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In Reply Refer To:
AESO/SE
02EAAZ00-2014-TA-0138
02EAAZ00-2014-CPA-0020

August 10, 2015

Ms. Linda J. Marianito, Environmental Manager
Western Area Power Administration
Post Office Box 6457
Phoenix, Arizona 85005-6457

Dear Ms. Marianito:

Thank you for your March 19, 2015 correspondence received in our office on March 23, 2015, requesting formal consultation and concurrence in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). At issue are potential impacts on federally listed species resulting from your proposal to continue operation and maintenance (O&M) activities and to implement an Integrated Vegetation Management (IVM) program along an existing electric transmission line right-of-way (ROW), the Parker-Davis Transmission System (Parker-Davis System), in portions of Cochise, Mohave, Maricopa, Pinal, Pima, and Yavapai Counties, Arizona. You concluded that the proposed action "may affect and is likely to adversely affect" four species: endangered Pima pineapple cactus (*Coryphantha scheeri* var *Robustispina*) (cactus); threatened northern Mexican gartersnake (*Thamnophis eques megalops*) (gartersnake); endangered southwestern willow flycatcher (*Empidonax trailii extimus*) (flycatcher); and the threatened Western Distinct Population Segment (DPS) of the yellow-billed cuckoo (*Coccyzus americanus*) (cuckoo).

You also concluded that the action "may affect but is not likely to adversely affect" the endangered lesser long-nosed bat (*Leptonycteris curasoae yurbabuenae*) and endangered California condor (*Gymnogyps californianus*). We concur with your determinations for these species and provide our rationales in Appendix A.

You requested our concurrence that the proposed action is not likely to jeopardize the nonessential experimental population of the California condor and will not adversely modify proposed critical habitat for the northern Mexican gartersnake and Western yellow-billed cuckoo. We are also providing conference reports for these concurrences in Appendix A.

Lastly, you concluded that the proposed action will "not affect" the endangered Gila chub (*Gila intermedia*), threatened Chiricahua leopard frog (*Lithobates chiricahuensis*), and designated critical habitat for the flycatcher. Species with "no effect" determinations do not require our review and therefore, are not considered further in this analysis.

This biological opinion (BO) is based on information provided in the March 19, 2015 *Programmatic Biological Assessment for Operations and Maintenance and Integrated Vegetation Management Program* (PBA) (Western Area Power Administration [Western] 2015), the November 2014 *Parker-Davis Transmission System Routine Operation and Maintenance Project and Proposed Integrated Vegetation Management Program Programmatic Environmental Assessment* (EA; Western 2014), email correspondence, telephone conversations, and other sources of information. Literature cited in this conference opinion is not a complete bibliography of all literature available on the species of concern, transmission line construction and its effects, or on other subjects considered in this opinion. A complete administrative record of this conference is on file at this office (file numbers 02EAAZ00-2014-TA-0138 and 02EAAZ00-2014-CPA-0020).

CONSULTATION HISTORY

March 12, 2014	We received your scoping letter informing all interested parties of your intent to develop an EA for the Parker-Davis Transmission System Programmatic Operation and Maintenance Project (DOE/EA-1982).
April 3, 2014	We transmitted a response to your scoping letter asking that the EA include a comprehensive discussion of potential direct and indirect impacts of the proposed project on species listed pursuant to the ESA.
November 2014	Your Programmatic EA was issued for review by all interested parties.
January 13, 2015	We received your draft PBA for the proposed project.
March 23, 2015	We received your final PBA and initiated formal consultation for the proposed project.
August 5, 2015	We sent you our draft BO.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

Complete descriptions of the proposed action are found in your PBA and EA and are included by reference herein. We provide a summary of the proposed action below.

The proposed action is for continued O&M activities and implementation of an IVM program for the Parker-Davis System (Figure 1). The purpose of the proposed action is to balance environmental protection with system reliability, protection of human safety, and compliance with the National Electric Safety Code, Institute of Electrical and Electronics Engineers standards, Western's own directives for maintaining system reliability, and other statutory and industry standards and requirements. O&M activities are preventative and involve inspections and repair of Parker-Davis infrastructure and maintenance of access roads. The IVM program is needed to eliminate the threat of vegetation interference with operation of the transmission system.

Operations and Maintenance (O&M) Activities

O&M activities would occur on existing transmission line ROWs, access roads, substations, and maintenance facilities. O&M activities would include aerial and ground patrols to locate and correct problems, regular and preventative maintenance efforts, inspections, repairs, and road repair to provide access for maintenance and emergencies. These activities would be performed wherever damage or deterioration of transmission lines or facilities poses a threat to safety or reliability. Equipment needed for these activities could include a light duty helicopter, fixed-wing aircraft, all-terrain vehicle, pickup truck, bulldozer, backhoe, bucket truck, front-end loader, crane, augur truck, bobcat, pole truck, and hand tools. Some activities may require work outside of the ROW, e.g., for hazard tree removal, conductor pulling and tensioning, washout repair, and installation of culverts.

