned	102	36	138
Total	816	108	924

## APPENDIX A – CONCURRENCE

This appendix contains our concurrences with your “may affect, not likely to adversely affect” determination for California condor.

### California condor (*Gymnogyps californianus*)

We concur with your determination that the proposed action may have affected, but did not likely adversely affect, the California condor. We base this concurrence on the following:

- 1) At least 15 condors on four occasions were hazed from the North Rim helibase water tank. However, the hazing was conducted by permitted personnel and according to the special rules allowing for management of the nonessential experimental population of condors. Non-permitted personnel did not haze condors. Condors stopped returning to the water tank once it was covered.
- 2) Because of the possibility of mid-air condor-helicopter interactions, the North Rim helibase was in periodic (one to three times per day during periods of heavy helicopter use) contact with the Peregrine Fund and GRCA condor technician to check on the locations of condors. Pilots were instructed to give up air space to condors unless deviation from course would jeopardize human safety. There were no collisions or near-collisions of helicopters and condors.
- 3) No condor nest sites were directly inundated by smoke for an extended period of time.