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In Reply Refer To:  
AESO/SE  
22410-2008-F-0531

September 13, 2011

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

RE: Biological Opinion for the McCracken Vegetation Management 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 July 24, 2011, and received by us on July 24, 2011. At issue are impacts that may result from the proposed McCracken Vegetation Management 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 May 3, 2011, 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. Summary of the recent consultation history for the proposed action.

<i>Date</i>	<i>Event</i>
September 11, 2008	We received a proposed action for the project.
October 14, 2008	We provided comments on the proposed action.
November 19, 2010	We received an environmental assessment of the proposed action.
December 10, 2010	We provided comments on the environmental assessment.
December 13, 2010	We received a draft BA via email.
January 13, 2011	We provided comments on the draft BA via email.
May 16, 2011	We received a final BA with a request for concurrence for the MSO and a determination that the proposed action would adversely affect MSO critical habitat.

July 22, 2011	We met with the Forest Service to discuss the project.
July 24, 2011	We received a request for formal consultation for effects to the MSO via email.
September 13, 2011	The Forest Service informed us they had 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 (DeLuca 2011). The full project description from the BA is incorporated by reference and summarized below.

The proposed action will implement 15,262 acres of vegetation treatments and 17,337 acres of prescribed burning over the next 20 years. The project will reduce forest tree densities and fuel loadings throughout most of the project area to reduce the risk of severe wildfire. The proposed action includes a forest plan amendment that will re-designate land suitability for 1,938 acres of ponderosa pine. The reallocation will designate 1,636 acres of suitable, and 302 acres of unsuitable, ponderosa pine for critical wildlife management. The reallocation will allow for management of approximately 15 percent of the ponderosa pine in a very open state close to vegetative reference conditions (conditions that existed prior to Euro-American settlement of the area). The management in these areas will promote conditions for antelope and other species that favor open savannah conditions within the ponderosa pine type.

### **Vegetation Treatments**

Vegetation treatments include those described below. Approximately 8,272 acres will be accomplished with a commercial timber sale. The remaining vegetative treatment acres will receive non-commercial treatments. Activity slash generated by non-commercial treatments will generally remain after treatment. Slash treatments such as piling, prescribed burning, crushing, or mulching may be conducted. In some non-commercial treatment areas, green fuelwood sales may be used to accomplish a portion of the vegetative treatment. Felled trees may also be offered for sale as fuelwood, biofuels, or other forest products.

#### *Group Selection*

This treatment will occur on 2,855 acres. The treatment objective is to regenerate ponderosa pine on 10-20 percent of each site by creating ¼- to 2-acre openings across each site. Regeneration area openings may be up to four acres in size where there are large pockets of dwarf mistletoe-infected pine. Zero to 20 square feet of basal area per acre of the largest non-dwarf mistletoe-infected pine available may be retained in regeneration areas. For regeneration areas over one acre in size, a minimum of one group of 3-5 non-dwarf mistletoe infected ponderosa pines will be retained per acre. Regeneration areas will generally occur where tree groups are vegetative structural stages (VSS) 1 through 4, except in pockets of heavy dwarf mistletoe infection where some larger VSS tree groups may be regenerated. Outside of regeneration areas, the rest of the site will be irregularly thinned to 40-100 square feet of basal area per acre.

#### *Group Selection with Vegetative Structural Stage (VSS) Distribution*

This treatment will occur on 742 acres. The treatment objective is to leave ¼- to 2-acre sized groups of ponderosa pine in a group distribution per the VSS distribution of the forest plan (VSS 1 and 2- 20 percent; VSS 3 – 20 percent; VSS 4 – 20 percent, VSS 5 – 20 percent, VSS 6 – 20 percent). VSS 1-4 groups will be thinned. Thinning may be done in VSS 5 and 6 groups in trees less than 18 inches in diameter-at-breast height (dbh). Trees greater than 18 inches dbh will be left in the groups unless there are dwarf mistletoe-infected trees in this size class. Dwarf mistletoe-infected trees greater than 18 inches dbh may be removed. Spacing within groups will generally be irregular. Regeneration areas will be created in groups that are surplus to the desired VSS distribution or in pockets with heavy dwarf mistletoe infection levels. VSS 5 and 6 groups will be retained at or above minimum canopy cover percentages specified in forest plan goshawk guidelines except where the group has trees with dwarf mistletoe infections. VSS 4 groups of trees will be maintained at or above minimum canopy closures specified in the forest plan unless they are surplus to specified forest plan distribution of VSS classes (greater than 60 percent of the area is in VSS 4 through 6 groups) or trees in these groups are infected with dwarf mistletoe. Canopy openings will be created around groups and subgroups of trees. The openings will be included with the entire group when determining the percent canopy cover of VSS 4 through 6 groups.

### *Irregular Shelterwood*

This treatment will occur on 2,049 acres of sites with moderate to heavy dwarf mistletoe infection levels. The treatment objective is to regenerate ponderosa pine on greater than 20 percent of a site by removing most or all of the infected ponderosa pine in heavily infected areas. Most vigorous non-infected pine will be retained. In areas that have no or very little dwarf mistletoe, ponderosa pine will be irregularly thinned to a specified leave density. Any infected pines will also be removed from the areas.