O&M activities would occur under three categories (see Tables 1-3 for listings of activities in each category): Category A actions are inspection and minor maintenance activities with little to no potential for impacts. Category B actions are typical repair tasks that occur along transmission lines and would involve surface disturbing activities within relatively small areas. Category C actions are minor additions or modifications to existing infrastructure that would disturb larger areas and use heavy equipment.

Inspections

Western would continue conducting aerial, ground, and climbing inspections of its existing transmission infrastructure under the O&M program. Aerial inspections would be conducted at least twice a year over the entire transmission system. Aerial patrols would occur 50-300 feet (ft) above and adjacent to the transmission line. Ground inspections would allow for closer assessment of infrastructure not possible by air. Ground inspections would be performed on 50 percent of all lines with wood pole structures annually, and 33 percent of all lines with steel structures annually, resulting in inspection of 100 percent of the Parker-Davis System every 2-3

years. Western would use climbing inspections on transmission line structures if aerial or ground inspections reveal problems.

Emergency Repairs

Inspections often identify problems that may require vegetation management or immediate repair or replacement of transmission line hardware. Storms and other natural events also may result in necessary emergency repairs of the Parker-Davis System. Emergency repairs would follow Western's best management practices (BMPs), standard operating procedures (SOPs), and project conservation measures (PCMs) when possible. Safety related BMPs, SOPs, and PCMs would always be instituted. Implementation of Western's standard protocols may not occur in the event of an emergency involving loss of electrical power to residential, commercial, or industrial sectors.

Access and ROW Road Maintenance

As part of the O&M program, Western would maintain safe and reliable access to the Parker-Davis System. This would require repairs as necessary to roads, bridges, culverts, cattle guards, and fences. If an existing access road has become unusable because of erosion, or because protected species or cultural sites, etc., are found, then a new road or a road detour would need to be constructed or used.

Integrated Vegetation Management (IVM) Program

The IVM program would manage vegetation to protect facilities from fire, control the spread of noxious weeds, establish and maintain stable, low-growing plant communities in the ROW for fault protection, and protect public and worker safety around transmission lines and other facilities.

Western's policy on its IVM program is specified in Western Order No. 450.3A: *Western's desired condition beneath and adjacent to its transmission line facilities is characterized by stable, low growth plant communities free from noxious or invasive plants. These communities will typically be comprised of herbaceous plants and low growing shrubs which ideally are native to the local area. Vegetation on the bordering areas of transmission line rights-of-way can be managed so that increased tree height is allowed in relation to an increasing distance from the transmission line.*

Western would adopt a two-step approach for the Parker-Davis System: 1) initial treatment, and 2) long term maintenance of ROW vegetation. Ultimately, Western's intent is to establish and maintain ROWs that require infrequent treatments for vegetation management (i.e., about once every 5 years). Achieving the desired ROW condition may take several iterations of vegetation treatment over an extended period of time. Once achieved, the desired condition will be proactively maintained through ongoing corridor vegetation management.

Initial Treatment

Western has not completed any substantial removal of vegetation from the Parker-Davis System (except for individual hazard trees) since construction 50+ years ago. Trees and taller shrubs are incompatible with Western's desired condition, as described above (Western Order 450.3A) and in Western's IVM Guidance Manual (Western 2007). Therefore, Western would remove nearly all vegetation (except grasses, forbs, and some small shrubs) within the ROWs to safely and reliably operate the transmission facilities.

In addition to vegetation removal within the limits of the ROW, danger trees outside of the ROW would also be removed. Danger trees are defined as trees located within or adjacent to the ROW that present a hazard to employees, the public, or power system facilities. These would include trees that may bend, grow, swing in, or fall towards the power lines.

Long–term Maintenance

Once the ROW has been cleared of undesirable vegetation, the IVM program would maintain the desired condition within the ROW. Federal energy standards require vegetation inspections and treatment to maintain transmission lines in safe and reliable operating conditions (NERC Reliability Standard FAC-003). Vegetation clearance distances required by NERC FAC-003 are provided in Western Order 430.1B. The required clearances vary by line voltage, from 20 ft in the case of 69-kilovolt (kV) lines, to 29 ft in the case of 500-kV lines.

