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In Reply Refer To:

AESO/SE
22410-2009-F-0261

October 5, 2009

Mr. Michael R. Williams
Forest Supervisor
Kaibab National Forest
800 South Sixth Street
Williams, Arizona 86046-2899

RE: Biological Opinion for the Bill Williams Cap Fuels Reduction Project

Dear Mr. Williams:

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 was dated September 17, 2009, and received by us on September 21, 2009. At issue are impacts that may result from the proposed Bill Williams Cap Fuels Reduction Project located in Coconino County, Arizona. The proposed action may affect the Mexican spotted owl (MSO) (*Strix occidentalis lucida*) and its critical habitat.

This biological opinion (BO) is based on information provided in the September 15, 2009, biological assessment (BA), telephone conversations, email messages, and other sources of information. Literature cited in this BO is not a complete bibliography of all literature available on the species of concern, fuel reduction projects 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.

<i>Date</i>	<i>Event</i>
April 6, 2006	We received a proposed action for the Bill Williams Fuel Reduction Project.
April 27, 2006	We provided comments on the proposed action.
June 22, 2009	We received a June 2009 environmental assessment (EA) of the project.
July 16, 2009	We provided comments on the EA.
July 20, 2009	We provided additional comments on the project by email

August 25, 2009	We received a draft BA of the project.
August 31, 2009	We provided comments on the draft BA.
September 21, 2009	We received a request for formal consultation and a final BA.
September 28, 2009	We issued a draft BO for review.
September 30, 2009	We were advised that there were no comments on the draft BO.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Most of the information regarding the project in this BO is from the BA (Waters 2009). The primary objective of the proposed action is to reduce fuels at the top of Bill Williams Mountain in order to facilitate fire suppression and reduce the risk of fire impacts to the communications facilities and fire lookout at the site. Currently, there are 11 communications buildings and 14 towers on top of the mountain. A power line and fiber optic phone line are located within a 20-foot wide corridor on the east side of the mountain. Forest Road 111 accesses the summit of Bill Williams Mountain.

The proposed action includes felling of hazard trees, thinning of small-diameter trees, and prescribed burning to reduce fuels at the site. Trees or snags within two chains (approximately 132 feet) of structures that are at risk of falling on any of the development at the site will be felled. Thus far, 17 hazard trees have been identified for felling. Each of those trees is a live Douglas-fir or white fir tree. Four are in the 5-12 inch diameter at breast height (dbh) size class, 10 are in the 12-18 inch size class, 1 is in the 18-24 inch size class, and 2 are in the 24-30 inch size class. An approximate additional 38 hazard trees or snags within that same zone may be identified and felled during implementation of the proposed action.

Trees less than 12 inches dbh will be felled within a six-acre thinning and burning treatment area. Snags and live trees with dead tops or lightning scars will not be felled unless they present a safety hazard or fire risk. Felled trees will be bucked and hand-piled along with branches and other slash produced by the thinning. Thinning will occur in the fall of 2009.

Prescribed burning treatments include burning of the piles and broadcast burning. Pile burning will occur approximately one year after the thinning is conducted. Broadcast burning will be conducted within the six-acre thinning and burning treatment area to reduce activity fuels from thinning in the fall of 2011. Following the initial broadcast burn, two maintenance broadcast burns will occur within a 15-year period. The first maintenance burn will likely occur in the fall of 2013 or 2014. The broadcast burning will be of low-intensity. Prescribed burning will be conducted under good ventilation conditions to limit smoke movement down-slope.

All treatments (hazard tree removal, thinning, and prescribed burning) will be conducted outside of the MSO breeding season. The breeding season is March 1-August 31.

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 stand-replacing wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The Fish and Wildlife 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). Critical habitat was designated for the MSO in 2004 (USDI 2004).

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 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 two National Forests in Colorado and three 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.

