



## United States Department of the Interior

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**In reply refer to:**

AESO/SE  
02EAAZ00-2019-F-0541

September 25, 2019

Dr. Tim J. Langer, Biologist and Regulatory Specialist  
Western Area Power Administration  
12155 West Alameda Parkway  
Lakewood, Colorado 80228-8213

RE: Operation and Maintenance of Existing Western Area Power Administration Transmission Lines and Infrastructure (Glen Canyon to Rogers)

Dear Dr. Langer:

Thank you for your request for formal consultation/conference 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). We received your March 21, 2019, request on the same day via electronic mail. This consultation concerns the effects of operation and maintenance of existing transmission lines, access roads, right-of-ways, facilities, and communication sites in Coconino, Yavapai, and Maricopa Counties, Arizona. The project also includes quarterly aerial and ground inspections to locate problems (followed by corrective actions), proactive vegetation management and corrective actions for hazard tree removal in and adjacent to right-of-ways, and access road repair to provide access for maintenance and emergencies.

The Western Area Power Administration (WAPA) determined that the action “may affect, and is likely to adversely affect” the threatened Mexican spotted owl (*Strix occidentalis lucida*) (spotted owl or owl) and its designated critical habitat.

You also concluded that the project “may affect, but is not likely to adversely affect” the endangered Fickeisen plains cactus (*Pediocactus peeblesianus* var. *fickeiseniae*) and critical habitat for the endangered spikedace (*Meda fulgida*), the endangered loach minnow (*Tiaroga cobitis*), and the endangered razorback sucker (*Xyrauchen texanus*). In addition, WAPA made non-jeopardy determinations for the non-essential experimental populations of the California condor (*Gymnogyps californianus*), Mexican wolf (*Canis lupus baileyi*), and the Colorado pikeminnow (*Ptychocheilus lucius*), as well as non-adverse modification determinations for narrow-headed gartersnake (*Thamnophis rufipunctatus*) and northern Mexican gartersnake

(*Thamnophis eques megalops*) proposed critical habitat. We concur with your determinations and include our rationales in Appendix A.

We based this biological opinion on information provided in the March 21, 2019, biological assessment (BA) and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, power line and facility management, and its effects, or on other subjects considered in this opinion. A complete record of this consultation is on file at this office.

### **Consultation History**

- March 21, 2019: WAPA initiated formal consultation.
- May 8, 2019: We sent WAPA a 30-day letter acknowledging our receipt of their consultation request and BA.
- September 6, 2019: We sent a draft biological opinion (BiOp) to WAPA.
- September 13, 2019: We received comments on the draft BiOp and incorporated your suggested edits.

## **BIOLOGICAL OPINION**

### **DESCRIPTION OF THE PROPOSED ACTION**

Your March 21, 2019, BA includes a complete description of the proposed action. The proposed action of this consultation is the authorization for WAPA to conduct ongoing power line infrastructure maintenance and vegetation management, including herbicide applications, within existing transmission line ROWs for a period of 20 years.

This consultation addresses the operation and maintenance (O&M) of existing 345-kilovolt (kV) transmission lines, access roads, right-of-ways (ROWs), facilities, and communication sites (Tables 1 and 2). Operation and maintenance activities include quarterly aerial and ground inspections to locate problems (followed by corrective actions) and access road repair to provide access for maintenance and emergencies. Operation and maintenance activities also include integrated vegetation management (IVM) to minimize fire risk and spread of noxious weeds by establishing and maintaining a native, stable, low-growing plant community in WAPA ROWs. A single or double circuit 345-kV line typically requires a 150-foot wide ROW.

This consultation does not cover new power line construction, extension of existing power lines into new ROWs, creation of new road areas to access existing power lines (though alternate spur or access roads may be necessary in certain circumstances), or re-building existing power lines outside of existing ROWs.

### **Operation and Maintenance Activities**

#### **Aerial Inspections**

WAPA would conduct aerial inspections at least twice a year via helicopter or small plane to check for danger trees, encroaching vegetation, and damaged or malfunctioning equipment. Typically, aerial patrols occur between 50 and 300 feet above and adjacent to the transmission line. In general, aerial inspections complete a span between adjacent structures in 10-12 seconds.

#### **Ground Inspections**

Ground inspections routinely assess road access to ROWs to ensure each structure is readily accessible in the event of an emergency, while inspecting transmission structures and hardware, tree clearances, fences, gates, and locks. Ground inspections allow for closer assessment than aerial inspections. WAPA typically conducts ground inspections via a pickup truck or all-terrain vehicle for 50 percent of lines with wood pole structures per year and 33 percent of lines with steel structures per year. WAPA inspects facilities and communication sites at least once per year. Access would be via designated access roads.

#### **Climbing Inspections**

WAPA uses climbing inspections on transmission line structures if aerial or ground inspections identify problems. Typically, such activities involve the use of an all-terrain vehicle, pickup or bucket truck. Access would be via designated access roads.

### **Access Road Maintenance**

The Federal Energy Regulatory Commission (FERC) requires WAPA to maintain adequate access roads to existing infrastructure in the event of an emergency. As necessary, WAPA (or a contractor) will clear ditches, culverts, and inlet assemblies of debris. Slash and debris may be scattered, placed a reasonable distance away from stream channels, culvert inlets, and ditches. Road structures in need of repair could include bridges, culverts, cattle guards, and fences. Once every five years, WAPA may need to replace an access road with a new spur road or road detour, which could require a new bridge, culvert, or cattle guard. Repair activities minimize erosion and sedimentation in streams and washes via the following management actions:

- Minimize the amount of disturbance to plants and soils by equipment;
- Minimize the time disturbed soils are exposed;
- Divert run-off away from exposed soils and into vegetated areas;
- Provide adequate run-off channels;
- Trim slopes to stable configurations;
- Mitigate damage created by emergency repairs as soon as possible to prevent further damage and erosion;
- Culvert diameters are appropriately sized to handle the normal high water or bank full condition;
- The angle or slope of a culvert would be equal to the stream grade to maintain an acceptable water velocity for fish passage; and
- Built to direct water off the road, water bars, when needed, would be spaced approximately 200 feet apart for roads with a grade under six percent, approximately 125 feet apart for grades between six and 10 percent, and approximately 50 feet apart for grades between 10 and 13 percent.

### **Integrated Vegetation Management (IVM)**

IVM manages vegetation to meet FERC distance buffers and minimize the risk of wildfire and/or power outages (Reliability Standard FAC-003). WAPA's goal is to manage for a native, stable, low-growing plant community under power lines that requires only minimal vegetative management (e.g., once in five years). This goal may require several initial iterations of vegetation treatment to achieve.

Within or adjacent to facilities, communication sites, and transmission lines, vegetation that interferes with access, security, or communication also must be removed, trimmed, or managed.

WAPA manages graded maintenance pads at the base of structures that are generally devoid of vegetation, except where vegetation management has lapsed. To ensure safe and expedient access for maintenance and emergency actions, WAPA would reconstruct maintenance pads when they have degraded, vegetation has reclaimed the pad, or are no longer safe areas on which to stabilize a bucket truck. WAPA requires a minimum of 50 feet around concrete footers of transmission structures be maintained free of shrubs, trees, or other such vegetation (grasses and forbs are acceptable) that could pose a human safety or potential fire threat to transmission structures and associated hardware. This 50-foot clearance area provides a firebreak and minimizes arcing of electricity or burning of structures during a fire under or near transmission lines. However, WAPA may clear up to 200 feet diameter around structures, depending on

structure size, topography, and equipment needs for maintenance. Cranes and larger equipment often require maintenance pads larger than 50 feet to operate safely. Components of maintenance pad improvement include use of a bulldozer, tractor mounted blade for clearing large rocks and rough edges, and graders to level the ground.

Within the ROW, trees and even taller shrubs mid-span are incompatible with WAPA's regulatory requirements and will be removed, treated with herbicides in some areas, and subsequently maintained for early successional growth. Hazard trees located within 150 feet of energized structures, even outside the ROW, may also not meet WAPA's regulatory FERC requirements. Characteristics used in identifying vegetation for removal or trimming include, but are not limited to the following:

- Encroachment within the safe distance to the conductor as a result of the tree bending, growing, swinging, or falling toward the conductor;
- Hazard trees located outside the ROW, but that are an imminent risk of violating FERC's minimum vegetation clearance distances required for energized structures; falling on, damaging, or likely to cause an outage; and/or, causing a wildfire;
- Deterioration or physical damage to the root system, trunk, stem or limbs, and/ or the direction and lean of the tree;
- Vertical or horizontal conductor movement and increased sag as a result of thermal, wind, and ice loading; and
- Potential for arcing with transmission infrastructure in the event of wildfire, or providing wildfire fuel within the ROW.

### **Manual vegetation management**

Manual vegetation management is the application of powered and non-powered handheld tools, or installation of synthetic or natural barriers, to direct vegetative growth. WAPA may conduct manual vegetation via pedestrian cutting and/or via use of bucket trucks for taller vegetation. The primary benefit of manual methods is selectivity because operators can remove only the unwanted or target vegetation, while non-target vegetation is undisturbed. Another advantage is the lighter footprint on the landscape and ability to mitigate potential effects to sensitive cultural or biological areas. The primary disadvantages of manual methods are that they are labor intensive, are only effective in vegetation with relatively low density, and often require frequent treatment.

The most common manual method of cutting is using power saws. WAPA uses this technique when access is limited, when only a few trees need to be cut, or in sensitive areas where cutting is selective. For species that re-sprout, including most deciduous trees and quaking aspen (*Populus tremuloides*), sprouts can rapidly resurge to original height and at much greater density, which does not alleviate the problem without further prescription. WAPA follows manual cutting with slash disposal techniques to hasten decomposition and improve aesthetics. Operators typically lop and scatter slash uniformly across the treated area, or they may mechanically chip it. They would then either spread or pile the chips.

