

AESO/SE  
2-21-01-F-236

May 3, 2001

Memorandum

To: Superintendent, Chiricahua National Monument and Fort Bowie National Historic Site, Wilcox, Arizona

From: Field Supervisor

Subject: Chiricahua National Monument Utility Line Upgrade and Road Rehabilitation

This biological opinion responds to your request for consultation with the U.S. Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act) for the proposed Chiricahua National Monument (the Monument) Utility Line Upgrade and Road Rehabilitation project located in the Chiricahua Mountains, Cochise County, Arizona. The proposed action may affect the threatened Mexican spotted owl (*Strix occidentalis lucida*) (MSO) and its designated critical habitat. Your March 15, 2001, request for formal consultation and accompanying biological assessment (BA) was received on April 3, 2001.

This biological opinion is based on information provided in the March 15, 2001, biological assessment (including the project proposal), telephone and electronic communications between the Monument and the Service during the months of March and April 2001, field investigations, and other sources of information. A complete administrative record of this consultation is on file at the Arizona Ecological Services Field Office in Phoenix.

**Consultation History**

Informal telephone discussions about this proposed project were held between Monument and Service personnel beginning in late February 2001. Field visits in March 2001, and subsequent MSO information led to the Monument's submission of a BA dated March 15, 2001, which included a cover letter requesting formal consultation for the proposed project. Unless noted otherwise, details of the project are taken from the BA.

## BIOLOGICAL OPINION

### I. Description of the Proposed Action

The Monument proposes to replace and upgrade all of its existing buried water, phone and electrical lines. The Monument will collaborate with Valley Telephone and Sulfur Spring Valley Electric Corporation to place underground electric lines and fiber optic lines within the new water line ditch where possible. This project will also resurface the entire nine mile-long paved road and all parking areas, and replace damaged or inadequate culverts. Some of the work will be done within the established Shake Spring MSO Protected Activity Center (PAC). Much of the project will occur outside of the PAC but is presented to allow for fuller analysis of the project and its possible effects.

#### Project Elements

NOTE: Items in **bold in the project description** indicate that all or part of that activity will occur **within the PAC**.

**Two miles of Bonita Canyon Drive (the main Monument road) pass through the Shake Spring PAC.**

#### Road Rehabilitation:

About 8.4 miles of Bonita Canyon Drive (Route 10) and 0.6 mile of Sugarloaf Mountain Road (Route 11) will be rehabilitated as follows:

- Pulverize the existing chip seals into the existing roadway subgrade.**
- Add about 2 inches depth of aggregate base as a leveling course.**
- Overlay about 2 inches of hot asphalt concrete pavement.**
- Add additional shouldering material to accommodate for the additional road elevation.**
- Clear vegetation and regrade the flowline of ditches not scheduled for paving.**
- Reconstruct exiting paved ditches to have a consistent slope from the shoulder to facilitate ditch maintenance.**
- Replace corroded and/or undersized culverts as needed. Culverts with the mortared stone inlet headwalls would be dismantled and reconstructed following the Secretary of Interior's Standards for Rehabilitation. Ten small culvert headwalls need to be repaired within the PAC.**
- Reconstruct about 164 feet of an existing wire retaining wall next to the creek along the road in Bonita Canyon (from station 15+354 to 15+391 on the attached road project map).**
- Replace undersized culverts at Surprise Canyon or provide an overflow culvert (contingent on funding).**

Parking Areas:

Parking areas will be rehabilitated as follows:

- Erickson's Grave turnout will be resurfaced.
- The Visitor Center parking area will be resurfaced.
- Massai Point parking area will be resurfaced.
- All existing paved turnouts will have the same structural section as the mainline.
- Existing gravel turnouts, determined to remain by the Monument, will be surfaced with gravel. All other gravel turnouts would be obliterated.**
- The paved loop around the entrance station will be resurfaced (contingent on funding).
- Echo Canyon parking area will be resurfaced (contingent on funding).
- Sugarloaf Mountain parking area will be resurfaced (contingent on funding).