### *Restoration Treatments*

Restoration treatment objectives are to create tree density, spatial orientation, and structure similar to what was present prior to euro-American settlement of the area. Evidence (fallen trees, stumps, yellow pine, stump holes) of trees that existed around 1870 will be used as a baseline for tree density and grouping. Treatments will retain all living older trees that existed on the site prior to 1870. Oak density control will usually be accomplished with repeat broadcast burning with occasional mechanical thinning.

### Full Restoration to Pine Savannah

This treatment will occur on 1,339 acres and the objective is to return current ponderosa pine stand structure to pre-settlement tree density and distribution. One to two post-settlement trees will be retained per each piece of evidence of a pre-settlement tree. All other post-settlement trees will be removed. Generally, the largest and most fully-crowned trees will be retained as leave trees. Some vigorous younger trees of various age classes will be retained. Treatments will often reduce the density of VSS 4 through 6 groups below minimum canopy cover specified in the forest plan for ponderosa pine cover types in areas managed for goshawk habitat. Twenty percent of the treatment area will not be managed towards old-growth characteristics as specified in the forest plan which will require a site-specific non-significant forest plan amendment.

### Full Restoration to Woodland Savannah

This treatment will occur on 817 acres. The treatment is similar to the full restoration to pine savannah treatment except that it occurs in woodland sites (juniper woodlands, pinyon-juniper woodlands, oak woodlands, and hardwood sites). Juniper, ponderosa pine, and occasionally oak or pinyon pine will be thinned.

#### Partial Restoration to Pine Savannah

This treatment will occur on 627 acres of ponderosa pine forest. The objective is to move stand structure closer to pre-settlement tree density and distribution, but with a higher density of post-settlement leave trees than pre-settlement evidence indicates would have existed in 1870. Treatments may reduce the density of VSS 4 through 6 groups below minimum canopy cover specified in the forest plan for ponderosa pine cover types in areas managed for goshawk habitat. Twenty percent of the treatment area may not be managed towards old-growth characteristics as specified in the forest plan which will require a site-specific non-significant forest plan amendment.

#### Partial Restoration to Woodland Savannah

This treatment will occur on 768 acres. This treatment is similar to the partial restoration to pine savannah treatment except that it occurs in woodland sites (juniper woodlands, pinyon-juniper woodlands, oak woodlands, and hardwood sites).

#### Full Restoration to Meadow

This treatment will occur on 806 acres of grassland sites that have been encroached upon by ponderosa pine and juniper. One to two post-settlement trees per pre-settlement evidence will be retained while all other post-settlement trees will be removed.

#### *Irregular Thinning*

This treatment will occur on 17 acres. The treatment is a low intermediate thin that uses very irregular spacing of leave trees. Generally, smaller trees are thinned first to get to the desired leave tree density. Leave trees will be left both individually and in small to medium sized groups of two to twelve trees per group. There will be openings around these tree groups and the openings around groups will generally become larger as group size becomes larger. Irregular thinning is also generally done in areas outside of regeneration areas in group selection and irregular shelterwood treatments. Other irregular thinning may include thinning of ¼- to 2-acre groups to a variety of densities ranging from 20-100 square feet of basal area per acre. Spacing within the groups will also be irregular.

#### *Sanitation*

This treatment will occur on five acres. Only dwarf mistletoe-infected ponderosa pine will be removed without any thinning of dwarf mistletoe-free pine.

#### *Sanitation with Irregular Thinning*

Treatment will occur on 38 acres. Treatment will remove dwarf mistletoe-infected trees and irregularly thin the rest of the treated sites.

### *Pre-commercial Thinning*

This treatment will occur on 4,059 acres of ponderosa pine; juniper and oak may be thinned as well. Thinning will occur in ponderosa pine trees up to 12 inches dbh, often with spacing of 20-30 feet between leave trees. Larger dbh ponderosa pines infected with dwarf mistletoe may be removed as well. In the future, commercial treatments may become feasible on many of the acres and group selection may be implemented.

### *Woodland Thinning*

This treatment will occur on 1,053 acres. A thin from below will occur in woodlands (juniper woodlands, pinyon-juniper woodlands, oak woodlands, and hardwood sites). Juniper and/or ponderosa pine will be thinned to a specified average spacing of 25-50 feet between leave trees. Occasionally, some Gambel oak may be thinned. Trees will be thinned up to a specified dbh (generally 9-14 inches dbh) above which all larger trees are retained. Larger ponderosa pines infected with dwarf mistletoe may be removed.

### *Aspen Release*

This treatment will occur on 87 acres. The treatment objective is to remove most conifers within aspen stands. Where aspen have severe damage and/or disease, some aspen may also be felled. Entire aspen stands or portions may be fenced in order to protect new aspen. Dead aspen and other tree species of snags that could fall on the fences will also be removed. In aspen sites where all or most of the aspen have died, some planting of aspen may be done in combination with aspen fencing. Conifers and dead aspen less than 10 inches dbh will be felled and left in place.