Trimming or pruning removes specific branches from tree trunks to prevent them from growing into transmission lines. WAPA uses this labor-intensive technique in special situations. Because

the extreme hazards associated with trimming trees near energized power lines has resulted in several accidents and even fatalities, WAPA limits the use of this technique.

### **Mechanical vegetation management**

Mechanical vegetation management typically uses self-propelled machine platforms with various interchangeable treatment-head attachments to remove or manage vegetation along access roads and within transmission line ROWs. These methods may be selective or non-selective. Rubber-tired mechanical equipment platforms are generally limited to operating on slopes less than 30 to 35 percent. Operators use specialized tracked equipment platforms, with articulating control cabins, on slopes up to 60 percent. Both types of specialized equipment platforms can operate with very low ground pressures. However, site-specific obstacles, such as boulders or extreme terrain, can reduce their efficiency.

#### *Mowing / Grinding*

WAPA uses mechanized heavy equipment with high-speed rotary blades to cut, chop, and shred woody vegetation in ROWs. Operators typically cut target vegetation to ground level, encouraging the selection and recovery of low-growing plant communities consisting of grasses and forbs. Examples of this type of mowing equipment are Fecon Forestry Mowers, brush-hogs, Track-Mack, and Hydro-Ax.

#### *Chipping*

Chipping is the process of feeding limbs and other woody debris through a mechanical chipper. Operators can use the chipper to spread the material back onto the ROW. WAPA may spread chipped vegetation up to four inches deep.

### **Vegetation Management Using Herbicides**

Herbicides are chemicals used to kill or suppress the growth of plants. Plants differ in susceptibility to particular chemicals and the choice of herbicide and application rate depends on the species to be controlled. WAPA would use only employees or contractors with required applicator licenses and certificates for approved herbicides. The proposed action does not include the use of pesticides for nuisance wildlife control. Herbicides have two major types:

- Selective herbicides kill certain plants but do not significantly affect the most desirable plants. For example, some selective herbicides kill broadleaf plants (including brush), but do not affect grasses.
- Non-selective herbicides are generally toxic to plants without regard to species.

There are several different ways to apply herbicides and the method selected depends on the type of management needed, the type of vegetation, and the site situation (i.e., site conditions and location). Application methods WAPA would use include stump treatment, basal spray treatment, and foliage spray treatment. Aerial application of herbicide is not part of this proposed action.

#### *Stump Treatment*

An applicator may use this type of treatment when they cut vegetation to the ground. Workers would use this treatment primarily after initial clearing and during maintenance clearing to

prevent regrowth by sprouting.

### *Basal Spray Treatment*

This treatment method involves spraying the lower part of the stem and the exposed roots of incompatible vegetation with an oil- or wax-based formula. Workers would use basal spray treatment on re-sprouting non-native and invasive plant species. This method is more selective than a foliage spray and does not cause immediate brownout of vegetation. In general, WAPA would prescribe this treatment where:

- Brush is too tall to use foliage spray without causing unacceptable drift;
- The ROW is adjacent to cropland, residences, susceptible vegetation, or other sensitive areas, and drift is a problem; and
- The ROW contains a high density of compatible species and workers cannot apply a foliage spray without injuring the compatible vegetation cover.

### *Foliar Spray Treatment*

Foliar spraying is a common method of applying herbicides on brush up to 15 feet tall. This method uses a water- or wax-based formulation that an applicator would apply to the entire plant's foliage and stems. Because the applicator sprays it into the air, drift can be a problem under certain atmospheric conditions. Also, most foliage sprays cause immediate brownout of vegetation. This method would not be used in areas where drift and brownout are concerns (e.g., adjacent to cropland, residences, susceptible vegetation, or other environmentally or visually sensitive areas).

### **Operation and Maintenance Intensity**

WAPA estimates the following average per year project effort over the entire proposed action area:

- Two thousand acres (ac) of vegetation managed within ROWs and/ or along access roads;
- Fifty miles (mi) of access roads stabilized or graded;
- Ten culverts repaired or replaced;
- Fifty miles of communication equipment, including fiber-optic cable, upgraded or maintained;
- Ten structures stabilized or replaced; and
- Herbicides applied to 300 ac.

### **Emergency Actions**

Inspections may identify problems that require immediate repair or replacement of transmission line hardware or vegetation management for fire prevention, power restoration, or to protect human safety. Transmission infrastructure failure caused by vandalism, aging infrastructure, wildfire, avian interactions with infrastructure, and other unforeseen interference can also require immediate repairs. Furthermore, storms and other natural events may result in necessary emergency repairs within the proposed action area. Emergency repairs may involve accessing facilities or structures that currently have limited access due to remote location, or need access re-established via a bulldozer due to the emergency event. Typically, emergency repairs would follow the measures pursuant to this consultation. If compliance with conservation measures and WAPA best management practices would require delayed repair of WAPA infrastructure posing

an emergency situation to wildfire, human safety, or power restoration, then these measures and practices may not be implemented. In these situations, WAPA would initiate emergency consultation with the FWS as soon as possible.

## Conservation Measures

### *Mexican spotted owl*

- All WAPA O&M personnel and contractors will participate in annual training that includes information on environmental laws, regulations, and requirements.
- When feasible, schedule routine maintenance and vegetation management work outside of the owl-breeding season (March 1 through August 31) in owl Protected Activity Centers (PAC), recovery habitat, and critical habitat.
- When feasible, avoid use of loud machinery within 0.25 mile of PACs during the breeding season (March 1 through August 31, Delaney *et al.* 1999) with the goal of limiting noise levels at a PAC boundary to less than 56 decibels.
- For work within a Mexican spotted owl PAC during the breeding season:
  - Consolidate work into the least number of days and least number of trips to minimize the duration and frequency of Mexican spotted owl disturbance.
  - Conduct a pre-work ROW survey within seven days of initiation. If an active owl nest is discovered, a qualified biologist will establish a buffer zone of 0.10 mile (in which O&M activity is not allowed) to avoid disturbance within vicinity of the nest, when feasible. If possible, WAPA will avoid and delay work until owl nestling(s) have fledged or the nest is no longer active unless human safety, wildfire risk, or power outage issues dictate immediate action.
  - Operators will report owl fatalities or injuries that occur immediately to the WAPA Environmental Affairs point of contact who reports to the FWS.

### *Herbicide Application*

WAPA's proposed conservation measures for herbicide use includes, but is not limited to:

- Reviewing federal and applicable state pesticide regulations for restrictions on use of particular herbicides, including obtain Pesticide Use Permits where applicable;
- Observing site conditions to match specific herbicides and application methods to those conditions, including species to be controlled, seasonal limitations, presence of sensitive environmental areas (e.g., listed and/ or sensitive species, habitat, and wetlands), presence/proximity of non-target vegetation, presence/proximity of crops, and vegetation conditions (e.g., height and amount of tall-growing brush);
- Following all restrictions listed on the herbicide label;
- Calibrating equipment to ensure proper mixture and volume of herbicide;
- Selecting the proper nozzle tip to avoid overspray;
- Handling herbicides carefully to avoid accidental spills and protect human safety; and
- Adjusting herbicide application methods and equipment based on wind speed and direction, which could include avoiding application on windy days when drift potential exceeds label recommendations.

## Action Area

The action area is defined as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action (50 CFR § 402.02). In delineating the action area, we evaluated the farthest-reaching physical, chemical, and biotic effects of the action on the environment.

The proposed action area includes 6 facilities, 11 communication sites, and 498.6 miles of transmission lines ROW, approximately 150-200 feet in width, centered on the transmission line (Table 1). Transmission lines considered include the Glen Canyon - Flagstaff #1 and #2 lines, plus the Flagstaff - Pinnacle Peak #1 and #2 lines that are generally adjacent to each other in a single utility corridor, though in certain locations lines #1 and #2 lines may have several hundred feet up to 2.2 miles between them. The fifth line is a less than a mile long and connects the Flagstaff and Youngs Canyon substations. The sixth line is Pinnacle Peak – Rogers (Figure 1).

**Table 1.** WAPA Transmission Line and Infrastructure (Glen Canyon to Rogers) Action Area Components.

<b>Facilities</b>	<b>Communication Sites</b>	<b>Transmission Lines</b>
Glen Canyon Switchyard	Glen Canyon	Glen Canyon - Flagstaff #1 (345-kilovolt)
Youngs Canyon Substation	Navajo (GGCR)	Glen Canyon - Flagstaff #2 (345-kilovolt)
Flagstaff Substation	Jacks Peak	Flagstaff - Youngs Canyon (345-kilovolt)
Pinnacle Peak Substation (APS)	Preston Mesa	Flagstaff – Pinnacle Peak #1 (345-kilovolt)
Pinnacle Peak Substation (WAPA)	Cameron	Flagstaff – Pinnacle Peak #2 (345-kilovolt)
Rogers Substation	Elden Mountain (GGCR)	Pinnacle Peak – Rogers #1 and #2 (230-kilovolt, double-circuit)
	Flagstaff	
	Pinnacle Peak (APS)	
	Pinnacle Peak (WAPA)	
	Thompson Peak	
	Rogers	

**Table 2.** WAPA Transmission Line and Infrastructure (Glen Canyon to Rogers) Action Area Land Ownership or Jurisdiction.