Manual and Mechanical Control Methods for Initial Treatment and Long-term Maintenance

Vegetation control would require use of manual, mechanical, and herbicidal methods (use of herbicides is considered in the next section). Manual methods would involve cutting, pruning, and trimming with hand tools or power saws or installation of synthetic or natural barriers to manage vegetative growth. Mechanical control typically involves use of self-propelled machine platforms with various interchangeable treatment-head attachments. The primary benefit of manual methods is selectivity; only unwanted or target vegetation is removed. Mechanical control can be selective or nonselective. In the latter case, all plants in the path of the machine are affected, as in the case of mowing.

Slash is the debris left within a vegetation treatment area. Slash disposal would be designed to reduce fire hazards, hasten natural decomposition, keep nutrients in the ecosystem, retain soil moisture, control erosion, retard growth of undesirable plant species, and improve aesthetic appeal. Slash would be chipped (using a mechanical chipper) and scattered; lopped and scattered; or burned in piles.

Herbicide Control Methods

Western may also employ the use of herbicides for vegetation management. Western proposes using only herbicides that have been approved for use in ROW maintenance (including access roads) based on evaluations of toxicity, solubility, soil absorption potential, and persistence in water and soil. When using herbicides, Western would follow measures outlined in *Recommended Protection Measures for Pesticide Applications in Region 2 of the U.S. Fish and Wildlife Service*.

Schedule of O&M and IVM Activities

Western assumes that O&M and IVM activities during any given year on average would include:

- 250 to 500 acres (ac) of vegetation management in ROW and access roads;
- Stabilization/grading of 10 to 20 miles (mi) of access roads;
- Replacement or repair of 3 to 5 culverts;
- Installation/maintenance of 10 to 20 mi of communication equipment, including fiber-optic cable;
- Relocation or stabilization of 4 to 8 towers or poles (towers would be relocated adjacent to existing tower or poles);
- Inspection of communication sites once each year; and
- Treatment of approximately 100 ac by herbicides.

Conservation Measures

The proposed action includes a number of general conservation measures addressing erosion control, use of herbicides, and other concerns. General measures include BMPs and SOPs and are discussed in the EA. The proposed action also includes PCMs addressing the need for limited operating periods, buffer zones, surveys for special status species, etc. PCMs are species-specific. Western and its contractors will follow all BMPs, SOPs, and PCMs at all times during all proposed actions (with the possible exception of emergency actions, as discussed above). Species-specific PCMs are as follows:

<u>Pima Pineapple Cactus</u>

- A qualified biologist shall conduct cactus surveys in suitable habitat prior to O&M and IVM activities.
- Flagging or temporary fencing will be placed around all cactus plants located within 50 ft of work areas.
- All flagging or fencing will be removed following completion of the project.
- A qualified biological monitor shall be present during ground disturbance activities occurring in proximity to flagged or fenced cactus.
- Any cactus that cannot be avoided will be relocated within the ROW, but outside of any area undergoing disturbance.

<u>Northern Mexican Gartersnake</u>

- Western will refrain from using erosion control products, such as wattles, that contain a mesh size of 0.5 inches (in) within proposed gartersnake critical habitat. This mesh size may cause direct mortality due to entanglement. Alternatively, Western will use the smallest mesh size possible (<0.5 in), or preferably products that do not contain any mesh- or net-like attributes near occupied gartersnake habitat.

- Suitable habitat will be flagged or mapped for avoidance by a qualified biologist. Only manual vegetation removal will be allowed within the flagged areas.
- Vegetation management will be confined to the minimum area necessary to facilitate O&M and IVM activities

Southwestern Willow Flycatcher

- From May 15 to August 25, any noisy O&M or IVM ground activities in suitable habitat that require equipment other than hand tools and pickup trucks will be prohibited or a qualified biologist will conduct protocol surveys prior to these activities using methods described in Sogge et al. 2010. If resident birds are detected, the U.S. Fish and Wildlife Service (FWS) will be contacted for guidance.
- Prior to site mobilization, Western will provide notification of the activity to the appropriate Federal land manager, land owner, or agency.

Yellow-billed Cuckoo

- From June 1 to August 15, any noisy O&M and IVM activities in suitable habitat that require equipment other than hand tools and pickup trucks will be prohibited or a qualified biologist will conduct presence/absence surveys prior to these activities using currently accepted survey methods. If cuckoos are detected, FWS will be contacted for guidance.

Action Area

The action area is defined as all areas to be affected directly or indirectly by the proposed action along an existing electric transmission line ROW, the Parker-Davis System, in portions of Cochise, Mohave, Maricopa, Pinal, Pima, and Yavapai Counties, Arizona, 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, focusing on, but not exclusive to, the transmission line corridors, and centered on the transmission lines themselves (the linear poles, towers, and conductors of the Parker-Davis System). The action area involves approximately 640 linear mi of transmission lines, approximately 700 mi of access roads, 30 substations, and communications facilities, from Peacock Substation, 13 mi east of Kingman, Arizona, to Apache Substation, 25 mi east of Benson, Arizona (Figure 1). The majority of transmission lines along the Parker-Davis System are 115-kV or larger, constructed on steel lattice, wood H-frame, or steel monopole structures. Unimproved dirt roads or existing publicly maintained roads, provide access to the Parker-Davis System. Substations vary in size from <1-170 ac.