### *Follow-up Dwarf Mistletoe Treatments*

Over the 20 year time frame of this project, there may be multiple entries into sites with dwarf mistletoe infections to insure that mistletoe treatment objectives are met. The future treatments will fell or girdle dwarf mistletoe-infected trees that had latent dwarf mistletoe infections at the time of initial treatment or were missed during the initial treatment. All dwarf mistletoe-infected pines that were retained during the initial treatment will still be retained with the follow-up treatments. It may be necessary to maintain isolation of infected trees by removing new ponderosa pine regeneration. The follow-up treatments will be non-commercial.

### *Yellow Pine/Oak/Juniper Release*

These treatments will be done in conjunction with many of the thinning treatments. The treatments will result in heavier thinning around yellow pine, large oak, and/or large juniper trees. For yellow pine release: blackjack ponderosa pines up to a specified diameter will be thinned heavily, down to 0-30 square feet of basal area per acre within 50-70 feet of individual yellow pine or yellow pine groups. For oak and/or juniper release, ponderosa pines up to a specified diameter will be cleared within 25-40 feet of large oak and/or juniper trees or groups. Some vigorous younger oak and juniper may also be released in this manner.

### *Isolation of Mistletoe Infected Pine*

This treatment will occur in conjunction with many vegetative treatments where certain dwarf mistletoe infected ponderosa pines are retained. All blackjack ponderosa pine up to a specified diameter will be removed within 40-45 feet of the dwarf mistletoe infected pine that is retained.

### *General Guidelines*

For vegetative treatments in ponderosa pine cover types, the maximum size of openings will be four acres with a maximum width of 200 feet. In areas with severe dwarf mistletoe infection levels, this guideline may be exceeded in order to meet the project objective of reducing mistletoe infections. In created openings greater than one acre in size in ponderosa pine cover type sites, vegetative treatments will retain one group of reserve trees with 3-5 trees per group. Dwarf mistletoe-infected trees will not be selected as reserve trees within ponderosa pine tree-group regeneration areas.

Some of the presettlement evidence may have been lost in areas that have had post-settlement fires. For restoration treatments where this has occurred, depressions that could have been stump holes will be considered to be presettlement evidence. Up to 50 percent additional trees will be retained to account for presettlement evidence that could have been lost.

### *Daylighting*

Lower tree densities will be retained in vegetative treatments within 100 feet of Forest Road (FR) 108, FR 122, and County Road 73 in order to create a firebreak and to promote vehicle safety. Higher tree densities may be left within identified wildlife travel corridors.

### *Fireline Preparation*

Tree densities will be reduced to lower levels within 130 feet of the west side of County Road 73, the south side of FR 122, the south side of FR 140, along the eastern project boundary, and private property lines in order to provide a fuel break. Most conifers less than 9 inches dbh, and up to 66 percent of conifers up to 14 inches dbh, will be removed in those areas. Pruning of leave trees up to 15-feet may occur. All snags that could threaten the control line will be felled.

### *Oak Thinning*

Thinning of Gambel oak will occur in some areas. No oak greater than 8 inches dbh will be felled. In areas chosen for oak thinning, 50 percent of existing oak clumps will not be thinned. Density control of smaller Gambel oak will be accomplished by repeated prescribed burns. Larger Gambel oaks will be protected from mortality during prescribed burns using various burning and physical protection techniques.

### *Pre-commercial Thinning (Post Timber Sale)*

Many commercial vegetative treatments will either be followed by, or done in conjunction with, thinning and/or sanitation of smaller non-commercial trees. Approximately 8,223 acres of

commercial timber sale treatments will have pre-commercial thinning implemented either following or in conjunction with the commercial treatments.

### *Cover Areas*

Some unthinned cover areas for various species of wildlife will range from 1/20 to 1 acre in size and may be either scattered across sites or focused in certain portions. When cover areas are located within areas identified for fireline preparation, additional clearing of trees will take place around the cover areas in order to create openings in the canopy. A total of 1,062 acres within the project will have scattered cover areas within areas proposed for vegetative treatments.

### *MSO Nesting/Roosting Development Areas*

MSO nesting/roosting development areas will be managed for higher leave tree densities. Such areas are located within MSO restricted habitat that are proposed for vegetative treatments and are located within a ½-mile radius of Twin Springs, within 300 feet on either side of the MC Canyon and Hells Canyon stream channels, and on northern and eastern slopes of Coleman Knoll and McCracken Knolls. The development areas will be at least 5 acres in size. The areas will be thinned to average leave densities that are at least 25 percent greater than the specified leave density of the surrounding site.

### **Activity Slash Treatments**

Activity slash treatments will follow vegetative treatments to reduce the amount of woody debris created by treatments as well as pre-existing fuels. Activity slash treatments may include whole tree yarding, machine piling, hand piling, lopping, crushing, and removal.

Commercial vegetative treatments using timber sales will use whole tree skidding, machine piling, or hand piling during timber sale implementation. In some areas that are too steep or rocky for whole tree skidding or machine piling, lopping or hand piling may be used.

