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**In Reply Refer To:**  
AESO/SE  
22410-2008-F-0118

May 30, 2008

Memorandum

To: Superintendent, Flagstaff Area National Monuments, Flagstaff, Arizona

From: Field Supervisor

Subject: Island Trail Rockfall Removal and Repair Biological Opinion

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request for formal consultation was dated April 16, 2008, and received by us on April 21, 2008. This consultation concerns the possible effects of the National Park Services' (NPS) proposed action to clear recent rockfalls and repair damaged sections of the Island Trail at Walnut Canyon National Monument, located in Coconino County, Arizona, on the Mexican spotted owl (*Strix occidentalis lucida*) (MSO). In addition, the NPS has determined that the proposed action "may affect, but will not likely adversely affect" MSO critical habitat. We concur with your determination. The basis for our concurrence is found in Appendix A.

This biological opinion is based on information provided in the original April 16, 2008, Biological Assessment and Evaluation (BAE), field visits to the site, conversations and electronic correspondence with your staff, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the MSO or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

**Consultation History**

Details of the consultation history are summarized in Table 1.

**Table 1.** Summary of Consultation History

<b>Date</b>	<b>Event</b>
December 17, 2007	We received an electronic mail informing us that a rockslide occurred across the Island Trail. The NPS requested we meet in January to discuss a project to remove the rock and repair the trail.
January 9, 2008	We met with NPS staff at the project site to discuss different removal options and potential effects to MSO.
February 7, 2008	We received an electronic mail from NPS staff discussing the project.
February 11, 2008	We discussed the project with NPS staff.
April 21, 2008	We received your request for formal consultation regarding the effects of the proposed project to the MSO.
May 21, 2008	We acknowledged your request for formal consultation with a 30-day letter. A draft biological opinion was not requested by NPS.

## **BIOLOGICAL OPINION**

### **DESCRIPTION OF THE ACTION**

For a complete description of the proposed action, please refer to the April 16, 2008, BAE. This document is incorporated herein by reference.

Walnut Canyon National Monument encompasses approximately 3,580 acres and is located five miles east of Flagstaff, Arizona. The monument was established in 1915 to protect and provide for public enjoyment of numerous prehistoric cliff dwellings within Walnut Canyon. The Island Trail is the primary visitor attraction at the monument, providing the only access to the prehistoric cliff dwellings built into alcoves along the canyon walls. The mile-long Island Trail descends 185 feet down the limestone bedrock of Walnut Canyon and loops around a tall promontory on the inside bend of a canyon meander. On November 30 and again on December 7, 2007, rockslides occurred in separate locations along the trail. The rockslides were likely triggered by prolonged heavy rains and snow storms which fully saturated and softened the ground. Massive limestone blocks, boulders, and loose talus blocked and damaged the trail in three locations. In addition to the trail damage, a sensitive archeological site was uncovered where the largest block had rested before the fall. Reopening the Island Trail is crucial for the NPS to provide public access and enjoyment of the unique archaeological resources for which the monument was established.

After considering potential alternatives, the NPS proposes to reduce the larger limestone blocks to manageable size for removal, and then repair the damaged sections of trail. A NPS Trail Crew would first fracture and settle the two largest limestone blocks, using light powder charges known as “Boulder Busters.” The resulting manageable blocks would be broken into smaller sizes by youth corps trail crew workers using rock drills and other hand tools. As much stone as

possible would be hand-shaped and used to build a retaining wall to stabilize the exposed archaeological site and trail repairs (an estimated 20 tons of shaped stone would be needed). Some larger boulders are very likely to naturally fall or be pried over the canyon ledge as part of this work.

After completing the retaining wall, the remaining debris would be cleared from the upper section of the trail. Crew workers would manually demolish the damaged concrete trail surface and steps, and rebuild them with like materials. As soon as the upper trail section has been cleared and repaired, the Island Trail would be partially reopened to the public as a one-way route while the lower loop and switchback sections are cleared and repaired. For all three trail sections, approximately 80 linear feet of new concrete or asphalt trail surfaces, retaining wall, and several steel handrails must be entirely replaced. Crews would pack (in 40 pound loads) all trail reconstruction materials (concrete, water, and pre-mix asphalt). All original trail rubble from the demolished sections would be packed up the trail and disposed off-site. All remaining limestone boulders, talus, and scree (estimated at approximately 70 tons) would be side-cast down the open canyon slope onto the talus deposits below the original slide. The entire project is expected to take approximately 22 to 25 weeks and is expected to commence in June 2008. If work commences at this time, the project should be completed by winter 2008. If there are weather or other delays, project completion may not occur until spring 2009.