<b>Land Ownership or Jurisdiction</b>	<b>Glen Canyon-Flagstaff #1 and #2 (mi)</b>	<b>Flagstaff-Youngs Canyon (mi)</b>	<b>Flagstaff Pinnacle Peak #1 and #2 (mi)</b>	<b>Pinnacle Peak – Rogers (mi)</b>	<b>Facilities (name and total number)</b>	<b>Communication Sites (name and total number)</b>
Coconino National Forest	127.1	0.3	52.6	-	Flagstaff, Youngs Canyon	Flagstaff, Elden Mountain (GGCR)
Tonto National Forest	-	-	81.2	-	-	-
Navajo Nation	156.1	-	-	-	-	Cameron, Jacks Peak, Navajo (GGCR), Preston Mesa
State of Arizona	16.9	-	17.9	2.3	-	-
Private	18.7	-	1.5	11.3	Rogers, Thompson Peak, Pinnacle Peak (APS and WAPA)	Rogers, Thompson Peak, Pinnacle Peak (APS and WAPA)
Salt River Reservation	-	-	-	7.3	-	-
National Park Service	4.3	-	-	-	Glen Canyon	Glen Canyon
Bureau of Reclamation	-	-	-	1.1	-	-
<b>TOTAL</b>	<b>323.1</b>	<b>0.3</b>	<b>153.2</b>	<b>22.0</b>	<b>6</b>	<b>11</b>

## STATUS OF THE SPECIES AND CRITICAL HABITAT

The information in this section summarizes the rangewide status of each species that we considered in this BiOp. Further information on the status of these species can be found in the administrative record for this project, documents on our web page ([Arizona Ecological Services Office Documents by Species](#)), and in other references cited in each summary below.

### Mexican spotted owl

In 1993, the FWS listed the Mexican spotted owl (hereafter, referred to as Mexican spotted owl,

spotted owl, and owl) as threatened under the Act (58 FR 14248) and designate critical habitat in 2004 (69 FR 53182). The FWS appointed the Mexican spotted owl Recovery Team in 1993 (USFWS 1993), which produced the Recovery Plan for the Mexican spotted owl in 1995 (USFWS 1995). The FWS released the final Mexican spotted owl Recovery Plan, First Revision (Recovery Plan) in December 2012 (USFWS 2012).

A detailed account of the taxonomy, biology, and reproductive characteristics of the Mexican spotted owl is found in the Final Rule listing the owl as a threatened species (58 FR 14248), the original Recovery Plan (USFWS 1995), and in the revised Recovery Plan (USFWS 2012). We include the information provided in those documents by reference.

The spotted owl occurs in forested mountains and canyonlands throughout the southwestern United States and Mexico (Gutiérrez *et al.* 1995). It ranges from Utah, Colorado, Arizona, New Mexico, and the western portions of Texas south into several States of Mexico. Although the owl's entire range covers a broad area of the southwestern United States and Mexico, it does not occur uniformly throughout its range. Instead, the Mexican spotted owl occurs in disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Known owl locations indicate that the species has an affinity for older, uneven-aged forest, and the species inhabits a physically diverse landscape in the southwestern United States and Mexico.

In addition to this natural variability in habitat influencing owl distribution, human activities also vary across the owl's range. The combination of natural habitat variability, human influences on owls, international boundaries, and logistics of implementation of the Recovery Plan necessitates subdivision of the owl's range into smaller management areas. The 1995 Recovery Plan subdivided the owl's range into 11 "Recovery Units" (RUs): six in the United States and five in Mexico. In the revision of the Recovery Plan, we renamed RUs as "Ecological Management Units" (EMUs) to be in accord with current FWS guidelines. We divide the Mexican spotted owl's range within the United States into five EMUs: Colorado Plateau (CP), Southern Rocky Mountains (SRM), Upper Gila Mountains (UGM), Basin and Range-West (BRW), and Basin and Range-East (BRE) (USFWS 2012a, p. 9). Within Mexico, the Revised Recovery Plan delineated five EMUs: Sierra Madre Occidental Norte, Sierra Madre Occidental Sur, Sierra Madre Oriental Norte, Sierra Madre Oriental Sur, and Eje Neovolcanico.

Mexican spotted owl surveys conducted since the 1995 Recovery Plan have increased our knowledge of owl distribution, but not necessarily of owl abundance. Population estimates, based upon owl surveys, recorded 758 owl sites from 1990 to 1993, and 1,222 owl sites from 1990 to 2004 in the United States. The Recovery Plan (USFWS 2012) lists 1,324 known owl sites in the United States. An owl site is an area used by a single or a pair of adult or subadult owls for nesting, roosting, or foraging. The increase in number of known owl sites is mainly a product of agencies completing new owl surveys within previously unsurveyed areas (e.g., several National Parks within southern Utah, Guadalupe National Park in West Texas; Guadalupe Mountains in southeastern New Mexico and West Texas; Dinosaur National Monument in Colorado; and the Cibola and Gila National Forests [NF] in New Mexico). Thus, we cannot infer an increase in abundance in the species range-wide from these data (USFWS

2012). However, we do assume that an increase in the number of occupied sites is a positive indicator regarding owl abundance.

We are currently working with the Southwestern Region of the Forest Service to conduct a pilot study for the population monitoring recommended in the revised Recovery Plan (USFWS 2012). The effort to conduct this work has occurred during the 2014-2019 breeding seasons on National Forest System (NFS) lands in Arizona and New Mexico. The Recovery Team, Forest Service, and the Bird Conservancy of the Rockies (BCR, contractor) are continuing to collect data and develop a strategy for incorporating additional lands (e.g., National Park Service, Bureau of Land Management, Department of Defense) into the monitoring. Currently, based on the work conducted by the Forest Service and BCR, we have a process for conducting rangewide population monitoring, but we need to develop the potential strategy and funding mechanisms for collecting rangewide habitat monitoring data.

The FWS cited two primary reasons for the original listing of the Mexican spotted owl in 1993: (1) The historical alteration of its habitat as the result of timber-management practices; and, (2) the threat of these practices continuing. We also identified the danger of stand-replacing fire as a looming threat at that time. Since publication of the original Recovery Plan (USFWS 1995), we have acquired new information on the biology, threats, and habitat needs of the Mexican spotted owl. Threats to its population in the U.S. (but likely not in Mexico) have transitioned from commercial-based timber harvest to the risk of stand-replacing wildland fire (USFWS 2012). Recent forest management has moved away from a commodity focus and now emphasizes sustainable ecological function and a return toward pre-settlement fire regimes, both of which have potential to benefit the spotted owl. However, as stated in the revised Recovery Plan (USFWS 2012), there is much uncertainty regarding thinning and burning treatment effects and the risks to owl habitat with or without forest treatment as well. Therefore, efforts to reduce fire risk to owls should be designed and implemented to evaluate the effects of treatments on owls, and retention of or movement towards desired conditions.

Southwestern forests have experienced larger and more severe wildland fires from 1995 to the present, than prior to 1995. Climate variability combined with unhealthy forest conditions may also synergistically result in increased negative effects to habitat from fire. The intensification of natural drought cycles and the ensuing stress placed upon overstocked forested habitats could result in even larger and more severe fires in owl habitat.

Currently, high-severity, stand-replacing fires are influencing the persistence ponderosa pine and mixed conifer forest types in Arizona and New Mexico. Uncharacteristic wildland fire is probably the greatest threat to the Mexican spotted owl within the action area and fire severity and size have been increasing. Landscape level wildland fires, such as the Rodeo-Chediski Fire (2002), the Wallow Fire (2011), and the Whitewater-Baldy Complex (2012) have resulted in the loss of tens of thousands of acres of occupied and potential nest/roost habitat across significant portions of the Mexican spotted owl's range. Although owls will forage in severely burned areas, habitat is often lacking for nesting and roosting in these areas, particularly when high severity fire affects large patches of habitat (Jones *et al.* 2016). Fuels reduction treatments, though critical to reducing the risk of severe wildland fire, can have short-term adverse effects to owls through habitat modification and disturbance. As the human population grows in the

southwestern United States, small communities within and adjacent to wildlands are being developed. This trend may have detrimental effects to spotted owls by further fragmenting habitat and increasing disturbance during the breeding season.

Global climate variability may also be a threat to the owl. Changing climate conditions may interact with fire, management actions, and other factors discussed above, to increase effects to owl habitat. 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). Researchers think such changes in the timing and amount of snowmelt are signals of climate-related change in high elevations (Smith *et al.* 2000, Reiners *et al.* 2003). The effect 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, and to invertebrate and vertebrate populations within coniferous forests and canyon habitats that affect ecosystem function and processes.

Historical and current anthropogenic uses of Mexican spotted owl 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 owl nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season. Livestock and wild ungulate grazing is prevalent throughout the range of the owl and can have a negative effect on the availability of grass cover for prey species. Recreation effects are increasing throughout the Southwest, 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.

Several fatality factors have been identified as particularly detrimental to the Mexican spotted owl, including predation, starvation, accidents, disease, and parasites. For example, West Nile Virus also has the potential to effect the Mexican spotted owl. We have not documented the virus in spotted owls 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 spotted 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 affect to the owl range-wide.

### *Critical Habitat*

The FWS designated critical habitat for the Mexican spotted owl in 2004 on approximately 8.6 million ac (3.5 million hectares) of Federal lands in Arizona, Colorado, New Mexico, and Utah (69 FR 53182). Critical habitat includes only those areas in designated critical habitat units (CHUs) that meet the definition of protected (PAC and steep slopes, as defined) and restricted (now called “recovery”) habitat (unoccupied owl foraging, dispersal, and future nest/roost habitat) as defined in the 1995 Recovery Plan (USFWS 1995). The PCEs for Mexican spotted owl critical habitat were determined from studies of their habitat requirements and information provided in the Recovery Plan (USFWS 1995). Since owl habitat can include both canyon and forested areas, we identified PCEs for both areas. The PCEs identified for the owl within mixed-

conifer, pine-oak, and riparian forest types that provide for one or more of the owl's habitat needs for nesting, roosting, foraging, and dispersing are:

- 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 to 45 percent of which are large trees with dbh (4.5 feet above ground) of 12 inches or more;
- A shade canopy created by the tree branches covering 40 percent or more of the ground;
- Large, dead trees (snags) with a dbh of at least 12 inches;
- 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 PCEs 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 PCEs may occur 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 older, larger trees persist.

Mexican spotted owl critical habitat also includes some steep-walled rocky canyonlands that occur typically within the Colorado Plateau EMU, but also occur in other EMUs. This habitat does not occur within the action area of this consultation, so the PCEs are not included here or analyzed in this BiOp.