Non-commercial vegetative treatments accomplished by contract or with Forest Service crews will require 50-foot activity slash pullback along specified property boundaries, project boundaries, and roads. Slash will be hand piled or removed from 50-200 feet from the specified features.

Personal-use fuelwood permits in both commercial and non-commercial vegetative treatments may be offered in areas where activity slash is generated. Limited personal-use fuelwood permits to fell designated standing trees in non-commercial woodland vegetative treatment sites may also be offered.

### **Prescribed Burning**

Prescribed burning will occur within the entire McCracken project area. Approximately 2,075 acres will be burned only (i.e., no thinning treatments will occur). Both prescribed burning and thinning treatments will occur on the remainder of the project area. The initial prescribed burn for areas proposed for both thinning treatments and prescribed burning may be implemented either prior to or following thinning treatments. Maintenance or re-entry burns will occur on a 3-7 year schedule following initial burning, and within a 20-year timeframe.

Fire break lines will be created regarding a variety of resources. Where there are no roads to tie into or it is too dense to use drag-lines, small dozer lines may be used to line prescribed burning units. However, it is expected that the use of dozers to create fire line will be rare.

Prescribed burning will reduce fuel loadings and thin smaller trees. Prescribed burning will also reduce activity-created slash and previously existing woody debris.

After prescribed burning, the district wildlife biologist may determine that some areas have critical needs for additional downed logs for wildlife habitat. A few green trees may be felled and left on the ground in such areas. Such trees will be greater than 12 inches and less than 16 inches dbh. No more than three trees per acre will be felled.

### **Road System**

The existing forest road system within the project area provides adequate access for project activities. Where commercial sawtimber and roundwood are sold and hauled from the area on log trucks, roads used to access commercial sites will be maintained and/or improved to reduce erosion problems. Any temporary roads used to access timber would be obliterated after use. Any currently closed roads that may need to be re-opened will be closed after implementation.

### **MSO Conservation Measures**

Vegetative treatments will retain all yellow pine as living trees. Vegetation treatments will not include felling, and will not otherwise induce mortality, of yellow pine.

Vegetation treatments will not include felling, and will not otherwise induce mortality, of trees greater than 24 inches dbh within MSO restricted habitat.

No Gambel oak greater than five inches dbh will be felled in MSO target/threshold habitat. Gambel oak in target/threshold habitat will be maintained at a minimum of 20 square feet of basal area per acre. No Gambel oak greater than eight inches dbh will be cut within the project area.

No stand that simultaneously meets all MSO threshold conditions will be treated in such a way as to lower that stand below those conditions.

All thinning proposed within MSO target/threshold habitat will be light and will retain higher densities of leave trees. All thinning within target/threshold habitat will be non-commercial. In general, no trees greater than 12 inches dbh will be thinned. A few trees up to 16 inches dbh may be removed around large Gambel oak within target/threshold habitat. No more than one Gambel oak or oak group per acre will be so released in this manner within target/threshold habitat. Pine up to 18 inches dbh will be removed within a 2-acre aspen site.

No regeneration treatments are proposed for MSO target/threshold habitat.

*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 wildland fire, 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). The FWS will be releasing a Draft Revised Recovery Plan for review during the summer of 2011. 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 United States 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 (which includes 11 National Forests in Arizona and New Mexico). Forest Service Regions 2 and 4 (which includes 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 wildland fire, 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, high-severity, stand-replacing wildland fire 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. Landscape level fires, such as the Rodeo-Chediski Fire (2002) and currently the Wallow Fire (2011), have resulted in the loss of thousands of acres of occupied and potential MSO habitat across significant portions of its range.

Global climate variability 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 and canyon habitats that affect ecosystem function and processes.

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) estimated 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 1,065 PACs established on National Forest System (NFS) lands in Arizona and New Mexico (U.S. Forest Service, 2011 Land and Resource Management Plan Biological Assessment, pg. 41). 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 RUs.

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  $\Lambda$  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  $\Lambda$  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 229 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 439 PACs over the course of 18 years. The form of this incidental

take is almost entirely harm or harassment, rather than direct mortality, and many of these actions have resulted in single or short-term disturbance to owls that has not resulted in long-term harassment, habitat degradation, or habitat loss. 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 biological opinions 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 biological opinion 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 biological opinion, 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 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 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 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 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, biological opinion has resulted in the incidental take of owls associated with 52 PACs over approximately five years. However, because some of this incidental take has been in the form of short-term harassment that has occurred and is no longer on-going, we are continuing to track incidental take in 45 PACs associated with actions covered under the 2005 LRMP BO (21 harm, 24 harass). Prior to the 2011 fire season, incidental take associated with Forest Service fire suppression actions, which was not included in the LRMP proposed action, had resulted in the incidental take of owls associated with 27 PACs (6 harm, 21 harassment).

#### *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 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 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:

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 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.

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.