The rockfall areas and damaged sections of the Island Trail are well below the rim of Walnut Canyon and are located adjacent to the Breezy (#040548) and Lucida (#040546) MSO protected activity centers (PACs). Removal and repair work would occur during the 2008 MSO breeding season (March 1 through August 30) and possibly during the beginning of the 2009 breeding season.

## **STATUS OF THE SPECIES**

The MSO was listed as a threatened species in 1993 (USDI 1993). The primary threats to the species were cited as even-aged timber harvest and stand-replacing wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the MSO population. The FWS appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan 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 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.

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 FS Region 3 most recently reported a total of approximately 1,025 PACs established on 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,” (*in press*) found that reproduction varied greatly over time, while survival varied little. The estimates of the population rate of change ( $\Lambda$ =Lamda) 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 191 formal consultations for the MSO. These formal consultations have identified incidences of anticipated incidental take of MSO in 389 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 FS Region 3. However, in addition to actions proposed by FS 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.

## **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 within the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

### **A. Status of the species within the action area**

The earliest NPS record of MSO activity in Walnut Canyon dates to 1980, when a roost site was reported near the mouth of Cherry Canyon. A pair of MSO was observed by NPS staff near this location again in 1986. The Arizona Game and Fish Department (AGFD) informally surveyed the monument from 1987-1989 and the Forest Service conducted surveys from 1991-1994. Additional surveys were conducted by NPS staff in the late 1990s. Based upon all of the surveys conducted, four protected activity centers (PACs) were established within and adjacent to the monument boundary (Cherry #040502, Breezy #040548, Lucida #040546, and Walnut 33 #040510). These PACs essentially encompass the entire monument, except for the 1996 expansion area. The NPS has established nest buffers for all four PACs, based on nest and roost locations, as nest sites are not known for two of the PACs. The two PACs for which pair occupancy was not confirmed by nesting status are the Breezy and Lucida PACs. These PACs were designated in 1999 and 1998, respectively.

Since 2000, the NPS, FWS, Forest Service, and U.S. Geological Survey (USGS) personnel have sporadically surveyed for MSO in and around the monument; no MSO were observed during these efforts. However, surveys were not to protocol and did not adequately cover the habitat. In 2006, informal surveys were conducted in March and April in the Lucida PAC nest core and no MSO were detected. In 2007, informal surveys within the Breezy PAC resulted in MSO vocalizations on separate occasions. Owls were not located on follow-up visits, but fresh whitewash and owl pellets were located. Based on these detections and sightings, it is apparent that MSO do occupy areas within these PACs; however, regular, protocol surveys are needed to better determine owl use in these areas.

Over the course of the surveys that have been completed, MSO have been seen or heard within 0.5 mile of the Island Trail on three occasions. None of these detections occurred in the last seven years. Since 2005, all MSO vocal detections and sign have occurred at least one mile west of the Island Trail. It is likely that heavy daytime public use of the area, NPS operational activities, and associated noise around the Visitor Center and Island Trail have affected MSO use of the project area for roosting and/or nesting. The monument is closed at night, so MSO may use the area for foraging (particularly since it overlaps with two MSO territories). The NPS noted in their BAE that since the Island Trail has been closed for four months, activity by bobcat, javelina, white-tailed deer, and other wildlife seems to have increased on the Island Trail.

### **B. Factors affecting the species within the action area**

Factors affecting the species within the action area include, but are not limited to, wildfire and fire suppression, noxious weeds and control, forest insects and control, facility management, and recreation. Within the monument, general public access is restricted to established trails, roadways, and developed facilities. The remainder of the monument has long been closed to unguided entry to protect archaeological features. NPS operations and visitor activities have most likely affected MSO habitat utilization in the monument since at least 1987. This has likely resulted in disturbance to within 0.25 to 0.5 mile of the Island Trail, within the Breezy and Lucida PACs, due to heavy visitation and operations in this area.