STATUS OF THE SPECIES

Pima Pineapple Cactus

The cactus was listed as endangered on September 23 1993 (58 FR 49875) without critical habitat. A 5-year review (U.S. Fish and Wildlife Service [USFWS] 2007) has been completed and recommended no change to the classification of the species as endangered. A draft recovery plan has been developed (USFWS 2015).

The cactus is a hemispherical plant with a diameter of 3-7 in and height of 4-18 in. The plants can be single-stemmed, multi-headed, or appear in clusters. The flowers are silky yellow (rarely white) and appear in early July with summer rains. This cactus is an obligate outcrosser, meaning it does not self-pollinate. For reproduction to occur, cacti are dependent on *Diadasia rinconis*, a ground-nesting, solitary native bee, thought to be the major pollinator of this cactus species (McDonald 2005). Cactus also cross pollinate each other, but this is unlikely if individuals are >2,900 ft apart (McDonald 2005).

Cacti occur in very low densities in Sonoran desertscrub vegetation or in the ecotone between desert scrubland and desert grassland on slopes of <10 percent and at elevations ranging from about 2,300-4,700 ft (Roller and Halverson 1997, Brown 1982, Johnson 2004). The species is geographically restricted to southeast Arizona, specifically the Altar and Santa Cruz Valleys in Pima and Santa Cruz Counties. Range limits include the Baboquivari Mountains to the west and Santa Rita Mountains to the east. The range extends north nearly to Tucson and south to Sonora, Mexico.

Several attempts have been made to delineate specific features of cactus habitats in the form of predictive models that would pinpoint areas where cacti are likely to occur (e.g., McPherson 2002, RECON Environmental, Inc. 2006, USFWS unpubl. analysis). The predictive power of the models, unfortunately, was low (25% in the case of McPherson 2002), and some predictors generated by the models were too general to be useful in pinpointing cactus locations in the field. During these studies, cacti were found in both shallow and deep soils, on rocky sites, in deep silt, and on gravelly alluvial deposits. Cacti were found in clumps but more often were widely dispersed at very low densities. Cactus plants were often difficult to detect, especially in dense grass.

Given low densities of the species in most parts of its range, large-scale surveys for this species have been rare and are cost prohibitive. Since the cactus' listing in 1993, there have been 75 formal section 7 consultations under the ESA involving this cactus in southern Arizona, resulting in the direct mortality of more than one thousand individual cactus plants on 8,000 ac of suitable habitat. Most of these consultations were related to construction activities (USFWS 2015). However, many projects that occur within the range of the cactus do not undergo section 7 consultation, and FWS does not typically receive information regarding the status or loss of plants or habitat associated with those projects. Records of all reported cactus locations, including those resulting from FWS consultations, and those reported voluntarily from the private sector, are maintained by the Arizona Game and Fish Department (AGFD) as part of its Heritage Data Management System (HDMS). As of late 2014, the HDMS had 5,553 records of live cacti, most with geographic coordinates.

Thus, threats to the cactus continue to include habitat loss, habitat fragmentation, direct mortality due to development, and inadequate regulatory mechanisms to protect the species. Threats previously documented (58 FR 49875) that will continue to take a toll include overgrazing, spread of invasive species, illegal collection, wildfires, and mining. Like development, the spread of invasive species into the range of the cactus, particularly grasses, appears to be a particularly serious and growing threat. Boer lovegrass (*Eragrostis chloromelas*) and Lehmann lovegrass (*Eragrostis lehmanniana*) now dominate the landscape on 1,470,000 ac of southeastern Arizona (Gori and Enquist 2003). Lehmann lovegrass is also dominant across extensive areas of cactus habitat in the southern portion of the Altar Valley. These invasive grasses are likely to continue moving into native grasslands to the north, east, and south into Mexico. The invasive grasses displace native vegetation, form continuous and sometimes dense mats, and ultimately alter the native fire regime, specifically, by increasing the frequency, intensity, and size of wildfires (Ruyle et al. 1988, Anable et al. 1992). Roller and Halvorson (1997) hypothesized that fire-induced mortality of cactus increases along with stand densities of Lehmann lovegrass. Bufflegrass (*Pennisetum ciliare*) has also become dominant in vacant areas of Tucson and along roadsides in southeastern Arizona, notably along Interstate 10 (I-10) and State Route 86. Some cactus habitats along these roadways are already being converted to dense stands of bufflegrass.