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. Livestock and wild ungulate grazing is prevalent throughout Region 3 National Forest lands and is thought to have a negative effect on the availability of grass cover for prey species. Recreation impacts are increasing on all forests, especially in meadow and riparian areas. There is anecdotal information and research that indicates that owls in heavily used recreation areas are much more erratic in their movement patterns and behavior. Fuels reduction treatments, though critical to reducing the risk of severe wildfire, can have short-term adverse effects to MSO through habitat modification and disturbance. As the human population grows, especially in Arizona, small communities within and adjacent to National Forest System lands are being developed. This trend may have detrimental effects to MSO by further fragmenting habitat and increasing disturbance during the breeding season. West Nile Virus also has the potential to adversely impact the MSO. The virus has been documented in Arizona, New Mexico, and Colorado, and preliminary information suggests that owls may be highly vulnerable to this disease (Courtney et al. 2004). Unfortunately, due to the secretive nature of owls and the lack of intensive monitoring of banded birds, we will most likely not know when owls contract the disease or the extent of its impact to MSO range-wide.

Currently, high-intensity, stand-replacing fires are influencing ponderosa pine and mixed conifer forest types in Arizona and New Mexico. Uncharacteristic, severe, stand-replacing wildfire is probably the greatest threat to MSO within the action area. As throughout the West, fire severity and size have been increasing within this geographic area.

Global climate change may also be a threat to the MSO and synergistically result in increased effects to habitat from fire, fuels reduction treatments, and other factors discussed above. Studies have shown that since 1950, the snowmelt season in some watersheds of the western U.S. has advanced by about 10 days (Dettinger and Cayan 1995, Dettinger and Diaz 2000, Stewart et al. 2004). Such changes in the timing and amount of snowmelt are thought to be signals of climate-related change in high elevations (Smith et al. 2000, Reiners et al. 2003). The impact of climate change is the intensification of natural drought cycles and the ensuing stress placed upon high-elevation montane habitats (IPCC 2007, Cook et al. 2004, Breshears et al. 2005, Mueller et al. 2005). The increased stress put on these habitats is likely to result in long-term changes to vegetation, invertebrate, and vertebrate populations within coniferous forests that effect ecosystem function and process.

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 1,025 protected activity centers (PACs) established on National Forest System (NFS) lands in Arizona and New Mexico (B. Barrera, pers. comm. June 18, 2007). The FS Region 3 data are the most current compiled information available to us; however, survey efforts in areas other than NFS lands have 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" (Gutierrez et al. 2003), found that reproduction varied greatly over time, while survival varied little. The estimates of the population rate of change ($\Lambda = \text{Lambda}$) indicated that the Arizona population was stable (mean Λ from 1993 to 2000 = 0.995; 95 percent Confidence Interval = 0.836, 1.155) while the New Mexico population declined at an annual rate of about 6 percent (mean Λ from 1993 to 2000 = 0.937; 95 percent Confidence Interval = 0.895, 0.979). The study concludes that spotted owl populations could experience great (>20 percent) 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 215 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 426 PACs. The form of this incidental take is almost entirely harm or harassment, rather than direct mortality. These consultations have primarily dealt with actions proposed by Forest Service Region 3. However, in addition to actions proposed by 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 BOs that the proposed action would likely jeopardize the continued existence of the MSO. The jeopardy opinion issued for existing Forest Plans on November 25, 1997 was rendered moot as a non-jeopardy/no adverse modification BO was issued the same day.

In 1996, we issued a BO on FS Region 3 adoption of the Recovery Plan recommendations through an amendment to their Land and Resource Management Plans (LRMPs). In this non-jeopardy BO, we anticipated that approximately 151 PACs would be affected by activities that would result in incidental take of MSOs. In addition, on January 17, 2003, we completed a reinitiation of the 1996 Forest Plan Amendments BO, 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 BOs anticipated incidental take in the form of harm and/or harassment of owls associated with 243 PACs on Region 3 NFS lands. FS Region 3 reinitiated consultation on the LRMPs on April 8, 2004. On June 10, 2005, the FWS issued a revised BO 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 NFS lands. We expect that continued operation under the plans will result in harm to 49 PACs and harassment to another 49 PACs. To date, consultation on individual actions under the amended Forest Plans, as accounted for under the June 10, 2005, BO has resulted in the incidental take of owls associated with 43 PACs. Incidental take associated with Forest Service fire suppression actions, which was not included in the LRMP proposed action, has resulted in the incidental take of owls associated with 25 PACs.