Walnut Canyon NM is bordered on all sides by the Coconino National Forest, so actions that occur on the Forest can result in impacts to the monument as well. Legislation passed in 1996 administratively transferred approximately 1,330 acres from the Coconino National Forest to the NPS. The NPS recently surveyed and began fencing the new area. Until a decision notice is issued on the Final Environmental Impact Statement/General Management Plan, the expansion area will remain open to public use in accordance with the Coconino National Forest Land and Resource Management Plan, as amended. Predominant uses on the forest include livestock grazing on the Youngs Canyon, Cosnino, and Walnut Grazing Allotments; hunting and target shooting; off-road vehicle use; and camping. Most of these activities occur along the terraces adjacent to the Walnut Canyon rim, and activity within the canyon is limited. After the NPS closes the boundary expansion area, use in this area will decrease.

## **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.

The NPS states that the proposed rock removal and trail repair may result in noise disturbance to MSO up to 0.5 mile of the Island Trail. Based upon the project description, we expect modification and/or loss of habitat to be minimal or non-existent. This section will describe the potential effects of noise and disturbance to MSO and how the proposed action may result in adverse effects to the species.

Direct effects from disturbance to MSO depend upon their proximity to occupied habitat and their timing during the breeding season. Disturbance to MSO from loud noises will be greatest the closer these actions occur to an owl's core area. Activities associated with loud construction can directly affect the MSO through auditory or visual disturbance. This disturbance can disrupt activities such as breeding, feeding, and roosting. The response of wildlife to noise disturbance is complex, being neither uniform nor consistent. There are a growing number of studies attempting to describe and quantify the impacts of non-lethal disturbance on the behavior and reproduction of wildlife, and MSO in particular. Delaney *et al.* (1997) reviewed literature on the response of owls and other birds to noise and concluded the following: 1) raptors are more susceptible to disturbance-caused nest abandonment early in the nesting season; 2) birds generally flush in response to disturbance when distances to the source are less than approximately 200 feet and when sound levels are in excess of 95 dBA; and 3) the tendency to flush from a nest declines with experience or habituation to the noise, although the startle response cannot be completely eliminated by habituation. Delaney *et al.* (1999) found that ground-based disturbances elicited a greater flush response than aerial disturbances. This corresponds well with the Delaney *et al.* (1999) 0.25-mile threshold for alert responses to helicopter flights. In addition, Delaney *et al.* (1999) found that MSO did not flee from helicopters when caring for young at the nest, but fled readily during the post-fledgling period. This may be a result of optimal fleeing decisions that balance the cost-benefit of fleeing. Frid and Dill (2002) hypothesize that this may be explained using predator risk-disturbance theory,

and perhaps the cost of an adult MSO fleeing during the nestling period may be higher than during the post-fledgling period.

Owls have more sensitive hearing than other birds (Bowles 1995). If noise arouses an animal, it has the potential to affect its metabolic rate by making it more active. Increased activity can, in turn, deplete energy reserves (Bowles 1995). Noisy human activity can cause raptors to expand their home ranges, but often birds return to normal use patterns when the humans are not present (Bowles 1995). Such expansions in home ranges could affect the fitness of the birds, and thus their ability to successfully reproduce and raise young. Species that are sensitive to the presence of people may be displaced permanently, which may be more detrimental to wildlife than recreation-induced habitat changes (Hammit and Cole 1987, Gutzwiller 1995, Knight and Cole 1995). If animals are displaced from areas that are essential for reproduction and survival, then that population will decline. Likewise, if animals are disturbed while performing behaviors such as foraging or breeding, that population will also likely decline (Knight and Cole 1995). Birds may respond to disturbance during the breeding season by abandoning their nests or young; by altering their behavior such that they are less attentive to the young, which increases the risk of young being preyed upon; by disrupting feeding patterns; or by exposing young to adverse environmental stress (Knight and Cole 1995). There is also evidence that disturbance can result in lost foraging time that, in turn, may cause some raptors to leave an area or to not breed at all (Knight and Cole 1995).

Rock-breaking and trail clearing work must commence before any other aspect of the project occurs. The greatest potential for adverse effects resulting from loud noise will undoubtedly be the shot reports from firing off the Boulder Busters. When fired, the NPS states in the BAE that the Boulder Buster compares to a large shotgun blast. The NPS conducted firing demonstrations of the Boulder Buster (away from listed species habitat) and reported that the report was very loud at 0.25 mile and quite audible at 0.5 mile from the blasting site. The demonstration occurred on gently rolling terrain, dominated by ponderosa pine and pinyon-juniper forest, on a clear, sunny day. Since the blasting site is located 150 feet below the canyon rim, it is expected that Boulder Buster shot reports are likely to propagate farther within the narrow, sinuous bedrock canyon, and sound may travel farther down canyon due to reverberation off the canyon walls.