Primary constituent elements related to canyon habitat include one or more of the following:

- Presence of water (often providing cooler and often higher humidity than the surrounding areas);
- Clumps or stringers of mixed-conifer, pine-oak, pinyon-juniper, and/or riparian vegetation;
- Canyon wall containing crevices, ledges, or caves; and,
- High percent of ground litter and woody debris.

Steep-walled rocky canyonlands are typically within the Colorado Plateau (CP) RU, but also occur in other RUs. Canyon habitat is used by owls for nesting, roosting, and foraging and includes landscapes dominated by vertical-walled rocky cliffs within complex watersheds,

including many tributary side canyons. These areas typically include parallel-walled canyons up to 1.2 miles (2 kilometers) in width (from rim to rim), with canyon reaches often 1.2 miles (2 kilometers) or greater in length, and cool north-facing aspects. Rock walls must include caves, ledges, and fracture zones that provide protected nest and roost sites. Breeding sites are located below canyon rims; however, it is known that owls use areas outside of the canyons (i.e., rims and mesa tops).

## **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 McCracken Vegetation Management Project is located on the Williams Ranger District approximately six miles south of the town of Williams and just south and southeast of Bill Williams Mountain. Elevations range from 6,000 feet at the southern end of the project area to 7,658 feet at the top of Coleman Knoll. Streams within the project area are ephemeral. The largest drainages in the project area are Hell Canyon, MC Canyon, and East Fork MC Canyon. Coleman Lake is a large ephemeral wetland located in the middle of the project area.

The project area is dominated by the ponderosa pine forest cover type (12,559 acres) which includes a mix of ponderosa pine, Gambel oak, and alligator juniper. There are 3,586 acres of woodland stands that include juniper woodland, pinyon-juniper woodland, and stands designated as oak woodland. Most of the woodland stands are located in the lower-elevation southern portion of the project area. There are also 962 acres of grassland cover types including Barney Flat and Sevier Flat in the northern part of the project area. Approximately 88 acres of aspen forest are located within the project area. A total of 142 acres are classified as wetland, primarily surrounding the ephemeral wetland Coleman Lake.

## **A. STATUS OF THE SPECIES WITHIN THE ACTION AREA**

### *Mexican Spotted Owl*

Spotted owl surveys were conducted throughout pine-oak restricted habitat within the project area and within a 0.5-mile-wide buffer area in 2008 and 2009. Spotted owl surveys also were conducted within the project area in 2007. No spotted owls were detected during any of the surveys.

No MSO PACs or protected steep-slope habitats are located within or overlap the McCracken project boundary. The nearest MSO PAC is approximately two miles north of the project boundary. Two other PACs are approximately seven miles, east and southeast, from the project boundary. Although we have no documented use of the project area by MSO for nesting and roosting, there is potential for owls to occur while foraging or dispersing through the area.

The 17,337-acre project area contains 8,936 acres of MSO restricted (pine-oak cover type) habitat. A total of 1,073 of the 8,936 acres of MSO restricted pine-oak habitat were identified and designated to be managed as MSO target/threshold habitat.

### *Mexican Spotted Owl Critical Habitat*

The project area is partially within MSO critical habitat unit UGM-13. The project area contains 8,191 acres of critical habitat, which is approximately 3.4 percent of the critical habitat unit. The amount of actual MSO critical habitat in the unit, or the percentage the McCracken project represents, has not been calculated.

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

Formal consultation was conducted for two projects that include the McCracken project area. A BO was issued on April 29, 1999 (Arizona Ecological Services [AESO] file number 02-21-98-F-0246) for the Kaibab National Forest Natural Fire Plan. The BO concluded that the proposed action was not likely to jeopardize the continued existence of the MSO, but it did include an incidental take statement for one pair of MSO. After critical habitat was designated for the MSO in 2004, a BO was issued on February 1, 2005 (02-21-04-F-0430) for Previously Approved Vegetative Treatment Projects, Ongoing Personal-use Firewood Cutting, and Wildland Fire Use. The BO concluded that the proposed action was not likely to jeopardize the continued existence of the MSO, and no additional incidental take was anticipated. Other consultations that were conducted in the vicinity of the McCracken project area include the following.

The Bill Williams Ski Area is located approximately 0.2 mile from the Bill Williams PAC. Formal consultation was conducted on a proposed expansion of the Bill Williams Ski Area, and a BO was issued on December 8, 1999 (02-21-96-F-095). The BO concluded that the proposed expansion was not likely to jeopardize the continued existence of the MSO, but it did include an incidental take statement for one pair of MSO.

A BO was issued on April 5, 2002 (02-21-99-F-009) for the Frenchy Vegetation/Fuels Management Project. The BO concluded that the proposed action was not likely to jeopardize the continued existence of the MSO, and that incidental take of MSO was not anticipated.

A BO was issued on July 14, 2005 (02-21-03-F-0144 and 02-21-03-F-0145) for the City Project and Twin Prescribed Burn Project. The BO concluded that the projects were not likely to jeopardize the continued existence of the MSO and was not likely to destroy or adversely modify MSO critical habitat. The BO included an incidental take statement for one pair of MSO.