Access Roads:

Access roads (which include maintenance roads, housing roads, and parking area spur roads) will be rehabilitated as follows:

- Paved access roads would be pulverized and paved a sufficient length to produce a smooth transition from the main paved road shoulder surface.
- Specified gravel access roads, such as the upper entrance to Faraway Ranch, the maintenance storage yard road, and road to the superintendent's house, would typically be paved 30 feet past the mainline shoulder.
- Other gravel access roads would have a three-foot strip paved along the mainline shoulder to protect it from turning vehicles.

Other Road Activities:

Additional road activities will be as follows:

- Install gabion baskets behind guardrail posts (between stations 20+594 and 20+602).
- Remove three existing cattle guards (at stations 0+000, 11+820, and 18+060).
- Provide grooved pavement rumble strips on both sides of the entrance station to slow traffic.
- Provide recessed centerline reflectors throughout the length of the project.**

NOTE: All of the project elements listed below will occur outside of the PAC, but may include actions taken within nearby MSO foraging areas.

Communication and Electrical Utilities:

The communication and electrical utilities upgrade will be located underground. Installation will occur at the same time as the waterline installation and is contingent on funding. Separate communication and electrical conduits and pull stations would be placed in the same trench as the waterline from Faraway Ranch to the Headquarters and Visitor Center areas.

Between Faraway Ranch and the Monument boundary, the conduit and pull stations would follow the existing buried telephone line corridor.

Existing above-ground utility lines will be removed. Existing utility poles would be removed or cut down and abandoned, depending on accessibility. **Some of these poles may be within MSO potential foraging habitat.** Any utility poles determined to have historical significance attached to the Faraway Ranch Historic District will remain in place.

#### Fire Hydrants:

New fire hydrants will be installed at Faraway Ranch, the Superintendent's house, and headquarters area. Existing historic fire hydrants at the headquarters area will be abandoned in place, and existing fire hydrants at Faraway Ranch will be removed.

#### Water system replacement:

The water distribution system will be upgraded as follows:

- **An above-ground well pump would be installed at the new well in the campground.**
- **Hypochlorination equipment and pump control panel would be installed at the existing well house in the campground.**
- **New power lines would be installed between the new well and the water storage tanks, within the same trench as waterlines.** Detailed information is contained in the BA.

#### Vibration Study:

The Monument will conduct a vibration study prior to work starting. This study will involve testing the formations to determine natural frequency and response from such induced energy sources as helicopter overflights, blasting, and heavy equipment operation. The study is planned for early June of 2001, to be conducted by Dr. Ken King, formerly of the USGS. Dr. King will place seismic recorders atop selected pinnacle formations located adjacent to the Bonita Canyon Drive just east of the Shake Spring PAC. He will test the formation response to helicopter overflights, the passage of heavy equipment along the road, and small booster charges buried beside the road (that will mimic future blasting of large rocks that slide onto the roadway. Dr. King can use very small charges – equivalent to 1/16 of a stick of dynamite - and model for anticipated larger charges.) It will be necessary to operate the helicopter within at least the eastern quarter of the PAC, but well away from the PAC core area, for safe helicopter approaches to the pinnacle locations. Passes will be made (at altitudes of 75 feet and 150 feet) for each of the different pinnacles. The booster charges will be buried to a depth of 4 feet to 5 feet and covered with tamped earth. A total of two charges will be detonated at 100 feet and 500 feet from each of the three pinnacles for a total of six blasts. These small charges will not be heard more than a few feet away and will be outside of the PAC.

Project Schedule & Sequence:

The vibration study will be done in June of 2001, and will take two or three days to complete. The water line replacement portion of this project is tentatively expected to begin in January of 2002, and be completed by May 2002. The road replacement and culvert work will begin after February 1, 2002, and be completed by November of 2002.

Equip. Number	Type of Equipment	Noise Level	Work Description	Duration
1	Road Reclaimer	93	Pulverizing of the existing surface treatment	4 days
1	Grader	85	Removal/Replacement of shouldering material	3 days
1	Grader	85	Blading of pulverized and aggregate base material	4 days
3	Roller	74	Surfacing compaction for aggregate and pavement (Roller used concurrent with paver and grader)	10 days
1	Paver	89	Paving of the final surface	6 days
1	Backhoe	80	Culvert replacement, riprap installation, stream bank stabilization excavation and backfilling	15 days
1	Loader	85	Culvert replacement, riprap installation, stream bank stabilization excavation and backfilling	15 days
1	Compactor	82	Stream bank stabilization, if retaining wall	10 days
*	Truck	88	Paving and aggregate base placement (35 loads per day)	40 days
*	Truck	88	Stream bank stabilization, culvert installation, and riprap placement (10 loads per day)	10 days
*	Truck	88	Placement of pavement markings	? day

\* See following paragraph.