Approximately 20 Boulder Buster charges may be fired intermittently over a period of three days in June during the MSO breeding season. June is typically the time that nesting MSO would have juveniles at or near the nest site and adults would be feeding juveniles. Although MSO nests or roosts have not been located within 0.25 mile of the Island Trail, it is possible that with very limited human activity in the area, MSO are using habitat for nesting within 0.25 mile of the site. There are deep cliff crevices in the area that MSO may use, undetected by past surveys. Depending upon the location and orientation of possible nest or roost locations within 0.5 mile of the area in the Breezy or Lucida PACs, the first few shots may have the greatest potential to significantly disrupt normal behavior patterns, such as breeding, feeding or sheltering. However, the potential effect from this portion will not only include the noise from the charges, but also the resulting noises as large boulders fall into the canyon following the blast. Based upon the timing of this work, it is possible that adult MSO disturbed by this activity may be more likely to flee



the area even if they have juveniles, as it is during the post-fledgling period (Delaney *et al.* 1999).

Daily prolonged noise would be generated over the next several months as the trail crew removes the remainder of the rockslide, builds the new retaining wall to stabilize the sensitive archeological site, and rebuilds the sections of damaged trail, retaining walls, and handrails. The Pionjar rock drill that would be used to conduct some of this work is relatively quiet, with a characteristic low, steady drone instead of the variable high-pitch of a chainsaw. This drill would also be used to drill the holes for the Boulder Buster charges. In addition to the Pionjar, workers would use sledgehammers and masonry hammers to break rocks, shape stones, and pulverize the damaged sections of trail and retaining wall. Noise will be generated as remaining stone rubble and debris is side-cast onto the canyon slopes below the original slide. Some large boulders are likely to fall or be pried over ledges into the canyon, but most material should be reduced to less than 16 inches in any dimension to minimize vibration and damage to nearby archaeological sites. It is approximately 200 feet to the canyon bottom, so boulder and rock impacts will likely cause noise, some of it substantial. Through August, this work may impact MSO feeding young and/or roosting owls. By mid-June, any juveniles that could occur within 0.5 mile of the area will be somewhat mobile, but if they flush suddenly due to sudden loud noise, they may become increasingly vulnerable to predation. In addition, if the action is not completed this calendar year, project related noise may displace owls next year during courtship or while they may be sitting on eggs.

Though the action is adjacent to both the Breezy and Lucida PACs, based upon the topography and sinuous nature of Walnut Canyon, project-created noise will likely be most pronounced within the Breezy PAC. Breeding and foraging activities by owls in the Breezy PAC would likely be affected by the project noise as it reverberates down the canyon throughout the PAC for an extended period of time. The Lucida PAC is somewhat topographically screened from the action by the rock “Island” promontory for which the Island Trail is named. Therefore, though there may be adverse effects resulting from the proposed action to owls in the Lucida PAC, we do not believe that this disturbance would rise to the level of incidental take.

## **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. Future actions within the project area that are reasonably certain to occur include: increased recreation around the monument due to the increasing Flagstaff population; fuels reduction treatments; increased development; increased ambient noise from the nearby Interstate 40, Santa Fe Railroad, and Pulliam Airport; and other associated actions on nearby state and private land. These activities have the potential to reduce the quality of MSO nesting, roosting, and foraging habitat, cause disturbance to breeding MSOs, and therefore contribute as cumulative effects to the proposed action. Because of the predominant occurrence of MSOs on Federal lands in this area, and because of the role of the respective Federal agencies in administering the habitat of the MSO,

actions to be implemented in the future by non-Federal entities on non-Federal lands are considered to be of minor impact to the owl population. However, non-Federal actions in this area may have significant impacts on the Breezy and Lucida PACs.

## **CONCLUSION**

After reviewing the current status of Mexican spotted owl, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is our biological opinion that the Island Trail Rockfall Removal and Repair Project will not likely jeopardize the continued existence of the Mexican spotted owl.