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, 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 (PCEs) 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 PCEs that occur for the MSO within mixed-conifer, pine-oak, and riparian forest types and that provide for one or more of the MSO's habitat needs for nesting, roosting, foraging, and dispersing are in areas defined by the following features for forest structure and prey species habitat:

PCEs 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 diameter-at-breast height (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.

PCEs 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.

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.

Description of the Action Area

The project area is located on top of Bill Williams Mountain on the Williams Ranger District of the Kaibab National Forest. The entire 10-acre project area is of the mixed conifer forest type. For analyses of effects to the MSO, the action area is defined as the 10-acre project area and a ¼-mile buffer surrounding the area. Potential disturbance from human presence and noise associated with project implementation is likely to be minimal beyond ¼ mile from the project area boundary.

The northern half of the project area has a northerly aspect, and forest cover in this area is dense, with only small openings in the canopy. White fir is the dominant tree in the overstory. Douglas-fir and aspen also occur in the overstory. Average basal area of live conifers is

approximately 190 square feet/acre. Average conifer snag basal area is approximately 55 square feet/acre. The basal area of live aspen is approximately 10 square feet/acre (basal area of aspen snags also is about 10 square feet/acre). The average canopy cover is approximately 75 percent (spherical densiometer readings). The most common plant species in the understory are orange gooseberry (*Ribes pinetorum*), creeping barberry (formerly known as Oregon grape) (*Mahonia repens*), and Fendler's meadowrue (*Thalictrum fendleri*). There are also scattered Rocky Mountain maple (*Acer glabrum*) in the understory. The organic layer on the forest floor is dominated by a relatively thick layer of litter and humus and fine coarse woody debris (<3 inches in diameter), with scattered larger logs (≥ 12 inches in diameter).

The southern part of the treatment area is rockier and has a much more open canopy than the northern part of the project area. There are scattered white fir and Douglas-fir trees surrounded by a relatively dense layer of short aspen trees. In addition to the southern aspect, trees are exposed to prevailing winds on the southern and western sides of the project area. Ground cover is dominated by rocks in the southern part of the project area, and there is much less understory plant cover and coarse woody debris than in the northern part.

A. STATUS OF THE SPECIES WITHIN THE ACTION AREA

Mexican Spotted Owl

Four of the six acres in the thinning and burning treatment area overlap the Bill Williams PAC. The remainder of the project area is adjacent to the PAC and contains MSO habitat.

Records of MSO detections on Bill Williams Mountain date back to 1978. The Forest Service has no record of a MSO nest on the mountain, but adult and juvenile MSO were observed near Bixler Saddle on the west side of the mountain in 1983, indicating MSO reproduction has occurred on the mountain in the past. In 1994, MSO vocalizations were detected near Twin Springs, approximately 2 miles southwest of the Bill Williams Mountain summit. Based on surveys and detections, the Kaibab National Forest designated a MSO PAC on Bill Williams Mountain in 1995. No nest sites are known within the PAC.

Two recreational hikers reported hearing a pair of MSO in July 2005 approximately one mile northeast of the project area. MSO have not been detected in follow-up or subsequent surveys since the report. MSO surveys were conducted at the summit of Bill Williams Mountain overlapping the project area in 2006, 2007, 2008, and 2009, but no MSO were detected. The entire Bill Williams PAC was surveyed in 2008 and 2009, but no MSO were detected.

Mexican Spotted Owl Critical Habitat

The project area is within MSO critical habitat unit UGM-13. The entire 10-acre project area is of the mixed-conifer cover type and contains the PCEs of MSO critical habitat.