The Monument anticipates 31 days of equipment working within the MSO PAC boundaries; 20 of those days (10 days @ 10 loads and 10 days @ 35 loads) will include truck traffic within the PAC. There will be an additional 30 days (35 loads each day) of truck traffic hauling through the PAC to other areas of the project. Miscellaneous hand tools will be used during construction. Typical hand tools will include chain saws and tampers for compaction at culverts and areas inaccessible to rollers during compaction of aggregate base and pavement. Noise generated from construction equipment would be limited to daytime hours.

This project will disturb weeds, forbs, and small shrubs growing along the roadside within the PAC and foraging area. A single roadside hazard tree (measuring 10 inches dbh) and several smaller trees (less than 9 inches dbh) will be removed from the roadside within the PAC. Brushy vegetation along the existing water line route from the campground to the water tank (1,415 feet) will be removed to allow for the placement of new water lines.

Helicopters are known to operate over the Monument on an occasional emergency basis. Military helicopters and those supporting Department of Justice actions conduct more regular flights, often at very low altitudes and through the PAC. The helicopter overflights that will be conducted as part of the vibration study will only approach the pinnacles from the eastern portion of the PAC, well away from the MSO 100-acre core and the current roost site of the one known resident MSO.

A Resource Advisor with knowledge of MSO and the Monument's MSO PACs will be available and will participate in decisions potentially affecting the owls or their habitat. MSO PACs have been established and Recovery Plan survey protocols followed, including PAC monitoring for MSO presence and reproduction status. The proposed project will not result in a net increase in Monument traffic, patterns, or visitation in general or through the Shake Spring PAC, in particular. Little vegetation will be removed for this project and only one tree larger than 9 inch dbh will be removed within the MSO PAC; several trees less than 9 inches dbh (along the roadway) will be removed. All work crews and project leaders will be briefed on T&E concerns and mitigation measures. All equipment will be inspected regularly for hazardous material leakage.

The Monument defines the project area as the roadways and specific locations for digging and trenching. The Service defines the action area as all lands under jurisdiction of the Monument.

## **II. Status of the Species/Critical Habitat**

### **Mexican Spotted Owl**

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 final MSO Recovery Plan (USDI 1995), with critical habitat designated on February 1, 2001 (USDI 2001). The information provided in these documents is included herein by reference. Although the MSO's entire range covers a broad area of the southwestern United States and Mexico, much remains unknown about the species' distribution and ecology. This is especially true in Mexico where much of the MSO's range has not been surveyed. The MSO currently occupies a broad geographic area but does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to forested isolated mountain systems, canyons, and in some cases, steep, rocky canyon lands. The primary administrator of lands supporting MSO in the United States is the U.S. 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.

Surveys have revealed that MSO has an affinity for older, well-structured forest, and the species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico.

The range of the MSO has been divided into six Recovery Units (RUs), as discussed in the MSO Recovery Plan (USDI 1995). The Recovery Plan reports an estimate of owl sites for 1990 through 1993. An owl "site" is defined as a visual sighting of at least one adult owl or a minimum of two auditory detections in the same vicinity in the same year. The greatest known concentration of known owl sites in the United States occurs in the Upper Gila Mountains RU (55.9 percent), followed by the Basin and Range-East RU (16.0 percent), Basin and Range-West RU (13.6 percent), the Colorado Plateau RU (8.2 percent), the Southern Rocky Mountain-New Mexico RU (4.5 percent), and Southern Rocky Mountain-Colorado RU (1.8 percent). MSO surveys conducted from 1990 through 1993 indicate that the species persists in most locations reported prior to 1989.

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 MSO existed in Arizona and New Mexico.

Critical habitat has been designed for the MSO (USDI 2001) and Chiricahua National Monument contains lands included in that designation. The Monument, and thus, the proposed project, is located within the Basin and Range-West Recovery Unit as defined by the MSO Recovery Plan, Volume I, Part II, page 46 (USDI 1995).