A BO was issued on December 1, 2008 (22410-2009-F-0053) for additional recreational activities at Elk Ridge Ski Area. The BO concluded that the project was not likely to jeopardize the continued existence of the MSO, was not likely to destroy or adversely modify MSO critical habitat, and that incidental take of MSO was not anticipated.

A BO was issued on October 5, 2009 (22410-2009-F-0261) for the Bill Williams Cap Fuels Reduction Project. The BO concluded that the project was not likely to jeopardize the continued existence of the MSO, was not likely to destroy or adversely modify MSO critical habitat, and that incidental take MSO was not anticipated.

By definition, formal consultations and resulting BOs mean that the MSO (disturbance and/or habitat modification) and/or its critical habitat were adversely affected to some extent by the particular projects. BOs with incidental take statements mean that individual owls within MSO PACs were adversely affected in a way that constituted take of the species. Specific information regarding such effects can be found within the particular BO.

Projects for which informal consultations were previously conducted in the project area or vicinity include an amendment to the ski area special use permit, several livestock grazing permits, and travel management. By definition, projects for which consultation can be concluded informally will result in no adverse effects to the species or its critical habitat.

Recreation such as camping, hiking, and hunting occurs in the project area. Use and development of private land also occurs within the project area and vicinity. Aside from travel management, no previous consultations regarding such activities in the project area or vicinity have been conducted. Unless there is some Federal connection to such activities, section 7 consultation is not necessary (please see the Cumulative Effects section below).

## **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 BA states that mechanical treatments and prescribed fire will reduce tree densities and will create the discontinuous canopy that was present prior to settlement. It also states that some treatments will return MSO restricted habitat to very open conditions and preclude the habitat from developing into nesting/roosting habitat. However, the BA also states that thinning within MSO target/threshold sites will be light and will retain higher densities of leave trees.

#### *Vegetation Treatment*

According to a spreadsheet that was included with the BA, a total of 7,181 acres of MSO restricted habitat (including the specific category of target/threshold) in 194 stands will receive vegetation treatments (Table 2).

Table 2. Summary of vegetation treatments that will occur in MSO habitat.

<i>Vegetation Treatment</i>	<i>MSO Restricted Habitat (acres)</i>	<i>MSO Critical Habitat (acres)</i>
Irregular Shelterwood with Sanitation	1,252	1,252
Irregular Shelterwood	501	501
Group Selection	968	940
Group Selection with Sanitation	392	392

Group Selection with VSS Distribution	180	180
Full Restoration to Pine Savannah	251	252
Full Restoration to Pine Savannah with Sanitation	149	149
Partial Restoration to Pine Savannah with Sanitation	150	150
Partial Restoration to Pine Savannah	109	109
Full Restoration to Woodland Savannah	117	89
Partial Restoration to Woodland Savannah	113	113
Sanitation with Irregular Thinning	38	38
Woodland Thinning	326	326
Aspen Release	3	3
Precommercial Thinning	2,632	2,520
Total	7,181	7,013

Most of the proposed vegetation treatments may adversely affect MSO habitat. Treatments for regeneration towards savannah or meadow conditions will result in large openings, less extensive tree canopies, less developed canopy layers, less dense residual tree densities, and fewer large trees. Dwarf mistletoe-focused (sanitation) treatments will create larger openings. Thinning treatments, group selection, and irregular shelterwood will also result in similar changes to MSO habitat.

No trees greater than 24 inches dbh will be cut in MSO restricted habitat. No Gambel oaks greater than 8 inches dbh will be cut. Some pines around oaks will be removed. Snags, and live trees with dead parts or cavities, will not be cut unless they present a safety or fire risk.

The BA included tables which provide estimates of effects of treatments on key habitat components on an average summary basis. Such information does not allow for a determination of how each of the various treatments will affect individual stands of MSO habitat or whether the averages also include stands of MSO habitat within the project area that will not be treated. If untreated stands were included in these averages, then estimates of effects to the stands that will be treated may be considerably different from the averages provided.

The BA states that, in the 7,863 acres of MSO restricted habitat outside of target/threshold stands, treatments will result in, on average, a 25 percent decrease in total basal area. In addition the density of large (18-24 dbh) trees will be reduced, on average, by 15 percent in MSO habitat. Such averages suggest that greater effects to MSO habitat could occur with particular treatments in particular stands. Thus, it is likely that many of the treatments, as described, will reduce basal area and the key habitat component of large (greater than 18 inches dbh) trees in stands of MSO habitat beyond the reported averages. More specific data that could identify the variation around these averages were not available for review.

The BA states that canopy cover will fall below 40 percent in stands of MSO critical habitat that will receive certain treatments (sanitation, sanitation with irregular thinning, irregular shelterwood, full and partial restorations to pine and woodland savannahs, aspen release, isolation of mistletoe-infected pine, and follow-up mistletoe treatments). Such treatments will adversely affect MSO habitat by reducing or removing the closed and interconnected canopies important to owl habitat.