Overall, the status of the owl and its designated critical habitat has not changed significantly range-wide in the U.S. (which includes Utah, Colorado, Arizona, New Mexico, and extreme southwestern Texas). What we mean by this is that the distribution of owls continues to cover the same area, and critical habitat is continuing to provide for the life history needs of the Mexican spotted owl throughout all of the EMUs located in the U.S. We do not have detailed information regarding the status of the Mexican spotted owl in Mexico, so we cannot make inferences regarding its overall status.

However, this is not to say that significant changes have not occurred within the owl's U.S. range. Wildland fire has resulted in the greatest loss of PACs and critical habitat relative to other actions (e.g., such as forest management, livestock grazing, recreation, etc.) throughout the U.S. range of the Mexican spotted owl. These wildland fire effects have mainly affected Mexican spotted owls within the UGM EMU (e.g., Slide and Schultz Fires on the Coconino NF, Rodeo-Chediski and Wallow Fires on the Apache-Sitgreaves NF and Whitewater-Baldy Complex on the Gila NF) and BRW EMU (e.g., Frye Fire and Horseshoe 2 Fire on the Coronado NF). However, significant wildlife effects have affected other EMUs as well (e.g., SRM EMU by the Las Conchas Fire, CP EMU by the Warm Fire). However, we do not know the extent of the effects of these wildland fires on actual owl numbers.

### *Previous Consultations*

Given the wide-range of this species, several Federal actions affect this species every year. A complete list of all formal consultations affecting this species in Arizona is on our [Arizona Ecological Services website](#).

## **ENVIRONMENTAL BASELINE**

The environmental baseline includes past and present effects of all Federal, State, or private actions in the action area, the anticipated effects of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the effect of State and private actions that are contemporaneous with the consultation process. The environmental baseline defines the 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 action area for the Mexican spotted owl is much smaller than the action area for the entire consultation. Mexican spotted owl protected activity centers (PACs), recovery, and critical habitat only along the Glen Canyon – Flagstaff #1 and #2 transmission line on the Coconino NF (Figure 2).

### **Status of the species and critical habitat within the action area**

Seven PACs either occur within the WAPA transmission line ROWs or along access roads (Table 3). The transmission line does not bisect any of the PAC nest cores. Survey data has found recent owl occupancy for all of these PACs. There are 5.7 mi of power line (111.5 ac) and 6.1 mi (22.5 ac) of access road within Mexican spotted owl recovery habitat within the proposed action area.

The proposed action occurs within approximately 113 acres of Mexican spotted owl critical habitat in two locations along Glen Canyon – Flagstaff #1 and #2 (includes structures 147-2 and 147-7 to 156-4 and 156-5 and 167-3 and 167-1 to 173-3 and 173-4). This is located in UGM-CHU 10. The proposed action area totals 44.2 mi (160.0 ac) of access roads and 30.8 mi (112.5 ac) of power line ROWs within Mexican spotted owl critical habitat. UGM CHU-10 is 562,988 acres in size, so this project contains an extremely small area of this CHU.

The Forest Service (Southwestern Region) consulted with the FWS in 2008 (USFWS 2008) for WAPA's transmission line vegetation management over a 10-year period (USFWS 2008). As a result, WAPA has already completed initial IVM of tree removal within ROWs and along access roads within this action area on the Coconino and Tonto NFs. Due to continued vegetation management in WAPA's ROW, the vegetation structure primarily consists of grasses, forbs, and other early successional growth. Suitable nest/roost habitat is located adjacent to the ROW.

**Table 3.** Miles and acres of transmission line and access road located within PACs

<b>PAC Name</b>	<b>Transmission Line Inside PAC (mi/ac)</b>	<b>Access Roads Inside PAC (mi/ac)</b>
Meadow Canyon	0.5/10.0	0.9/3.1
Cash	1.0/19.1	0.3/1.0
Sawmill Springs	0.5/6.0	0/0
Boondock	1.9/33.3	1.2/4.2
Schell Springs	0/3.7	0/0
Spruce Tank	0.3/9.4	0.2/0.8
Powerline Tank	0.1/0.8	0.1/0.4
<b>Total (mi/ac)</b>	<b>4.3/82.3</b>	<b>2.7/9.5</b>

## 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, which we add 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.

### Overview

WAPA's O&M vegetation removal and ground disturbance activities will alter Mexican spotted owl habitat in and near owl PACs, recovery habitat, and within designated critical habitat. Such habitat alteration would typically be an adverse effect to the Mexican spotted owl and its habitat, although certain actions (e.g., leaving large logs to provide cover for prey) can also be beneficial. As noted previously, WAPA has completed a vegetation management cycle under the Phase II BiOp (USFWS 2008) and ROW vegetation generally is already consistent with WAPA (2011) and Reliability Standard FAC-003.

We anticipate adverse effects to Mexican spotted owls from continued vegetation maintenance treatments and disturbance associated with aerial patrols in seven PACs during the 20-year proposed action. We anticipate the proposed conservation measures will help to reduce adverse effects to Mexican spotted owls for much of the proposed action. However, because of the overall goals of the project and the necessary methods, we determined that minimization measures will not completely remove adverse effects and that these effects are reasonably certain to occur. We anticipate the proposed action will result in some short-term adverse effects to Mexican spotted owl designated critical habitat from ongoing removal and suppression of vegetation to maintain safe ROWs, across a maximum of 30.8 mi (112.5 ac) of transmission line ROWs and 44.2 mi (160.0 ac) of access roads within designated critical habitat within the project area.

## Direct Effects

### *Noise disturbance*

#### Aerial Operations

We anticipate noise from all air operations, especially low-flying aircraft, will result in disturbance to spotted owls. Low-level flights have the greatest potential to disturb owls because these aircraft move slowly and are relatively noisy (Delaney *et al.* 1997). WAPA's patrol aircraft typically fly 50 to 300 feet above ground level at a velocity of 60 mph or 45 mph (subject to winds) when patrolling. Although the effects of over-flights may vary with location, specific conditions, and aircraft type, Delaney *et al.* (1999) found that a 345-foot hemispherical management protective zone should minimize, and possibly eliminate, spotted owl flush response and negative effects to prey delivery rates associated with helicopter overflights. Delaney *et al.* (1990) also reported that individuals returned to pre-disturbance behavior within 10-15 minutes. WAPA expects that all flights would be brief, daytime flights that occurred no more than once per seven days (and usually no more than once every three months). Flights would generally consist of a single pass with intermittent circling or hovering. Patrols may occur during the Mexican spotted owl-breeding season, which may cause temporary disturbance to nesting Mexican spotted owls via flush responses or decreased prey delivery. These disturbance effects are most likely to occur in the Boondock PAC where transmission lines intersect the PAC, rather than along the edge.

#### Ground-based operations

Mechanical noise and human presence during the breeding season near an owl may result in changed behavior and/or flushing from a perch or nest (Delaney *et al.* 1999a; Swarthout and Steidl 2001, 2003). These behavioral responses may alter nesting and roosting activities (USFWS 2012). Noise disturbance within 315 feet of owl nests could affect prey delivery rates (Delaney *et al.* 1999b). Noise levels  $\geq 69$  dBA have a greater probability of causing owls to flush (Pater *et al.* 2009). Chainsaw sound levels are from 106 to 117 dBA and large line trucks may produce sounds of up to 95 dBA.

Ground patrols and inspections would occur at various times throughout the year and may occur during the owl-breeding season (March 1 through August 31). WAPA's ground patrols generally last a few hours for a particular area along a transmission line. We do not expect that ground patrols would startle or cause spotted owls to flush from the nest due to the short duration, low frequency, and low levels of noise from ground inspections. As a result, we anticipate direct effects to spotted owls associated with ground inspections would be insignificant and discountable.

WAPA will avoid conducting O&M in owl habitat during the breeding season whenever possible. However, if WAPA determines that encroaching vegetation and maintenance problems are "imminent" hazards, it may not be possible to avoid working during the owl-breeding season. If work is required within a Mexican spotted owl PAC during the breeding season, WAPA will minimize the duration and frequency of the disturbance as much as possible. WAPA will ensure its crews coordinate the timing of the hazard treatments such they consolidate the work into the least number of days of work and least number of trips in and out of the PAC. As referenced

above, chainsaw sound levels at a distance of 1 meter are around 110 dBA and dissipate as the distance increases (Delaney *et al.* 1997). It is unknown exactly where hazard vegetation may be trimmed or removed, but hazard vegetation within approximately 150 feet of conductors could be trimmed or removed within any of the PACs with overhead transmission lines (Table 3). Adverse effects associated with hazard vegetation treatments are most likely to occur in the Boondock PAC where transmission lines intersect the PAC, rather than along the edge (based on acreage).

#### Imminent Threat/Danger Trees

Although infrequent, WAPA selectively removes individual danger/hazard trees that pose an imminent risk of falling, bending into, growing into, causing a fire, or otherwise encroaching within the Minimum Vegetation Clearance distances defined under the Reliability Standard FAC-003-2 (Transmission Vegetation Management). In these cases, WAPA will use manual vegetation techniques to remove the vegetation. Vegetation management personnel make every reasonable effort to identify and remedy hazard tree issues; however, hazard trees may not become apparent and require immediate remediation during the spotted owl breeding and nesting season.

Components of the action that may result in direct effects to spotted owls include noise (as described above) and flushing from disturbance caused by felling trees and/or snags (dead trees). Although we do not think that there are potential nest trees within the seven PACs along the WAPA ROW, owls may avoid potential roosting areas or modify habitat use within 0.10 mile of work areas when WAPA removes hazard trees.