### **III. 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.

Chiricahua National Monument contains a very small portion of MSO habitat (about 1,200 acres) compared to the total range available to MSO in Arizona. The Monument supports only enough appropriate MSO habitat to contain two possible MSO PACs, and each PAC is comprised of about 40 percent nesting/roosting habitat and 60 percent foraging habitat; this is the best MSO habitat in the Monument. Bonita Canyon Drive is the (one) road that accesses the Monument; employees, workers, and Monument visitors drive about two miles (of the total length of nine miles) through the Shake Springs MSO PAC as the two-lane, paved road passes the visitor center and continues up the canyon to the upper trailheads and parking areas. At the top of the canyon, Bonita Canyon Drive ends in a loop and some parking spots for trailheads.

Historic information (1973 to 1994) exists in Monument records of either visual MSO sightings or audible MSO calls. Formal, MSO surveys conducted annually in the Monument since 1994 documented one MSO pair (roosting, non-nesting) about 0.75 mile north of the eastside

campground, high up in a rocky grotto in a rock pinnacle. A single female MSO was located in 1995 in about the same location; she was captured, banded and released. No MSO were located in 1996. One MSO was seen for three nights in May 1997. No MSO were located in 1998.

In 1999, one MSO was located in about the same area as the 1994 pair were found; the exact location high inside a rocky pinnacle is inaccessible, but is a suspected nesting/roosting location. This single MSO was captured (R.B. Duncan) and found to be the same female Duncan had banded in 1995. It appears this female MSO uses the two heavily-forested drainages in the Monument, possibly alternating each area per year. These drainages are designated as 100-acre core areas for two designated PACs; Echo PAC (#8620-001) and Shake Springs PAC (#8620-002).

Audible responses were documented from a single MSO during surveys in spring of 2000. The BA contains clear details of Monument history for known MSOs, and of the rugged and rocky topography and hazardous conditions that make nest/roost searches an unsafe pursuit during MSO surveys in the Monument.

The Monument supports recreation in the form of hikers, photographers, birders, campers, and drive-through sightseers. From 1996 to 2000, numbers to the Monument were estimated between 85,000 and 120,000 visitors per year. Bonita Canyon Drive is the only road through the Monument to upper hiking trailheads and parking, and it passes through the Shake Springs MSO PAC. Noise is the single largest factor that occurs in the MSO PAC, as traffic moves up and down the one main road. Heaviest use occurs on weekends from March to May, with the vehicle counts ranging from 198 to 284 per day. On weekdays, the average daily traffic count is about 100 vehicles; about one-quarter of these park in the upper parking areas. Vehicles range from small cars to large motor homes, recreation vehicles, and tour buses. The Monument staff regularly operates heavy vehicles along Bonita Canyon Drive including snow plows, a 5,000 gallon water tank truck, dump truck, backhoe and front end loader, and a large road maintainer. Chainsaws are frequently used along the road edge to remove or trim vegetation that encroaches on the road or is a safety hazard. The ambient noise level in the canyon could be considered low to moderate most of the year, peaking to a high in March, April, and May, dropping to moderate through the fall months, and to low in winter (November through February).

The action area is under National Park jurisdiction, and the Service knows of no State, tribal, or private actions that could affect the MSO or its critical habitat in the action area. Other unrelated Federal actions in the Monument include the Chiricahua National Monument (CNM) Planning consultation (2-21-91-I-309), the CNM Management Plan consultation (2-21-93-I-388), the Arizona Department of Transportation (ADOT) U.S. 191 Road consultation (2-21-93-I-402), the Road Resurfacing and Vegetation Trimming project consultation (2-21-94-I-449), the CNM 1999 Proposed Burns consultation (2-21-99-I-193), and the CNM Trail Repair project consultation (2-21-00-I-043).



#### **IV. Effects of the Action**

The project will result in the upgrading and replacement of all existing phone, electrical, and water lines within the Monument. The entire nine-mile length of Bonita Canyon Road and associated parking areas will be repaired and resurfaced, and damaged or inadequate culverts will be replaced. About two miles of the road (and thus, the work) will be done within the boundaries of the Shake Springs MSO PAC. One greater than 9 inch dbh hazard tree will be removed from the PAC (alongside the road) and several other roadside trees measuring less than 9 inch dbh will be removed, along with some brush and forbs. Total acres of disturbance to MSO habitat is estimated at less than 0.5 inside the PAC by construction activities, with the majority of construction within the roadside footprint and in already-disturbed waterline ditches. Noise will occur during daylight hours in and out of the MSO PAC, in various locations, from about November 2001 to November 2002.