The total of 7,181 acres of all MSO restricted habitat to be treated includes treatment of 871 acres of target/threshold MSO habitat. Treatments of target/threshold habitat include woodland

thinning of 104 acres in two stands, and precommercial thinning of 667 acres in 11 stands. Thinnings that are proposed within MSO target/threshold habitat will be light, will retain higher densities of leave trees, and will be non-commercial. In general, trees greater than 12 inches in dbh will not be removed. An unknown number of trees up to 16 inches dbh may be removed around large oaks. No oak greater than 5 inches dbh will be felled in MSO target/threshold habitat. A minimum of 20 square feet of basal area per acre of Gambel oak will be maintained in MSO target/threshold habitat. One 30-acre stand currently meets threshold conditions, and the treatment will not reduce any of the structural attributes below threshold conditions.

However, there will be an average reduction in basal area in target/threshold stands from 157 square feet/acre to 147 square feet/acre, which is below the MSO Recovery Plan recommendation of 150 square feet of basal area in target/threshold stands. The reported average values do not allow a determination of how basal area will be affected in stands of MSO habitat. Also, because only average values were provided, basal area in some individual stands may be reduced to some unknown extent below 147 square feet. Although the treatments should reduce the possibility of stand-replacing wildfire in target/threshold stands, stand conditions will be reduced below the recommended conditions for MSO habitat, at least for the short-term.

The proposed action includes a proposed Forest Plan amendment that will change the designation of land suitability for 1,938 acres of the ponderosa pine cover type. The amendment will designate 1,636 acres of suitable ponderosa pine forest and 302 acres of unsuitable ponderosa pine forest to be managed for critical wildlife management. Approximately 645 acres of the total acreage is MSO restricted pine-oak habitat. It is unknown whether that acreage is also MSO critical habitat. Although the amendment is not discussed further in the BA, the November 2010 environmental assessment (EA) of the proposed action indicates that the amendment is necessary to allow for restoration treatments to move vegetation toward conditions that are desirable for antelope and other species that favor open ponderosa pine savannah conditions. Thus, the 645 acres of MSO habitat will be specifically treated and likely managed in perpetuity to create habitat for species that prefer open ponderosa pine, resulting in removal of key habitat components of MSO habitat in these areas over the long-term.

Mechanical treatments will reduce tree densities and create discontinuous tree canopies. Some treatments will return MSO restricted habitat to very open condition and preclude the habitat from developing into nesting/roosting habitat.

### *Prescribed Fire*

The BA did not describe prescribed fire that will be applied to stands of MSO habitat. However, all 8,936 acres of MSO habitat in the project may be treated with prescribed fire. The BA did state that snags and logs could be lost during prescribed burning, and that there is no way to avoid a certain (but unspecified) level of loss of snags and logs during prescribed burning.

Although prescribed burning generally increases grass and forb cover for a few years following burning, it will also result in reduced numbers and volumes of large logs and other woody debris. Planned maintenance burns will likely maintain that reduction of prey species cover that is provided by large logs.

### **Mexican Spotted Owl Critical Habitat**

A total of 7,013 acres of MSO critical habitat in critical habitat unit UGM-13 restricted habitat in 189 stands will receive vegetation treatments (see Table 2). All 8,191 acres of MSO critical habitat in the project area may receive prescribed fire treatments.

*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 was not specifically addressed by the BA. Thus, it is not possible to determine whether this PCE will be maintained or enhanced in MSO critical habitat. However, the descriptions of the proposed treatments, particularly the restoration treatments, suggest that this PCE may not be maintained or enhanced for many of the proposed treatments in stands of MSO critical habitat because of the amount of thinning and change to savannah or meadow conditions.

*A shade canopy of 40% or greater.*

The BA states that shade will fall below 40 percent in stands of MSO critical habitat that will receive certain treatments. The BA states that those treatments include sanitation, sanitation with irregular thinning, irregular shelterwood, full and partial restorations to pine and woodland savannahs, aspen release, isolation of mistletoe-infected pine, and follow-up dwarf mistletoe treatments. Thus, this PCE will not be maintained within these treatments in MSO critical habitat.

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

The BA states that snags will not be cut unless they present a safety hazard or fire risk. The BA states that snags could be lost during prescribed burning, and that there is no way to avoid a certain (unspecified) level of loss of snags during prescribed burning. Thus, some degree of loss of this PCE is likely to occur.

*High volumes of fallen trees and other woody debris.*

The BA states that logs could be lost during prescribed burning, and that there is no way to avoid a certain (unspecified) level of loss of logs during prescribed burning. If logs could be lost, then other woody debris would likely be lost to a greater extent.

Prescribed burning will result in reduced numbers and volumes of large logs and other woody debris, which may result in at least short-term decreased cover for MSO prey species. Planned maintenance burns will likely maintain the reduction of cover provided by large logs.

*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.

Effects to hardwoods, and specifically Gambel oaks, may be mixed. The BA states that very little thinning of Gambel oak will occur. Some treatments may increase the growth of existing

Gambel oaks. Prescribed fire may affect the abundance of Gambel oak especially younger individuals that are likely to be more susceptible to the unknown extent of proposed prescribed fire.