B. FACTORS AFFECTING SPECIES' ENVIRONMENT WITHIN THE ACTION AREA

The Bill Williams Ski Area is located approximately 0.2 mile from the Bill Williams PAC and approximately one mile from the project area. In the 2006 description of a proposed special use

permit authorization, the Kaibab National Forest stated: "In the April 8, 1993 'Amendment for all No Effect Biological Evaluations for the Mexican spotted owl -- Williams, Chalender, & Tusayan Ranger Districts,' Kaibab National Forest wildlife biologists determined that the existing ski area operations had no effect on the threatened Mexican spotted owl (*Strix occidentalis lucida*)."

Formal consultation was subsequently conducted on a proposed expansion of the Bill Williams Ski Area, and a BO was issued on December 8, 1999. The BO concluded that the proposed expansion would not jeopardize the continued existence of the MSO but included an incidental take statement for one pair of MSO (Arizona Ecological Services Office [AESO] file number 02-21-96-F-095). Plans for proposed expansion of the ski area were abandoned before a final environmental impact statement was completed.

Formal consultation was conducted for the City Project and Twin Prescribed Burn Project, and a BO was issued for both projects on July 14, 2005. The BO concluded that the projects would not jeopardize the continued existence of the MSO and would not destroy or adversely modify MSO critical habitat. The BO included an incidental take statement for one pair of spotted owls due to impacts to the Bill Williams PAC (AESO file numbers 02-21-03-F-0144 and 02-21-03-F-0145).

Informal consultation was conducted on an amendment to the Elk Ridge Ski Area term special use permit to allow daytime synthetic tubing recreational activities. The amendment authorized synthetic tubing activities for a period of one year or less beginning November 28, 2007. The Forest Service determined that the proposed action was not likely to adversely affect the MSO and would not affect MSO critical habitat. We concurred with the not likely to adversely affect determination on November 20, 2007 (AESO file number 22410-2008-I-0059).

Formal consultation was conducted on additional recreational activities at Elk Ridge Ski Area, and a BO was issued on December 1, 2008. The BO concluded that the project would not jeopardize the continued existence of the MSO and would not destroy or adversely modify MSO critical habitat. The BO concluded that incidental take of MSO was not anticipated (AESO file number 22410-2009-F-0053).

Current activities affecting the species in the action area are associated with existing facilities on Bill Williams Mountain. The Forest Service maintains a fire lookout on top of Bill Williams Mountain, which has been in place since at least the 1920s. The Forest Service also permits the communications facilities, which have been located on the top of the mountain since the 1950s. Forest Road 111 receives traffic from recreationists as well as traffic from operations and maintenance activity associated with the communications facilities and fire lookout. The road is closed during the winter but is typically open between May and October. In addition, the Forest Service maintains a trail to the summit of Bill Williams Mountain and the Bixler Saddle Trail on the west side of the mountain.

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 intent of the proposed action is to reduce fuels adjacent to the communications site in order to protect the structures and equipment at the site. The MSO habitat that will be affected by the proposed action will be maintained in a state of reduced fuels (i.e., reduced quality and/or quantity of key habitat components of MSO habitat) indefinitely.

Disturbance of normal MSO breeding, feeding, and sheltering may occur due to noise and human activity associated with the proposed action. The project area is within and adjacent to an MSO PAC. Several previous MSO detections that contributed to designation of the PAC are close to the project area. However, the disturbance effects may be ameliorated because all treatments will be conducted outside of the MSO breeding season, MSO surveys covering the project area in 2006-2009 did not result in detection of MSO, and the action area is located outside (at least 0.6 mile away) of the 100-acre core area that was delineated near Bixler Saddle to protect the best nesting and roosting habitat prior to implementation of fuels reduction treatments.

Key habitat components (trees greater than 9 inches dbh in PACs, large trees, large logs) of MSO habitat in and adjacent to the PAC will be affected by the proposed action. The MSO Recovery Plan recommends no harvest of trees > 9 inches dbh in PACs, and retaining or enhancing large logs (> 12 inches diameter), grasses and forbs, and shrubs. Effects to MSO habitat, particularly in PACs, may affect normal MSO breeding, feeding, and sheltering. The proposed action will reduce the quality of MSO habitat within and adjacent to the PAC due to felling of hazard trees, thinning, and burning that will result in decreased canopy cover, structural diversity, and large logs.