#### *Indirect Effects*

WAPA's removal of trees and snags may result in some adverse, neutral, and beneficial effects to owls and their prey species. WAPA will remove trees and snags that conflict with WAPA (2011) and Reliability Standard FAC-003. Effects would largely be contained within a disturbed ROW that WAPA has modified from the surrounding habitat; however, ponderosa pines within 150 feet of the conductors could grow tall enough outside of the ROW they would require removal to meet FERC safety requirements. Hazard vegetation removal would not directly alter understory cover and residual plant cover. Long-term maintenance of the existing disturbed ROWs will likely promote the development of herbaceous understory communities, which may benefit owl prey species. The abundance of downed logs would increase from vegetation removal and disposal, particularly in areas where WAPA is able to leave large logs whole at the edge of a ROW. The increased abundance of herbaceous vegetation and downed logs may result in beneficial effects to owl prey habitat.

Continued maintenance of the ROWs will prevent the future development of suitable owl nesting and roosting habitat within these areas, but may also act as a fire line, reducing high-severity fires. It is unlikely that the WAPA ROWs currently contain owl nesting or roosting habitat as WAPA has treated these areas during the last 10+ years to maintain early-successional conditions. Vegetation management associated with power lines would most likely involve the removal of trees greater than 18 inches dbh at the edge or outside of transmission line ROWs and along access roads. WAPA may also remove these trees outside of a ROW as hazard vegetation (dead, dying, or diseased trees). However, the removal of vegetation may increase plant species

diversity by managing ROWs for early seral species. However, managed-ROWs clear of trees, snags, and fuels may mitigate the risk of wildfire to adjacent owl habitat by reducing ignition potential and serving as potential fire line boundaries. Therefore, although there are adverse effects to owl habitat from continued vegetation management of the WAPA ROWs, there is also the benefit of potentially reducing high-severity fire effects to habitat.

The removal of individual hardwoods, snags, and large trees could result in some changes to forested owl recovery habitat by removing important Mexican spotted owl and prey habitat. Large hardwood removal is unlikely to occur in the ROW because of past vegetation treatments, but could occur as hazards outside of the ROWs. Overall, we anticipate that vegetation treatments from this point forward would not appreciably reduce the amount of Mexican spotted owl recovery habitat within the action area.

Herbicide use may indirectly affect the Mexican spotted owl by temporarily eliminating prey species habitat. Herbicide treatments may occur within 82.3 ac of PAC habitat and 111.5 ac of recovery habitat. Herbicide application effects would be similar to those from routine and hazard vegetation treatments, by primarily precluding Mexican spotted owl nesting and roosting habitat development within the ROWs. However, unlike mechanical or manual vegetation treatment methods, herbicide applications are spot treatments to select individual plants or small groups.

WAPA intends to use herbicides with low toxicity to predatory birds and small mammals within Mexican spotted owl habitat. Small mammals (Mexican spotted owl prey) are typically nocturnal and shelter in burrows or at the base of shrubs and trees during the day. Prey species that seek shelter under target vegetation may temporarily flee the area during herbicide applications, and there is a small possibility that proposed action will expose small mammals to herbicides. However, herbicides will be spot applied directly to vegetation, minimizing any exposure risk to owls or its prey. Therefore, we anticipate that effects of herbicide applications on prey species, and indirectly to Mexican spotted owls, will be insignificant.

#### *Effects to Mexican Spotted Owl Critical Habitat*

The proposed action area totals 30.8 mi (112.5 ac) of ROWs and 44.2 mi (160.0 ac) of access roads within Mexican spotted owl critical habitat in UGM CHU-10. Within WAPA's ROW, two PCEs of Mexican spotted owl designated critical habitat are not possible to maintain due to the purpose and need of the project. Specifically, 30 to 45 percent of the trees with a dbh of 12 inches or more and a shade canopy created by tree branches covering 40 percent or more of the ground is inconsistent with WAPA (2011) and Reliability Standard FAC-003.

The proposed action will not affect canyon habitat, as defined in the critical habitat rule (USFWS 2004). Therefore, we will not analyze the effects of this project on the PCEs of canyon habitat. We identified PCEs in the final rule designating critical habitat (USFWS 2004). We described the importance of each of these components to Mexican spotted owl critical habitat in the final rule (USFWS 2004) and the Recovery Plan (USFWS 1995, 2012). We summarize the expected effects to critical habitat PCEs by forest structure and prey species habitat.

#### Range of tree species and tree size

Under the proposed action, WAPA would continue to reduce and/or remove trees within Mexican spotted owl critical habitat. In forested Mexican spotted owl critical habitat, the desired condition is a range of tree species and sizes, with 30 to 45% of the trees with a dbh of 12 inches or greater. The maintenance of this PCE is inconsistent with WAPA (2011) and Reliability Standard FAC-003. For routine vegetation maintenance, WAPA will remove all tall growing species and some lower growing species within the ROWs regardless of tree species. For hazard vegetation along access roads, they would likely remove only single trees or small clumps of trees that pose a hazard. However, because WAPA has maintained the ROWs, most work they would conduct due to this project involves treatment of new or previously cut vegetation. The use of herbicides would further preclude these habitat elements from developing in ROWs. Ongoing maintenance precludes habitat from developing, which represents an ongoing adverse effect to approximately 113 ac of critical habitat. Despite the overall loss of overstory species diversity, we also anticipate that understory plant richness will likely increase in the canopy gaps created through hazard tree removal, which could lead to beneficial effects for prey habitat.

#### Shade canopy covering 40% or more of the ground

The maintenance of Mexican spotted owl shade canopy PCE is inconsistent with WAPA (2011) and Reliability Standard FAC-003. WAPA has already and would continue to remove the shade canopy in 112.5 acres of Mexican spotted owl critical habitat along the ROW corridors, because WAPA is required to maintain these areas as wide and open areas. We expect that these corridors would aid in increasing the understory herbaceous and forb production along utility corridors and in areas adjacent to the ROW, which may benefit owl prey species.

#### Large dead trees (snags) with dbh of at least 12 inches

Vegetation removal is likely to include large snags that are greater than 12 inches dbh within Mexican spotted owl critical habitat. Because WAPA has maintained the ROWs, snags they remove under this action would likely be adjacent to the transmission lines or access roads. Snag removal may have a small, but potentially adverse effect on this PCE of Mexican spotted owl critical habitat.

#### Maintenance of adequate prey species

Fallen trees and woody debris, important habitat components for spotted owl prey species, are likely to increase within ROWs from vegetation disposal operations. During disposal, limbs are scattered and large logs and snags (>12 inches dbh) would be left at the edge of ROWs when possible. Wood chips could be scattered within ROWs. These disposal methods could benefit some owl prey habitat. However, WAPA would continue to alter the range of plant species within transmission line ROWs. As ROWs are continually maintained through the removal of vegetation and herbicide application, an understory of early-successional herbaceous and low growing shrub plant cover is expected to develop and herbaceous and shrub plant diversity may increase, thereby providing spotted owl prey habitat.

#### Clumps of trees and woody debris

Continual maintenance of power line ROWs precludes the development of clumps or stringers of mixed conifer, pine-oak, and pinyon-juniper within Mexican spotted owl critical habitat. Thus, management of vegetation would result in some effects to clumps of trees but may also result in

a slight beneficial effect through an increase in the percentage of ground litter and woody debris in the ROWs.

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

As WAPA maintains the transmission line corridors and access roads and removes tree canopy, there will likely be increased herbaceous plant growth within the corridor. The mosaic effect created by these areas would increase herbaceous plant species diversity and, in turn, likely increase prey habitat. The proposed action is unlikely to result in adverse effects to the function and conservation role of this PCE.

#### Effects of the Action on Recovery

The proposed action does not appreciably reduce the likelihood of Mexican spotted owl recovery within the action area due to the linear shape and limited acreage affected. WAPA must prevent snags, large trees, and hardwoods from establishing and remove any hazard vegetation in the transmission line ROWs per regulation and law. The proposed action will increase the sustainability and resiliency of Mexican spotted owl habitat adjacent to WAPA's ROW by reducing the risk of high-severity fire to seven PACs and the entire CHU. Therefore, although there will be some adverse effects to PCEs, we do not expect that implementation of the proposed action to diminish the conservation contribution of critical habitat to the recovery of the Mexican spotted owl.

### 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, we do not consider in this section, because they require separate consultation pursuant to section 7 of the Act.

Future non-Federal activities within the action area that are reasonably certain to occur include the modification of habitat and disturbance from actions occurring on adjacent ownerships and inholdings (e.g., road construction, land clearing, logging, fuelwood gathering, recreation). These activities may reduce the quality and quantity of Mexican spotted owl nesting, roosting, and foraging habitat; result in disturbance to breeding owls; and contribute as cumulative effects to the proposed action. However, because Federal lands support most of known Mexican spotted owl sites, and because of the role of the Federal agencies in administering Mexican spotted owl habitat, actions implemented in the future by non-Federal entities on non-Federal lands are considered to be minor to the overall owl population.

### JEOPARDY AND ADVERSE MODIFICATION ANALYSIS

Section 7(a)(2) of the ESA requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

### **Jeopardy Analysis Framework**

Our jeopardy analysis relies on the following:

“Jeopardize the continued existence of” means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). The following analysis relies on four components: (1) the Status of the Species, which evaluates the range-wide condition of the owl, the factors responsible for that condition, and the species’ survival and recovery needs; (2) the Environmental Baseline, which evaluates the condition of the owl in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the owl; (3) Effects of the Action (including those from conservation measures), which determines the direct and indirect effects of the proposed federal action and the effects of any interrelated or interdependent activities on the owl; and (4) Cumulative Effects, which evaluates the effects of future, non-federal activities in the action area on the owl. The jeopardy analysis in this biological opinion emphasizes the range-wide survival and recovery needs of the Mexican spotted owl and the role of the action area in providing for those needs. We evaluate the significance of the proposed Federal action within this context, taken together with cumulative effects, for making the jeopardy determination.

### **Destruction/Adverse Modification Analysis Framework**

The final rule revising the regulatory definition of “destruction or adverse modification of critical habitat” became effective on March 14, 2016 (81 FR 7214). The revised definition states: “Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.”