##### Anticipated project equipment and duration:

It is difficult to predict construction noise. Heavy machinery, the major source, is constantly moving in unpredictable patterns and at varying speeds. This affects the intensity of the noise emitted by engines and other moving parts, which has an affect on the amount of noise that reaches a receptor. The duration and level of construction noise are dependent on the following:

- Ground clearing and removal of existing trees, rocks, and soil
- Utility relocations
- Excavation
- Placement of foundations and roadbeds
- Erection of any retaining walls
- Finishing, including filling, grading, paving, landscaping and cleanup operations

Typically the first three phases of construction generate the highest noise levels (and are conducted earliest in the process). Two types of construction activities which typically cause the loudest peak noise levels, pile driving and blasting, will not be required for this project. Noise caused by construction activities occurring within 0.25 mile of suitable MSO nesting habitat during the breeding season could affect breeding through either disruption of the breeding attempt altogether or displacement of a nesting female, causing mortality to eggs and young.

The zone of potential sound disturbance is primarily within 0.25 mile of the noise source. Some sounds caused by construction activities could reach 0.50 mile or more, but would be attenuated by vegetation, topography, and wind. Construction noise represents a short-term (about 60 days within the PAC) effect above the ambient noise in the MSO's environment. The amount of noise generated by the project will be mitigated by maintaining functioning equipment muffler systems, topographic and geologic features in the canyon, and vegetation.

Noise measured at distance is noted in Table 1, below. Note that the noise levels were obtained at a distance of 50 feet from the source. Noise levels fall off from point sources as the square of the distance, or 6 decibels per doubling of distance (a noise source causing an 88 decibel level at 50 feet would be expected to have a level of 82 decibels at 100 feet and 76 decibels at 200 feet). Selected equipment items taken from "Transit Noise and Vibration Impact Assessment", U.S. Department of Transportation, Federal Transit Administration, April, 1995, Table 12-1.

Distance from the many roadway sites to the nesting/roosting habitat area in the Shake Springs PAC will vary, from about 0.25 mile to 1.5 miles, with a linear stretch of 2.0 miles of roadway passing through the PAC. Current surveys indicate one female MSO occupies this PAC (Alan Whalon, pers. comm. 2001). While MSO hearing abilities are more acute than human abilities, noise from the operation may not be heard by MSO at levels high enough to disturb them most of the time due to the buffering effects of topography, geology, and vegetation in the canyon.

As a comparison for front-end loaders, at another MSO nest site (Forest Service, Copper Canyon MSO PAC #0305016), noise from a similar-sized front-end loader was metered in February 2001. That loader was working on a road 0.25 mile away from a previously-known nest tree and did not produce measurable decibels on a calibrated metering instrument. The Copper Canyon MSO nest site is uphill from the canyon roadway; noise is well-buffered by canyon constriction (rock cliffs that funnel the canyon walls closer together) and a dense stand of silverleaf oak and accompanying vegetation (Tom Deecken, pers. comm.). Helicopter noise monitored from the same distance did result in a 40 to 45-decibel range meter reading.

While noise effects produced by equipment depends on area topography, a more elaborate study (by Delany *et al.* 1997), evaluated potential disturbance from helicopter overflights of MSO in the Lincoln National Forest. The authors noted that birds did not flush from roosts when noise levels were less than 92 decibels. Additionally, no owls in their study flushed during the incubation and nestling phase or when a helicopter was farther than 345 feet away. There was also no difference detected in reproductive success between treated and untreated territories. Noise levels in the study by Delany *et al.* were much higher than those expected to be produced by the equipment for the proposed project.

MSO are known to exhibit a variety of responses to various noise levels and types. Some MSO appear to adapt to certain levels of noise (such as a regular level and incidence of highway traffic). Some MSO appear to ignore noises, some may leave an area, others may fly towards noise (T. Newman, pers. comm.). MSO reactions depend on duration, severity, timing and decibel of the noise in regard to the stage of MSO breeding season. The Shake Spring female MSO appears to have a high level of adaptability to highway and visitor noise, shown by its long-term residence.