We present these conclusions for the following reasons:

1. The proposed project will not permanently impact key habitat components that may make the area unsuitable for future owl occupancy.
2. The disturbance from the proposed action will be short-term and will not impede future MSO use of the area.
3. The implementation of the proposed action is not expected to significantly impede the conservation of MSO within the Upper Gila Mountains Recovery Unit. The two PACs potentially affected by this action represent a fraction of the approximately 624 known PACs within the Upper Gila Mountains Recovery Unit.

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 the 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.

Using available information as summarized within this document, we have identified conditions of possible adverse effects to MSO leading to incidental take associated with implementation of the Island Trail Rockfall Removal and Repair Project within the Breezy PAC due to the lack of topographic screening protecting the PAC from loud noise associated with the action and the potential for this disturbance to impact breeding, feeding, and sheltering behavior of MSO associated with the PAC.

### **Amount or Extent of Take Anticipated**

We anticipate that two MSO (one pair) and/or associated eggs, nestlings, or juveniles associated with the Breezy PAC may be taken during project implementation. This anticipated take is in the form of short-term harassment from disturbance for a portion of one and possibly two breeding seasons. This action is a non-habitat altering action that disrupts or is likely to disrupt owl behavior within the Breezy PAC during a time when the pair may have juveniles (2008 breeding season) or may be attempting to nest (2009 breeding season).

We will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

### **EFFECT OF THE TAKE**

In this biological opinion, we determine that this level of anticipated take is not likely to result in jeopardy to the species.

### **REASONABLE AND PRUDENT MEASURES/TERMS AND CONDITIONS**

There are no conservation measures included in the proposed action due to the need to initiate and complete this action as soon as possible. It is in the best interest of MSO associated with the area for the action to be completed this calendar year. Though the proposed action does not incorporate measures that reasonably and prudently minimize the effects of incidental take of MSO, the length of time of extremely loud noise has been reduced as much as possible. Therefore, no reasonable and prudent measures are included in this incidental take statement.

### **DISPOSITION OF DEAD, INJURED, OR SICK MSO**

Upon locating a dead, injured, or sick spotted owl, initial notification must be made to the FWS's Law Enforcement Office, 2450 West Broadway Suite #113, Mesa, Arizona 85202 (telephone: 480/967-7900) within three working days of its finding. Written notification must be made within five calendar days and should include the date, time, and location of the animal, a photograph, if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling specimens to preserve the biological material in the best possible state. If possible, the remains of intact owl(s) shall be

provided to this office. If the remains of the owl(s) are not intact or are not collected, the information noted above shall be obtained and the carcass left in place. Injured animals should be transported to a qualified veterinarian by an authorized biologist. Should the treated owl(s) survive, this office should be contacted regarding the final disposition of the animal.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purpose 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 NPS work with the FWS and others to conduct regular, protocol surveys for MSO to better determine owl use in the canyon.

In order to keep us informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitat, we request notification of the implementation of any conservation recommendations.

### **REINITIATION - CLOSING STATEMENT**

This concludes formal consultation on the action outlined in this biological opinion. As provided in 50 CFR Section 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Thank you for your continued coordination. In all future correspondence on this project, please refer to the consultation number 22410-2008-F-0118. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department. Should you require further assistance or if you have any questions, please contact Shaula Hedwall at (928) 226-0614 (x103) or Brenda Smith (x101) of our Flagstaff Suboffice.

/s/Brenda Smith for

Steven L. Spangle

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ  
Regional Supervisor, Arizona Game and Fish Department, Flagstaff, AZ  
Paul Whitefield, Walnut Canyon National Monument, Flagstaff, AZ

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## APPENDIX A – CONCURRENCE

This appendix contains our concurrences with your “may affect, not likely to adversely affect” determination for MSO critical habitat.

### MSO Critical Habitat

We concur with your determination that the proposed action may affect, but is not likely to adversely affect designated MSO critical habitat. We base this concurrence on the following:

- The likelihood of any direct or indirect interaction between the proposed action and primary constituent elements is extremely low; therefore, any effects to critical habitat are assumed to be discountable. No vegetation would be removed as a part of this project. It is possible that a tree or two below the trail repair area may be damaged by falling boulders or rock cast over the edge. However, this potential damage is expected to be very limited due to the lack of trees immediately below the project area.