Northern Mexican Gartersnake

The gartersnake was designated as a candidate species for listing in 1985. In 2008, it was determined that the species warranted listing but listing was precluded by higher-priority actions (71 FR 71788). The species was listed as threatened on July 8, 2014 (79 FR 38678). Critical habitat was proposed on July 10, 2013 (78 FR 41550). There is no recovery plan for the gartersnake.

This gartersnake ranges in color from olive to olive-brown or olive-gray with three lighter-colored stripes that run the length of the body, the middle of which darkens towards the tail. It may occur with other native gartersnake species and can be difficult for people without specific expertise to identify because of its similar appearance to sympatric gartersnake species. The snake may reach a maximum length of 44 in.

Throughout its range, the gartersnake occurs at elevations from 130 to 8,497 ft (Rossman et al. 1996), and it is considered a “terrestrial-aquatic generalist” (Drummond and Marcías-García 1983). The gartersnake is a riparian obligate (restricted to riparian areas when not dispersing) and occurs chiefly in the following habitat types: 1) source-area wetlands (e.g., cienegas or stock tanks); 2) large-river riparian woodlands and forests; and 3) streamside gallery forests (Hendrickson and Minckley 1984, Rosen and Schwalbe 1988). Emmons and Nowak (2013), when surveying in the upper Verde River region, found this subspecies most commonly in protected backwaters, braided side channels and beaver ponds, isolated pools near the river mainstem, and edges of dense emergent vegetation that offered cover and foraging opportunities. In the northern-most part of its range, the gartersnake appears to be most active during July and August, followed by June and September.

The gartersnake is an active predator and is thought to heavily depend upon a native prey base (Rosen and Schwalbe 1988). These gartersnakes forage along vegetated streambanks, searching for prey in water and on land, using different strategies (Alfaro 2002). Generally, its diet consists of amphibians and fishes, such as adult and larval (tadpole) native leopard frogs

(*Lithobates* spp.), as well as juvenile and adult native fish (Rosen and Schwalbe 1988). In situations where native prey species are rare or absent, the snake's diet may include nonnative species, including larval and juvenile bullfrogs (*L. catesbeianus*), western mosquitofish (*Gambusia affinis*) (Holycross et al. 2006, Emmons and Nowak 2013), or other soft-rayed fishes.

Native predators of this gartersnake include birds of prey, other snakes, wading birds, mergansers (*Mergus* spp.), belted kingfishers (*Megaceryle alcyon*), raccoons (*Procyon lotor*), skunks (*Mephites, Spilogale, Conepatus* spp.), and coyotes (*Canis latrans*) (Rosen and Schwalbe 1988, Brennan et al. 2009). Historically, large, highly predatory native fish species such as Colorado pikeminnow (*Ptychocheilus lucius*) may have preyed upon gartersnake where they co-occurred. Native chubs (*Gila* spp.) may also prey on neonatal gartersnakes.

Sexual maturity in the subspecies occurs at two years of age in males and at two to three years of age in females (Rosen and Schwalbe 1988). Gartersnakes are viviparous (bringing forth living young rather than eggs). Mating has been documented in April and May followed by the live birth of between 7 and 38 newborns in July and August (Rosen and Schwalbe 1988, Nowak and Boyarski 2012).

Gartersnakes historically occurred in every county and nearly every subbasin within Arizona, from several perennial or intermittent creeks, streams, and rivers as well as lentic wetlands such as cienegas, ponds, or stock tanks (Brennan and Holycross 2006, Cotton et al. 2013). In New Mexico, the gartersnake had a limited distribution that consisted of scattered locations throughout the Upper Gila River watershed in Grant and western Hidalgo Counties (Price 1980, Fitzgerald 1986, Degenhardt et al. 1996, Holycross et al. 2006). Within Mexico, gartersnakes historically occurred within the Sierra Madre Occidental and the Mexican Plateau, comprising approximately 85 percent of the total rangewide distribution of the subspecies (Rossman et al. 1996).

The only viable gartersnake populations in the United States where the subspecies remains reliably detected are all in Arizona: 1) The Page Springs and Bubbling Ponds State Fish Hatcheries along Oak Creek; 2) lower Tonto Creek; 3) the upper Santa Cruz River in the San Rafael Valley; 4) the Bill Williams River; and, 5) the middle/upper Verde River. In New Mexico, the gartersnake may occur in extremely low population densities within its historical distribution; limited survey effort is inconclusive to determine extirpation. The status of the gartersnake on tribal lands, such as those owned by the White Mountain or San Carlos Apache Tribes, is poorly known. Less is known about the current distribution of the gartersnake in Mexico due to limited surveys and limited access to information on survey efforts and field data from Mexico.