Similar to our jeopardy analysis, our critical habitat adverse modification analysis relies on the following four components: (1) the Status of Critical Habitat, which evaluates the range-wide condition of designated critical habitat in terms of PCEs, the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the Environmental Baseline, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the Effects of the Action, which determine the direct and indirect effects of the proposed federal action and the effects of any interrelated or interdependent activities on the PCEs and how they will influence the recovery role of affected critical habitat units; and (4) Cumulative Effects, which evaluate the effects of future, non-federal activities in the action area on the PCEs and how they will influence the recovery role of affected critical habitat units.

## Conclusion

After reviewing the current status of the Mexican spotted owl and its critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the Mexican spotted owl, and is not likely to destroy or adversely modify its designated critical habitat. We base this conclusion on the following:

- Although treatments in critical habitat will adversely affect some PCEs and treatments in PAC and recovery habitat will reduce key habitat components, the proposed action will increase the long-term viability of Mexican spotted owl habitat by reducing the threat of a high-severity, stand-replacing wildfire starting along WAPA ROW corridors.
- The implementation of the proposed action will not impede the survival or recovery of Mexican spotted owls within the action area. The proposed project includes approximately 273 ac of critical habitat (160 ac of which is existing access road, so total critical habitat affected is approximately 113 acres). Because of the relatively small size of the area, the adverse effects to PCEs will not appreciably reduce the value of critical habitat for the species' conservation, and will not rise to the level of destruction or adverse modification.
- While WAPA may remove large dbh trees and snags under the proposed action, which may result in short-term disturbance and adversely affect key habitat components and PCEs, it will not preclude use of these areas by Mexican spotted owls or their prey species.
- Conservation measures associated with the timing of activities, vegetation treatment, and herbicidal control will limit the effects to targeted plants within the ROW, and reduce disturbance and effects to individual owls and their prey species.

We based the conclusions of this biological opinion on full implementation of the project as presented in the Description of the Proposed Action section of this document, including any Conservation Measures that WAPA 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 further 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.

The measures described below are non-discretionary, and must be undertaken by the WAPA 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. WAPA has a continuing duty to regulate the activity covered by this incidental take statement. If WAPA (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 effect of incidental take, WAPA must report the progress of the action and its effect on the Mexican spotted owl to the FWS as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

### **AMOUNT OR EXTENT OF TAKE**

For the purposes of evaluating incidental take of Mexican spotted owls from the action under consultation, incidental take can be anticipated as either the direct fatality or injury of individual birds, or the alteration of habitat that affects birds to such a degree that essential behaviors (e.g., breeding or foraging) are impaired, and the birds are thus “taken.” Owls may fail to breed, fail to successfully rear young, raise fewer young or young with reduced fitness, or abandon the area because of disturbance or habitat that no longer meets its needs.

Current section 7 consultation guidance provides for incidental take if an activity compromises the integrity of a PAC. We generally do not consider actions outside PACs to result in incidental take of owls, except in cases when action agencies conducted inadequate surveys of habitat that may support owls.

Based on the best available information concerning the Mexican spotted owl, habitat needs of the species, the project description, and information furnished by the WAPA, Mexican spotted owl incidental take is anticipated within the seven PACs where transmission line ROWs occur as a result of harm and/or harassment from the following actions:

- Vegetation removal actions that modify key owl habitat components, resulting in degraded nesting, roosting, and foraging habitat. The majority of vegetation treatments involve the removal of saplings and young trees. However, WAPA may remove hardwoods, snags, and large diameter trees at the edge of access roads and/or outside ROWs.
- Multiple flights along power line corridors each year during the owl-breeding season over PACs. Low altitude flights can result in temporary owl disturbance resulting in flush responses, decreased prey deliveries, or feeding.

- Removal and disposal of hazard vegetation during the breeding season within or near PACs, causing owl disturbance resulting in flush responses, decreased prey deliveries, or feeding.

We anticipate that Mexican spotted owl incidental take will be difficult to detect because finding a dead or impaired specimen is unlikely. We anticipate incidental take due to short-term effects from disturbance or permanent habitat modification within PACs that will affect Mexican spotted owl reproductive success and survival within the project area. We anticipate harm to Mexican spotted owls from removing key nesting, roosting, and foraging habitat components from vegetation removal activities. We also anticipate harassment to Mexican spotted owl breeding, feeding, and sheltering from disturbance effects caused by aerial patrols and vegetation removal-disposal activities.

We anticipate the incidental take of up to four pairs of Mexican spotted owls (which may include associated eggs or juveniles) in the form of harm or harassment within the seven PACs that occur within the action area. We anticipate incidental take would occur to at least one pair of owls once every five years from disturbance associated with the combination of aerial patrols, and O&M activities along utility corridors over the course of this 20-year proposed action. This anticipated take may be short-term disturbance (short-term disturbance is defined as one to three breeding seasons of non-habitat altering action that disrupts or is likely to disrupt owl behavior), permanent habitat modification along the transmission lines and access roads within the PACs, or a combination of disturbance and habitat modification.

## **EFFECT OF THE TAKE**

In this biological opinion, the FWS determines that this level of anticipated take is not likely to result in jeopardy to the species, or destruction or adverse modification of critical habitat for the reasons stated in the Conclusions section.

## **REASONABLE AND PRUDENT MEASURES**

### **Mexican spotted owl**

The following reasonable and prudent measure(s) are necessary and appropriate to minimize take of the Mexican spotted owl:

1. WAPA shall monitor incidental take resulting from the proposed action and report to the FWS the findings of that monitoring.

## **TERMS AND CONDITIONS**

In order to be exempt from the prohibitions of section 9 of the Act, WAPA must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

**Mexican spotted owl**

The following terms and conditions implement reasonable and prudent measure #1:

- 1.1 WAPA shall monitor the project area and other affected areas by the proposed action to ascertain take Mexican spotted owls and/or loss of its habitat that causes harm or harassment to the species. WAPA will conduct this monitoring and reporting using the protocol established in Appendix B.
- 1.2 WAPA shall submit annual monitoring reports to the Arizona Ecological Services Flagstaff Office by December 31 beginning in 2020. The report shall summarize tasks accomplished under the proposed action within Mexican spotted owl PACs, recovery habitat, and critical habitat. The report shall make recommendations for modifying or refining the conservation measures to enhance listed species protection or reduce needless hardship to WAPA.

Review requirement: We designed the reasonable and prudent measures, with their implementing terms and conditions, to minimize the effect of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. WAPA must immediately provide an explanation of the causes of the taking and review with the AESO the need for possible modification of the reasonable and prudent measures.

**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, 4901 Paseo del Norte NE, Suite D, Albuquerque, NM 87113; 505-248-7889) within three working days of its finding. Provide written notification within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. Send the notification to the Law Enforcement Office with a copy to this office. Take care 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 WAPA continue to work with us to reduce the effects of utility corridor management on Mexican spotted owls and their habitats.

2. We recommend that the WAPA assist with funding for owl surveys in all PACs affected by utility corridors in order to determine nest core areas and potential effects of vegetation management in the utility corridors.

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 the Operation and Maintenance of Existing WAPA Transmission Lines and Infrastructure Project. 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.

Certain project activities may also affect species protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. sec. 703-712) and/or bald and golden eagles protected under the Bald and Golden Eagle Protection Act (Eagle Act). Unless authorized by the FWS, the MBTA prohibits the intentional taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The Eagle Act prohibits anyone, without a FWS permit, from taking (including disturbing) eagles, and including their parts, nests, or eggs. If you think this project will affect migratory birds and/or eagles, we recommend seeking our Technical Assistance to identify available conservation measures that you may be able to incorporate into your project.

For more information regarding the MBTA and Eagle Act, please visit the following websites. You can find more information on the MBTA and available permits at [FWS Migratory Bird Program web page](#) and [FWS Permits Application Forms](#). For information on protections for bald eagles, please refer to the FWS's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132) published in the Federal Register on June 5, 2007, as well at the Conservation Assessment and Strategy for the Bald Eagle in Arizona ([Southwestern Bald Eagle Management Committee website](#)).

In keeping with our trust responsibilities to American Indian Tribes, we encourage you to continue to coordinate with the Bureau of Indian Affairs in the implementation of this consultation. By copy of this biological opinion, are notifying the Fort McDowell Yavapai Nation, Havasupai Tribe, Hualapai Tribe, Hopi Tribe, Kaibab Band of Paiute Indians, Navajo Nation, Salt River Pima-Maricopa Indian Community, San Carlos Apache, Tonto Apache, White Mountain Apache Tribe, Yavapai-Apache Nation, and Yavapai-Prescott Indian Tribe of its completion. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department.

We appreciate WAPA's efforts to identify and minimize effects to listed species from this project. Please refer to the consultation number, 02EAAZ00-2019-F-0541 in future correspondence concerning this project. Should you require further assistance or if you have any questions, please contact Shaula Hedwall (928-556-2118) or Greg Beatty (602-242-0210).