Each of the 17 hazard trees identified for felling is a live Douglas-fir or white fir tree. Four are in the 5-12 inch diameter at breast height (dbh) size class, 10 are in the 12-18 inch size class, 1 is in the 18-24 inch size class, and 2 are in the 24-30 inch size class. Five of those trees are located within the PAC. An approximate additional 38 hazard trees or snags may be identified and felled during implementation of the proposed action. If up to 55 hazard trees or snags are felled, an estimated 15-20 of those trees will be located within the PAC.

Thinning small-diameter trees and broadcast burning will result in a more open forest understory and less dead and down material. The basal area of trees greater than 5 inches dbh will be reduced by approximately 20 percent.

Prescribed burning will result in reduced numbers and volumes of large logs and other woody debris, which will result in at least short-term decreased cover for MSO prey species. Planned maintenance burns will likely maintain that reduction of cover provided by large logs. However, the combination of thinning and prescribed burning may also promote herbaceous vegetation growth as a result of a more open canopy. Increased cover of herbaceous vegetation may increase food resources (flowers, fruits, seeds, and leaves) and increase the availability of small mammal prey for MSO during periods between the maintenance burns.

Mexican Spotted Owl Critical Habitat

The project area is located within MSO critical habitat unit UGM-13. The entire 10-acre project area is of the mixed-conifer cover type and thus is MSO critical habitat. Six PCEs of MSO critical habitat are relevant to forest structure and maintenance of prey species.

A range of tree species composed of different tree sizes reflecting different ages of trees, 30-45% of which are large with a dbh of 12 inches or greater.

This PCE will be reduced within the project area due to the felling of trees less than 12 inches dbh. Trees ≥ 12 inches dbh will not be felled due to thinning. Mortality of trees ≥ 12 inches dbh may result from the prescribed burning. Each of the 17 hazard trees identified for felling are ≥ 12 inches dbh. A large proportion of the potential total of 55 hazard trees or snags that may be felled are likely to be greater than 12 inches dbh.

A shade canopy of 40% or greater.

Canopy cover in the 6-acre thinning and burning treatment area will be reduced as a result of thinning trees up to 12 inches dbh and incidental mortality of trees due to scorch effects from prescribed burning. Average canopy cover in the 6-acre thinning and burning treatment area is currently approximately 75 percent. If canopy cover is reduced by approximately 20 percent as a result of thinning, as estimated in the BA, canopy cover will still exceed 40 percent.

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

There will be a small decrease in the number of snags ≥ 12 inches dbh due to hazard tree removal. None of the hazard trees currently identified for removal are snags ≥ 12 inches dbh, but it is likely that some may be identified for felling.

High volumes of fallen trees and other woody debris.

Logs and other coarse woody debris will be reduced within the 6-acre thinning and burning treatment area due to their consumption during prescribed burning. The burn objective is for predominantly low intensity fire but there may be small areas that burn at moderate intensity. Much of the fine coarse woody debris (<3 inches diameter) will likely be consumed during prescribed burning. Effects to larger-diameter coarse woody debris will vary from charring with partial consumption to full consumption. The volume of large logs (>12 inches in diameter) will likely be substantially reduced by broadcast burning. The Forest Service estimates that the initial broadcast burn will reduce the total volume of large logs by approximately 30-70 percent.

A wide range of tree and plant species, including hardwoods.

The range of tree and plant species may be affected by the proposed action. For example, some tree species (e.g., hardwoods) are likely to be affected by prescribed fire more than other species. Some understory species may be favored more by fire and changes in forest cover and structure than other species. Overall, the species in the project area are likely to be the same, but may be represented by different proportions in plant composition.