**Table 1: Construction Equipment Noise Emission Levels**

<b>Equipment</b>	<b>Typical Noise Level (dBA) 50 ft from Source</b>
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Pneumatic Tool	76
Pump	76
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Truck	88

Critical habitat:

The proposed action will minimally affect constituent elements identified in the critical habitat final rule (USDI, 2001); one hazard tree measuring greater than nine inches dbh will be removed alongside the main road and its loss will not measurably affect the roadway canopy. Snags, dead and down logs, and canopy closure will not be affected by the proposed action. While brush and forbs will be removed from the original waterlines, this action is not expected to measurably reduce MSO prey species or their habitat, or alter their abundance, distribution, or availability to foraging MSO.

**V. 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. No future State, tribal, local or private actions are anticipated to affect the MSO or its habitat because the project and action areas are under Federal jurisdiction.

**VI. CONCLUSION**

After reviewing the current status of the MSO, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the MSO. Critical habitat has been designated in the Monument (action area), and the proposed project, as described, is not likely to destroy or adversely modify designated critical habitat.

These conclusions are based on the record of this consultation including the BA, project description, site visits, and the following:

1. The proposed action directly affects the existing roadways, parking areas, and water and sewer line locations; minimal vegetation removal will include brush and one greater than 9 inch dbh hazard tree in already-disturbed areas and along the roadway. Removal of several other trees along the roadway measuring less than nine inches dbh will not affect the canopy.
2. The amount of noise and construction anticipated to occur along the 2.0 mile-stretch of main roadway that passes through the MSO PAC is short-term, and volumes are anticipated to be well-attenuated by the distance between the nest/roost site and the work site locations, the narrow canyon constriction due to cliffs, and dense vegetation in the canyon and around the work sites.

3. The proposed action will not measurably affect canopy closure, dead and down logs, snags, MSO prey species distribution, abundance, cover or habitat, or any constituent elements of MSO critical habitat.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulation 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 further defined by the Service 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 by the Service 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.

The measures described below are non-discretionary, and must be undertaken by the Monument so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Monument has a continuing duty to regulate the activity covered by this incidental take statement. If the Monument (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Monument or the applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of Federally listed endangered plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

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

The Service anticipates no more than two adult (or one pair of MSO) could be taken as a result of the proposed action. The incidental take is expected to be in the form of harassment due to

construction noise for about 60 days within the boundaries of the MSO PAC, during the MSO breeding season. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of any reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible addition of reasonable and prudent measures and terms and conditions..

The Fish and Wildlife Service 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 any terms and conditions (including amount and/or number) specified herein.

### **Effect of the take**

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

### **Reasonable and Prudent Measures**

The Monument has included in their proposed action measures necessary to minimize incidental take of MSO; no additional reasonable and prudent measures or terms and conditions are needed.

### **Disposition of Dead or Injured Mexican Spotted Owls**

Upon locating a dead or injured threatened or endangered species, initial notification must be made to the Service's Division of Law Enforcement, 26 North McDonald, #105, Mesa, Arizona, 85201, at (602) 835-8289 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, and any other pertinent information. Care must be taken in handling injured animals to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible condition. If feasible, the remains of intact specimens of listed animals shall be submitted to educational or research institutions holding appropriate State and Federal permits. If such institutions are not available, the information above shall be obtained and the carcass left in place. Arrangements regarding proper disposition of potential museum specimens shall be made with the institution prior to implementation of the action. Injured animals should be transported to a qualified veterinarian by a qualified biologist. Should any treated listed animal survive, the Service 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 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.

The Service recommends the Monument:

1. Continue to annually conduct MSO surveys and continue to safely locate MSO nesting/roosting areas in the Monument, and
2. report annual survey results to the Service by December 1, annually.

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

### **Reinitiation Notice**

This concludes formal consultation on the proposed action 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. Please contact Thetis Gamberg (520) 670-4619 or Sherry Barrett (520) 670-4617 with further questions or concerns.

/s/ David L. Harlow

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (ARD-ES)  
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Assistant Field Supervisor, Fish and Wildlife Service, Tucson, AZ

Regional Supervisor, Arizona Game and Fish Department, Phoenix, AZ

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