We have concluded that in as many as 26 of 31 known localities in the United States the gartersnake population is likely not viable and may exist at population densities low enough to be threatened with extirpation, or they may already be extirpated. Only five populations of gartersnakes in the United States (16 percent of the 31 localities) are considered likely viable where the subspecies remains reliably detected. Harmful nonnative species are a concern in almost every gartersnake locality in the United States and are the most significant reason for their decline. Harmful nonnative species can contribute to starvation of gartersnakes through competitive mechanisms, and may reduce or eliminate recruitment of young gartersnakes through predation. Other threats include alteration of rivers and streams from dams, diversions,

flood-control projects, and groundwater pumping that change flow regimes, reduce or eliminate habitat, and favor harmful nonnative species. Climate change and drought may also be important threats (79 FR 38678).

Southwestern Willow Flycatcher

The flycatcher was listed as endangered without critical habitat on February 27, 1995 (60 FR 10694). Critical habitat was designated on July 22, 1995 (62 CFR 39129) and revised on January 2, 2013 (78 CFR 344). The original critical habitat designation included 1,556 stream mi in the desert Southwest. The revised rule reduced designated critical habitat to approximately 1227 stream mi. A recovery plan for the species was completed in 2002 (USFWS 2002), and a 5-year review was done in 2014 (USFWS 2014). The 5-year review determined that no change was needed to the species' classification as endangered.

The flycatcher is one of four currently recognized subspecies of the willow flycatcher, a neotropical migrant and spring/summer resident of North America (Unitt 1987, Browning 1993). This subspecies breeds in the southwestern U.S. and winters in Mexico, Central America, and possibly northern South America (Phillips 1948, Stiles and Skutch 1989, Peterson 1990, Ridgely and Tudor 1994, Howell and Webb 1995). In Arizona, the subspecies is increasing (from 145-to 459 breeding territories from 1996 to 2007; English et al. 2006, Durst et al. 2008). Currently, population stability of the subspecies in Arizona depends on two large populations at Roosevelt Lake and the confluence of the San Pedro and Gila Rivers. However, catastrophic events and losses of birds within these populations could alter the status of the subspecies quickly and significantly. Conversely, expansion into new habitats or discovery of other populations would improve the bird's known status.

The flycatcher is a riparian obligate species, breeding in mesic areas with standing water, or saturated soils. Flycatchers are typically found along rivers, lakesides, and other wetlands with dense riparian habitat consisting of multi-layered tree canopies of varying sizes and age classes. Occupied flycatcher territories are usually located near or over surface water or saturated soils in habitat patches at least 33 ft in diameter. In the Southwest, flycatchers arrive on territories in late April or early May, and nest building begins in mid-May. Flycatchers are insectivores, foraging in dense shrub and tree vegetation along rivers, streams, and other wetlands.

Flycatcher territories occur within two distinct habitat types in Arizona: 1) mixed riparian/tamarisk (*Tamarix* spp.) habitats below 4,000 ft in elevation; and 2) willow (*Salix* spp.) thickets in broad, flat drainages above 7,000 ft. Historical egg/nest collections and species' descriptions throughout its range describe flycatcher's widespread use of willow for nesting (Phillips 1948, Phillips et al. 1964, Hubbard 1987, Unitt 1987). The subspecies also nests in boxelder (*Acer negundo*), tamarisk (also called saltcedar), Russian olive (*Elaeagnus angustifolio*), and live oak (*Quercus agrifolia*).

Tamarisk is an important component of this flycatcher's nesting and foraging habitats. In 2001, 323 of the 404 known flycatcher nests in Arizona (80 percent, in 346 territories) were in tamarisk (Smith et al. 2002). Tamarisk had been thought to represent poorer flycatcher habitat; however, comparison of reproductive performance, prey populations, and physiological condition of flycatchers breeding in native and exotic vegetation showed no differences (Durst 2004, Owen and Sogge 2002, Sogge et al. 2005, Sogge et al. 2008, USFWS 2002).

Flycatcher habitat is dynamic and can change rapidly (Finch and Stoleson 2000). Tamarisk can develop from seed to suitability in 4-5 years. Heavy flooding can eliminate or reduce the quality of habitat in a day. Flycatcher use of habitat in different successional stages may also be dynamic. Over-mature or developing riparian vegetation not suitable for nest placement can be occupied and used for foraging and shelter by migrating, breeding, dispersing, or non-territorial flycatchers (McLeod et al. 2005, Cardinal and Paxton 2005).