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

Residual plant cover within the 6-acre thinning and burning treatment area will be reduced substantially due to mortality caused by prescribed burning. Cover of herbaceous plants may recover rapidly during the first several years following burning and increase to levels greater than pre-treatment existing conditions as a result of the more open canopy and reduced organic/fine fuels layer. However, maintenance broadcast burns will subsequently reduce cover of re-established plants.

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. Operation and maintenance of the communications facilities and recreation are the primary non-Federal activities that occur in the project area. Both activities may result in disturbance effects to the MSO. The extent of such possible disturbance is unknown but is expected to be relatively minor. The Bill Williams Lookout Road (Forest Road 111) receives both recreational vehicle use and limited vehicle use associated with maintenance of communications facilities on the summit. Vehicle traffic on this road has probably increased during the last 10 years, but is still relatively light. The Bill Williams Trail receives recreational day-use hiking activity. The trail is probably used by only 5 to 15 groups of hikers per week during spring, summer, and fall months. The Bixler Saddle Trail on the west side of Bill Williams Mountain receives little use. Wildfires inadvertently started by recreationists could affect MSO habitat to an unknown extent.

CONCLUSION

After reviewing the current status of the MSO and its critical habitat, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the FWS's biological opinion that the Bill Williams Cap Fuels Reduction Project, as proposed, is not likely to jeopardize the continued existence of the MSO, and is not likely to destroy or adversely modify designated critical habitat for the MSO. We present this conclusion for the following reasons:

Mexican Spotted Owl

Although MSO in the project area or vicinity may be adversely affected by disturbance and reduction in quality of habitat from hazard tree removal, thinning, and prescribed fire, the scope of the project is limited to one MSO PAC and a small amount of MSO habitat adjacent to the PAC.

Mexican Spotted Owl Critical Habitat

Although MSO critical habitat in the project area may be adversely affected by reduction of the PCEs due to hazard tree removal, thinning, and prescribed fire, the scope of the project is limited

to 10 acres of critical habitat in the UGM-13 critical habitat unit. The critical habitat in the action area and in UGM-13 will remain functional to serve its intended conservation role for MSO.

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

We do not anticipate that the proposed Bill Williams Cap Fuel Reduction Project will result in the incidental take of MSO. Although the noise and human activity associated with the proposed action may affect the MSO, all treatments will occur outside of the MSO breeding season, MSO surveys covering the project area in 2006-2009 did not result in detection of MSO, and no recent roosts or nest sites are known within the vicinity of the proposed action. Although the quality of the MSO habitat in the project area will be affected, the affected MSO habitat is limited to 10 acres and no known roost or nest sites are known to occur in the project area.

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. We recommend that the Kaibab National Forest continue monitoring of the Bill Williams PAC.

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.

In keeping with our trust responsibility to American Indian Tribes, when an agency consults with us on a proposed action that may affect Indian lands, Tribal trust resources, or Tribal rights, we provide a copy of the final biological opinion to affected and interested Tribes and the Bureau of Indian Affairs.

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 (928) 226-0614 (x102) or Brenda Smith (x101).

Sincerely,

/s/Brenda Smith for

Steven L. Spangle
Field Supervisor

cc: Field Supervisor, Fish and Wildlife Service, Albuquerque NM
District Ranger, Williams Ranger District, Kaibab National Forest, Williams AZ
Jeff Waters, Williams Ranger District, Kaibab National Forest, Williams AZ

Shaula Hedwall, Fish and Wildlife Service, Flagstaff AZ
Environmental Specialist, Environmental Services, Western Regional Office,
Bureau of Indian Affairs, Phoenix, AZ
Director, Aha Makav Cultural Society, Fort Mohave Indian Tribe, Mohave Valley, AZ
Chairperson, Havasupai Tribe, Peach Springs, AZ
Program Manager, Tribal Historic Preservation Office, Hualapai Tribe, Peach Springs, AZ
Director, Zuni Heritage and Historic Preservation Office, Zuni, NM
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix AZ
Regional Supervisor, Arizona Game and Fish Department, Flagstaff, AZ

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