Sincerely,



Jeffrey A. Humphrey  
Field Supervisor

cc (electronic):

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ  
Regional Supervisor, Arizona Game and Fish Department, Flagstaff, AZ  
Regional Supervisor, Arizona Game and Fish Department, Mesa, AZ  
Fish and Wildlife Biologists, Fish and Wildlife Service, Flagstaff, AZ (Attn: Shaula Hedwall and Brian Wooldridge)  
Fish and Wildlife Biologists, Fish and Wildlife Service, Phoenix, AZ (Attn: Greg Beatty, Kathy Robertson, Mary Richardson, Ryan Gordon, and Jessica Gwinn)  
Fish and Wildlife Biologists, Fish and Wildlife Service, Tucson, AZ (Attn: Jeff Servoss)  
Forest Supervisor, Coconino National Forest, Flagstaff, AZ  
Forest Supervisor, Prescott National Forest, Prescott, AZ  
Forest Supervisor, Tonto National Forest, Phoenix, AZ  
Environmental Manager, Fort McDowell Yavapai Nation, Fountain Hills, AZ  
Natural Resources Director, Havasupai Tribe, Supai, AZ  
Natural Resources Director, Hualapai Tribe, Peach Springs, AZ  
Natural Resources Director, Hopi Tribe, Kykotsmovi, AZ  
Environmental Program Director, Kaibab Band of Paiute Indians, Fredonia, AZ  
Director, Department of Fish and Wildlife, Navajo Nation, Window Rock, AZ  
Manager, Environmental Protection and Resource Division, Salt River Pima-Maricopa Indian Community, Scottsdale, AZ  
Director, Wildlife and Recreation Department, San Carlos Apache Tribe, San Carlos, AZ  
Director, Environmental Protection Department, Tonto Apache Tribe, Payson, AZ  
Sensitive Species Coordinator, White Mountain Apache Tribe, Whiteriver, AZ  
Manager, Environmental Protection Department, Yavapai-Apache Nation, Camp Verde, AZ  
Environmental Program Director, Yavapai-Prescott Indian Tribe, Prescott, AZ  
Environmental Protection Officer, Environmental Quality Services, Western Regional Office, Bureau of Indian Affairs, Phoenix, AZ

# TABLES AND FIGURES

Figure 1. Project overview map.

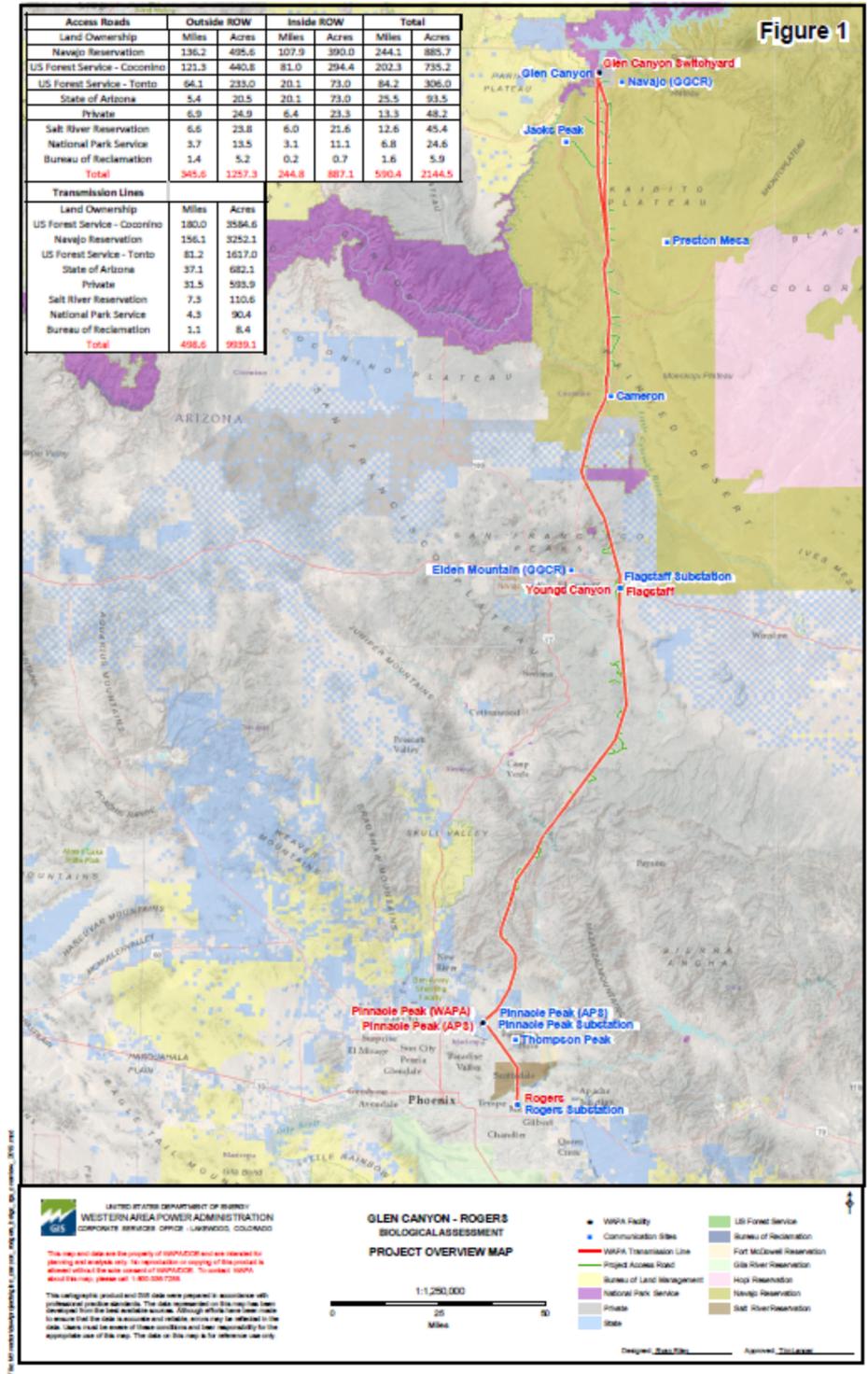
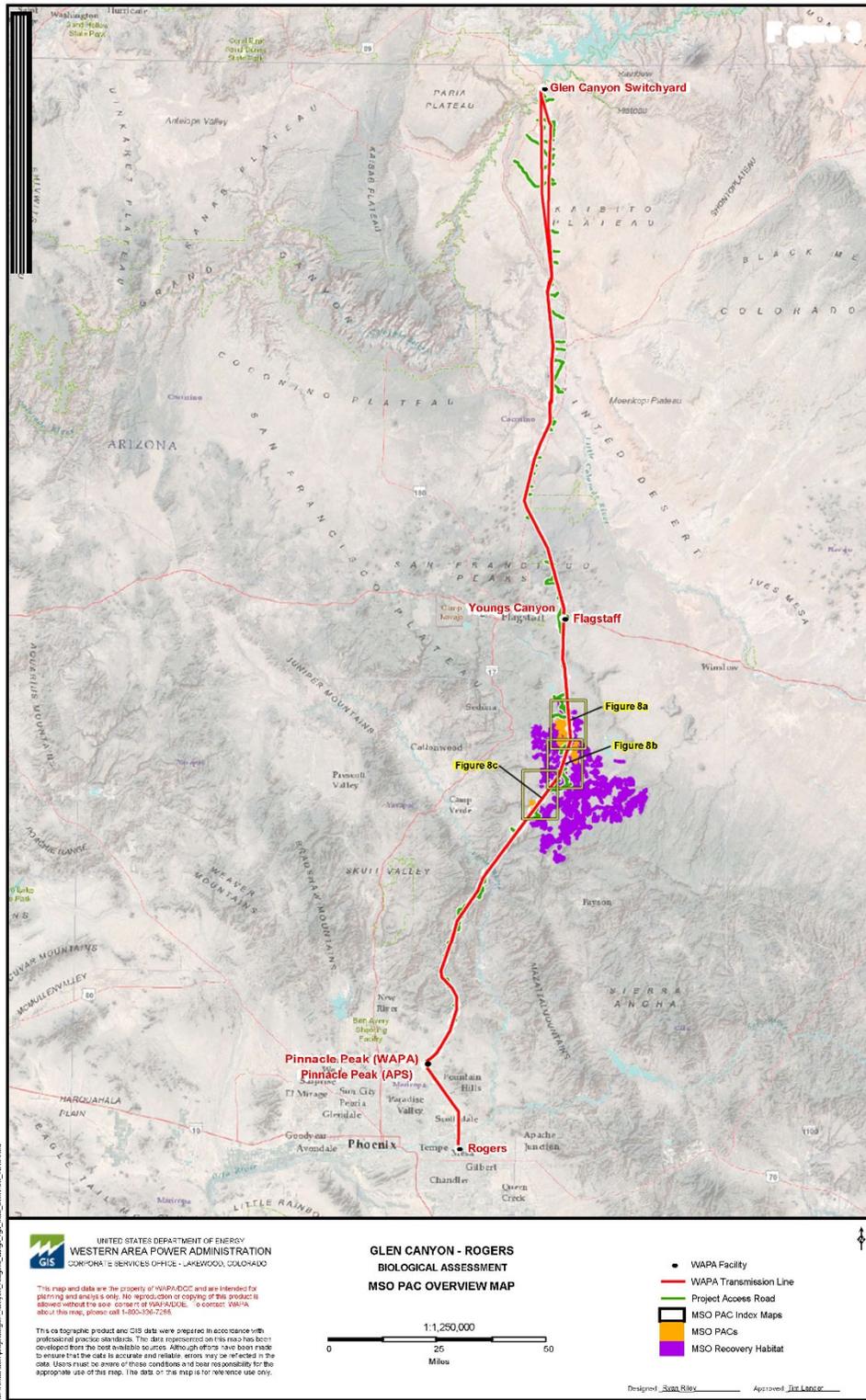


Figure 2. Map of Mexican spotted owl PACs and habitat within the action area.



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## **APPENDIX A: CONCURRENCES AND CONFERENCE REPORT FOR NONESSENTIAL EXPERIMENTAL 10(J) POPULATIONS**

This appendix contains our concurrences with your “may affect, not likely to adversely affect” determinations for the endangered Fickeisen plains cactus (*Pediocactus peeblesianus* var. *fickeiseniae*) and critical habitat for the endangered spikedace (*Meda fulgida*), the endangered loach minnow (*Tiaroga cobitis*), and the endangered razorback sucker (*Xyrauchen texanus*). In addition, WAPA made non-adverse modification determinations for narrow-headed gartersnake (*Thamnophis rufipunctatus*) and northern Mexican gartersnake (*Thamnophis eques megalops*) proposed critical habitat. We include our concurrences with these determinations below as well.