The flycatcher is endangered primarily because land and water management actions associated with agriculture and urban development have reduced, degraded, and eliminated much of its riparian habitats. Other threats include human recreation along rivers and streams, livestock grazing, predation, brood parasitism by brown-headed cowbirds (*Molothrus ater),* invasion of the tamarisk-eating leaf beetle (*Diorhabda carinulata*), and wildfires that have become more frequent and destructive as a result of the proliferation of exotic vegetation and degraded watersheds. Nestling predation and brood parasitism are the most common forms of direct mortality. All existing threats are compounded by the risk of stochastic events because the subspecies' habitats are fragmented and because populations occur at low numbers.

Because tamarisk is prevalent throughout the flycatcher's range, and is used heavily by the subspecies (Durst et al. 2008), the introduced tamarisk-eating leaf beetle is a particularly serious threat. In 2009, 13 of 15 flycatcher nests at on the Virgin River in Utah failed following defoliation of tamarisk by this beetle (Paxton et al. 2010). As of 2012, the insect had been found in southern Nevada and Utah and northern Arizona and New Mexico. Tamarisk often flourishes in areas where native trees are unable to grow due to water diversions, flow regulation, and groundwater pumping. Loss of tamarisk without replacement by native trees will likely impact flycatchers wherever their range overlaps with the tamarisk leaf-eating beetle.

In pre-settlement times, fire was not a primary disturbance factor in southwestern riparian areas (USFWS 2002). Recently, however, fire size and frequency have increased because of an increase in dry, fine fuels in riverbeds and riparian systems. Drying of river beds due to human land-use practices, increases in human-caused ignitions, and the presence of tamarisk, a highly flammable plant, are largely responsible for these fuels. In June 1996, a fire destroyed approximately one-half mile of occupied tamarisk flycatcher nesting habitat on the San Pedro River in Pinal County, Arizona resulting in the loss of up to eight nesting pairs (Paxton et al. 1996).

Western Yellow-billed Cuckoo

The cuckoo was listed as threatened on October 3, 2014 (79 FR 59992). Critical habitat was proposed on August 15, 2014 (79 FR 48548). There is no recovery plan for the cuckoo.

The cuckoo is a neotropical migrant that breeds in North America and winters in South America. It was formerly widespread throughout the western U.S. and British Columbia (American Ornithologists Union 1998, Hughes 1999), but may now be extirpated or is rare in much of its former range. The largest remaining breeding areas in the U.S. are in southern and central California, Arizona, and New Mexico. Estimates of the breeding population in the U.S. range from 350-495 pairs. In Arizona, estimates range from 170-250 breeding pairs, the largest number of pairs within the DPS's range (79 FR 59992).

In the arid West, cuckoos breed in dense riparian woodlands comprised of cottonwood, willow, and mesquite (*Prosopis* spp.) (Laymon and Halterman 1989, Hughes 1999). In Arizona, the species occurs primarily in low-elevation drainages where stands of multi-storied native riparian woodlands occur (Corman and Wise-Gervais 2005). Cuckoo foraging habitats may encompass a broader range than those needed specifically for nest placement. Cuckoos forage primarily in cottonwoods (Hamilton and Hamilton 1965, Halterman 1991), but may also forage in mesquite stands (Johnson et al. 2008). Cuckoos may nest and forage in tamarisk but their habitats usually contain a native tree component (Gaines and Laymon 1984, Johnson et al. 2008). Areas of tamarisk monoculture are not suitable habitat. During migration, cuckoos may be found in a variety of vegetation types, including coastal scrub, secondary growth woodland, hedgerows, humid lowland forests, and forest edges from sea level to 8,125 ft (Hughes 1999). Nesting, foraging, and migration habitats can be relatively dense and contiguous, irregularly shaped, or narrow and linear. During migration cuckoos may be found in smaller riparian patches than those in which they typically nest and forage.

Cuckoo habitats are largely associated with perennial rivers and streams but streamflow frequency, magnitude, duration, and timing can vary widely among regulated and unregulated systems and between years (Poff et al. 1997, USFWS 2002). However, humid conditions created by surface and subsurface moisture appear to be an important habitat characteristic.

Subsurface hydrologic conditions are important in determining riparian vegetation patterns and in turn the distribution of cuckoo habitats. Goodings willow cannot survive if groundwater drops below 10 ft and Fremont cottonwood (*P. fremontii*) cannot survive if groundwater drops below 16 ft (Stromberg et al. 1996).

Cuckoos forage primarily by gleaning insects from vegetation but they also capture small vertebrates such as tree frogs (*Hyla* spp.) and lizards (Hughes 1999). They specialize on relatively large prey, including caterpillars (Lepidoptera spp.), katydids (Tettigoniidae spp.), cicadas (Cicadidae spp.), and grasshoppers (Caelifera spp.) (Laymon et al. 1997). Their breeding periods may be timed to coincide with outbreaks of insect species, including tent caterpillars and cicadas (Hughes 1999, Halterman 2009). Cuckoos reach their breeding ranges from mid-May to mid-June, later than most other neotropical migrants, and breeding may continue into September (Rosenberg et al. 1982, Hughes 1999).