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

Residual plant cover may be reduced by the implementation of vegetation treatments and prescribed fire. Residual cover that supports MSO prey would temporarily be reduced after burning. Such reduction may be recovered at least temporarily. However, maintenance broadcast burns will also subsequently reduce cover of re-established plants.

## **Summary**

MSO habitat exhibits certain identifiable features including high tree basal area, large trees, multi-storied canopy, and decadence in the form of downed logs and snags (USDI 1995). Certain key habitat components of MSO habitat have been identified to be of importance to the species and its recovery and should be retained within the habitat. Mexican spotted owl key habitat components include very large trees (greater than 24 inches dbh), other large trees (18-24 inches dbh), large snags, large down logs, and hardwoods. Retaining large trees is desirable because they are impossible to replace quickly.

The PCEs of MSO critical habitat that are essential to the conservation of the species include those physical and biological features that support nesting, roosting, and foraging (USDI 2004). The pine-oak cover type is one of the most frequently used communities throughout the Upper Gila Mountains RU and comprises all of the MSO habitat in the project area. PCEs of MSO critical habitat, as listed above, have also been identified as important to the survival and recovery of the species. MSO critical habitat should be managed to maintain and obtain the PCEs.

Vegetation treatments and prescribed fire can adversely affect MSO habitat and MSO critical habitat. As discussed above, some key habitat components of MSO habitat, and some PCEs of MSO critical habitat, will be adversely affected by the proposed action. Some recommendations of the MSO Recovery Plan will not be met. Although risk of stand-replacing wildfire will be reduced, many of the proposed treatments will result in MSO habitat that is more open, has less canopy cover, has a less developed multi-layered canopy, has less basal area, has fewer large trees, and in some cases, no longer functions as MSO habitat. Vegetation treatments and prescribed fire will reduce tree densities and will create more open and discontinuous canopies. Some treatments will create very open conditions in MSO habitat and preclude the habitat from developing into nesting/roosting habitat. Some treatments will take long periods of time for MSO habitat to recover those features that constitute nesting/roosting habitat. Some stands receiving treatments are likely to be maintained in reduced conditions for a long time period and/or in perpetuity.

Such treatments and results will affect the quality and integrity of MSO habitat and MSO critical habitat. They will simplify stand structure and move stands away from containing structures that constitute MSO habitat. Actions that affect the integrity of MSO habitat and MSO critical habitat may affect the normal breeding, feeding, and sheltering of the species.

## **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 primarily of Federal ownership. Recreation is the primary non-Federal activity that occurs in the project area. Recreation may result in disturbance effects to the MSO. The extent of such possible disturbance is unknown but is expected to be relatively minor.

There are approximately 326 acres of private land in three parcels within the McCracken project area. The properties are used for home sites, livestock grazing, and recreational use. Some of the areas have been cleared of trees for home sites and other buildings. Some of the acreage is in open grasslands. The extent of potential effects to MSO or its critical habitat is unknown but is expected to be relatively minor.

## **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 McCracken Vegetation Treatment 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.

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 statutory provisions of the Act to complete our analysis with respect to critical habitat.

We present this conclusion for the following reasons:

### *Mexican Spotted Owl*

MSO restricted habitat in the project area may be adversely affected by the reduction of key habitat components due to vegetation treatments, prescribed fire, and associated actions. The scope of the project is limited to vegetation treatment of 7,181 acres, and prescribed fire treatment of 8,936 acres, of MSO restricted habitat. Treatments will not occur in MSO PACs. The treatment area is very small compared to the amount of habitat available in the Upper Gila Mountains Recovery Unit. The implementation of the proposed action is not expected to impede the survival or recovery of MSO within the recovery unit.

### *Mexican Spotted Owl Critical Habitat*

MSO critical habitat in the project area may be adversely affected by reduction of the PCEs due to vegetation treatments, prescribed fire, and associated actions. However, the scope of the project is limited to vegetation treatments of 7,013 acres, and prescribed fire treatment of 8,191 acres, of MSO critical habitat in the UGM-13 critical habitat unit, which is a very small portion of the available habitat in this unit. Although a portion of the habitat within this unit will be

altered, the habitat within this unit will remain functional and continue to serve the intended conservation role for the species.

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 McCracken Vegetation Treatment Project will result in the incidental take of MSO. MSO surveys conducted in 2007-09 did not result in detection of MSO, and the closest MSO PAC is approximately two miles from 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 Forest work with us in designing fuel treatment projects to protect MSO habitat from human or naturally-ignited wildland fire while improving habitat sustainability.

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. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department.

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 (hard copy):

Director, Aha Makav Cultural Society, Fort Mojave Indian Tribe, Mohave Valley, AZ  
Tribal Secretary, Havasupai Tribe, Supai, AZ  
Director, Hopi Cultural Preservation Office, Kykotsmovi, AZ  
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Director, Apache Cultural Program, Yavapai-Apache Nation, Camp Verde, AZ  
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Shaula Hedwall, Fish and Wildlife Service, Flagstaff AZ  
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