You also made non-jeopardy determinations for the California condor (*Gymnogyps californianus*), Mexican wolf (*Canis lupus baileyi*), and non-essential experimental population of the Colorado pikeminnow (*Ptychocheilus lucius*).

### **CONCURRENCES**

#### **Fickeisen plains cactus**

##### *Fickeisen plains cactus conservation measures*

- Qualified biologists will conduct cactus surveys within WAPA’s ROWs between structures 80-3 to 82-5 along Glen Canyon - Flagstaff #1 and structures 80-1 to 82-4 along Glen Canyon-Flagstaff #2 at least once every 10 years. If surveys find cactus within the ROW(s), a 50-foot, avoidance, buffer area around each GPS cactus location will be marked prior to any operation and maintenance activity occurring in the area.
- Herbicide use will follow label requirements and applicators will not spray herbicide within 25 feet of cactus.
- Whenever possible, WAPA will permit vehicle access only on well-established roads.

##### *Effects determination*

- At this time, there are no known Fickeisen plains cactus within the action area. However, WAPA will conduct surveys in potential habitat on a regular basis. If cacti are located, WAPA will implement the above conservation measures to avoid effects to plants.
- The proposed action will have no effect on designated critical habitat for the Fickeisen plains cactus because the species’ critical habitat is not located within the proposed action area.

#### **Spikedace, loach minnow, and razorback sucker critical habitat**

Spikedace and loach minnow critical habitat occurs at the two Fossil Creek crossings (the transmission line ROWs totals 0.4 mile and 3.0 acres and the extent of adjacent riparian acreage

that WAPA may treat under the proposed action via IVM totals 3.7 acres). Spikedace and razorback critical habitat are also located on the Verde River crossing (the expanse of river inside the transmission line ROW at the Verde River is 0.1 mile and 0.3 acres and the extent of adjacent riparian acreage that WAPA may treat via IVM is 3.1 acres). WAPA has completed a vegetation management cycle under the Phase II BiOp (USFWS 2008) and ROW vegetation generally is already consistent with WAPA (2011) and Reliability Standard FAC-003.

#### *Spikedace, loach minnow, and razorback sucker critical habitat conservation measures*

- The following activities will be prohibited at all times within 100 feet of a seep, spring, pond, lake, river, stream, or marsh, and their associated habitats:
  - vehicle access, except on existing access and maintenance roads;
  - dumping, stockpiling, or burying of any material, except as required for specific operation and maintenance activities (e.g., rip-rap);
  - mixing of pesticides, herbicides, or other potentially toxic chemicals; and,
  - open petroleum products.
- To avoid the occurrence of hazard trees in the future, WAPA's preference is to remove all individuals of species that could grow tall enough over time to conflict with power transmission. Consequently, WAPA proposes to remove these trees using hand tools (rather than heavy equipment), avoid felling trees into the water, and to perform this action when trees leafless to minimize detrimental effects to soil, water, and river shading. If necessary, WAPA will plant tree species that will never grow tall enough to interfere with power transmission.
- All contaminated discharge water created by operation and maintenance activities will be contained and disposed of in accordance with applicable federal, state, and local regulations.
- WAPA will not deposit non-biodegradable debris in the ROW.
- WAPA will store, fuel and maintain equipment in a vehicle staging area 300 feet, or the maximum distance possible if less than 300 feet, away from seeps, springs, ponds, lakes, rivers, streams, marshes, or their associated habitats. WAPA (or contractor) will inspect vehicles daily for fluid leaks before leaving the staging area.
- Erosion-management materials will be of a tightly woven natural fiber netting or similar material that will not entrap reptiles and amphibians (e.g., coconut coir matting). Workers will place erosion-management measures between the outer edge of the buffer and the activity area. WAPA will use certified noxious weed free fiber rolls, hay bales, and seed mixtures for erosion control.

#### *Effects determination*

- We anticipate insignificant effects to loach minnow and spikedace critical habitat PCEs 1, 4, and 6 (stream flow abundance, magnitude, duration, or microhabitat) from

vegetation removal/maintenance and herbicide application. No actions will occur within the stream, influence water or stream temperature/microhabitat, and any indirect influence from riparian vegetation removal within utility corridors will be limited.

- Because WAPA will use buffers when applying herbicides near streams, the site-specific nature of the herbicide application, the low toxicity herbicide, and hand application with drift/drip controls, we anticipate any indirect effects to aquatic insects (PCE 2) and stream pollution (PCE 3) within loach minnow and spinedace critical habitat will be insignificant.
- We anticipate that the proposed action of human access to utility corridors, vegetation management, and herbicide application will have an insignificant effect on non-native aquatic species abundance or distribution (PCE 5) within loach minnow and spinedace critical habitat due to the lack of work in streams. In addition, treating/managing vegetation is not an activity that will result in the transport of non-native aquatic species.
- We anticipate insignificant effects to razorback sucker critical habitat PCE 1 (stream flow abundance, magnitude, duration, and microhabitat) and PCE 2 (rearing habitat/stream channels) from vegetation removal/maintenance and herbicide application. None of the proposed actions will occur within the stream and WAPA proposes to conduct a limited amount of or no vegetation removal within riparian utility corridors. Therefore, these actions will not influence PCEs 1 and 2.
- We anticipate insignificant effects to razorback sucker critical habitat biological environment (PCE 3 – food supply, predation/competition). Vegetation management will not occur in the streams preventing any transfer of exotic aquatic species. In addition, herbicide application will use aquatic buffers, low toxicity herbicides, and drip/drift controls to prevent effects to aquatic food. Vegetation removal will be limited to utility corridors (and in some areas vegetation removal is unnecessary) preventing measurable changes to aquatic and stream environment (sedimentation, stream function, microhabitat, etc.).

### **Narrow-headed and northern Mexican gartersnake proposed critical habitat**

Proposed critical habitat for the gartersnakes is located on the Verde River crossing (the expanse of river inside the transmission line ROW at the Verde River is 0.1 mile and 0.3 acres and the extent of adjacent riparian acreage that WAPA may treat via IVM is 3.1 acres). WAPA has completed a vegetation management cycle under the Phase II BiOp (USFWS 2008) and ROW vegetation generally is already consistent with WAPA (2011) and Reliability Standard FAC-003.

- The Verde River crossing along the Flagstaff – Pinnacle Peak #1 and #2 transmission lines includes four structures (187-4 and 188-2 to 188-1 and 188-3). The proposed action will ensure that narrow-headed and northern Mexican gartersnake habitat continues to exist within the project footprint and that critical habitat will continue to retain its function for conservation and recovery of both gartersnakes.

- WAPA will implement conservation measures as part of the proposed action that will result in insignificant and discountable effects to the PCEs of gartersnake critical habitat (see conservation measures for loach minnow, spikedace, and razorback sucker listed above).

## **CONFERENCE REPORT FOR NONESSENTIAL EXPERIMENTAL 10 (J) POPULATIONS and PROPOSED CRITICAL HABITAT**

### **California condor (inside non-essential experimental boundary)**

- WAPA determined that the proposed action, within its nonessential experimental boundary, would not jeopardize the California condor. Because of the California condor's status as a nonessential experimental population, we treat these condors as though they are proposed for listing for section 7 consultation purposes. By definition, a nonessential experimental population is not essential to the continued existence of the species. Thus, no proposed action effecting a designated population could lead to a jeopardy determination for the entire species.

### **Mexican wolf (inside non-essential experimental boundary)**

- WAPA determined that the proposed action, within its nonessential experimental boundary, would not jeopardize the Mexican wolf. Because of the Mexican gray wolf's status as an experimental, non-essential population, wolves found in Arizona are treated as though they are proposed for listing for section 7 consultation purposes. By definition, an experimental non-essential population is not essential to the continued existence of the species. Thus, no proposed action effecting a designated population could lead to a jeopardy determination for the entire species.

### **Colorado pikeminnow (inside non-essential experimental boundary)**

- WAPA determined that the proposed action, within its nonessential experimental boundary, would not jeopardize the Colorado pikeminnow. Because of the Colorado pikeminnow's status as an experimental, nonessential population, we treat these fish as though they are proposed for listing for section 7 consultation purposes. By definition, an experimental nonessential population is not essential to the continued existence of the species. Thus, no proposed action effecting a designated population could lead to a jeopardy determination for the entire species.

## **APPENDIX B: MONITORING AND REPORTING PROCEDURES FOR THE PROPOSED ACTIONS**

WAPA shall provide information annually (by December 31 of each year the biological opinion is in effect) to the Service that summarizes and assesses the activities conducted under this proposed action.

### **Reporting of Hazard Vegetation Treatments for the Mexican Spotted Owl:**

1. The GPS or geographic location of the tree(s) or vegetation
2. The power line name or number
3. The species and status of the tree(s) or vegetation (live or dead)
4. The size class of the tree (applicable to PACs; <12 inches, 12-18 inches, >18 inches)
5. The date the trees were located
6. The number, size class, and species of trees that were damaged or removed from felling the hazard tree or vegetation if applicable
7. The date(s) when the action occurred
8. The PAC where activity occurred

### **Reporting of Routine Vegetation Maintenance for the Mexican Spotted Owl:**

1. A brief description of the activities conducted
2. Removal of live and dead trees 18 inches dbh and larger
3. A start and end point of the area treated
4. The dates when the work was conducted
5. The PAC where activity occurred

### **Reporting of Aerial Flights for the Mexican Spotted Owl:**

WAPA shall provide a summary of unscheduled aerial flights to the best of their ability. The unscheduled aerial flights are flights that are those that occur beyond the routinely scheduled aerial patrols for vegetation management and line maintenance. Unscheduled flights typically only involve a single line and occur for various reasons. The summary of unscheduled aerial flights shall include:

1. A brief description of the purpose of the unscheduled flight
2. Starting and ending locations of the flight
3. Landing locations, if applicable
4. Duration of flight if over multiple days
5. The dates of the flight(s)
6. The PAC where activity occurred