The primary threat to the western yellow-billed cuckoo is loss or fragmentation of high-quality riparian habitat suitable for nesting (Corman and Wise-Gervais 2005). Actions such as dam building, groundwater pumping, stream channelization and stabilization, diversion of surface and ground water for agricultural and municipal purposes, livestock grazing, wildfire, drought, and establishment of nonnative vegetation have changed surface and subsurface stream flows and altered the quality, distribution, abundance, and longevity of riparian vegetation (USFWS 2002). Habitat loss and fragmentation and related isolation of cuckoo populations has increased the species' vulnerability to stochastic events (e.g., chance weather events, wildfires) and to long term effects of additional development, climate change, and other factors. Pesticide use and resulting prey scarcity (especially the loss of sphinx moth caterpillars in the West) also have played a role in the decline of cuckoos in the DPS (Erlich et al. 1992).

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

Description of the Action Area

The Parker-Davis System passes near or crosses three riparian systems: the Gila and Salt Rivers; Cienega Creek; and San Pedro River. Generally, these riparian communities have been altered from their original (pre-settlement) conditions and ultimately have been degraded by human actions, including and especially dam building, water diversions, groundwater pumping, agriculture, livestock grazing, and urban development. These actions have changed surface and subsurface stream flows and lowered the quality, distribution, abundance, and longevity of riparian vegetation. Invasions of nonnative plants and animals have also contributed to loss and reductions in quality of riparian habitats.

The Gila River and Salt River are highly regulated. Surface water from the Salt River passes through a series of four reservoirs, all located northeast of Phoenix. The last of these dams, Granite Reef Diversion Dam, diverts flows to the agricultural and municipal sectors of Phoenix and the greater area. Downstream from the Granite Reef Dam the Salt River is ephemeral and only flows in response to flooding or reservoir releases. The Salt River becomes perennial further downstream due to effluent discharges from the 23rd Avenue and 91st Avenue City of Phoenix wastewater treatment plants, near the confluence of the Gila River. Downstream of the Salt/Gila confluence, the Gila River flows year round due to effluent discharge at the wastewater treatment plants mentioned above, and from return flow from nearby agricultural areas.

Cienega Creek is one of the most intact riparian areas left in southern Arizona and is perennial in some reaches. It supports several natural preserves, Las Cienegas National Conservation Area, and Cienega Creek Natural Preserve (see Appendix A) and is one of the few remaining streams in Arizona that has not been invaded by non-native fish. It also supports healthy populations of native fish and amphibians. However, some reaches are dry because of groundwater pumping and other factors, including the reach where the Parker-Davis System crosses Cienega Creek.

The San Pedro River is the last undammed desert river in the American Southwest. However, flows are subject to depletion through groundwater pumping and other factors (Arizona Department of Water Resources [ADWR] 2010). Currently, groundwater pumping is in excess of recharge, and as a result the San Pedro River is ephemeral in many reaches. At the Parker-Davis System/San Pedro River crossing, ground water is likely too deep to support short- or long-term health of riparian woodlands.

Status of the Species Within the Action Area

<u>Pima Pineapple Cactus</u>

For the environmental baseline, we consider areas of the Parker-Davis System where cacti are known to occur: the Tucson-Apache section of the Parker-Davis System, extending from Tucson east to the Apache substation.

Western conducted cactus surveys along the Tucson-Apache Power Line in 2010, 2012, 2013, and 2014. These surveys preceded ongoing O&M activities. Cactus plants were found from the eastern boundary of the San Xavier Indian Reservation to approximately one mi west of Davidson Canyon; however, sections of the ROW containing cactus plants were not continuous. The San Xavier Reservation (Tohono O'odham Nation) is in the southwestern part of the Tucson metropolitan area. Davidson Canyon is a tributary of Cienega Creek (described below).

Northern Mexican Gartersnake

The Parker-Davis System crosses Cienega Creek approximately 16 mi west of Benson, Arizona, 1.5 mi south of I-10, in Pima County. The line also crosses the San Pedro River two mi east of Benson, one mi north of I-10, in Cochise County, Arizona. Surveys for the northern subspecies of this gartersnake were not done for the purposes of the proposed action; however, the subspecies historically was found along Cienega Creek and the San Pedro River and both watersheds are considered to be occupied by the gartersnake (78 FR 41550). However, neither of these crossings is within the five areas in Arizona, described under *Status of the Species,* where the gartersnake is still reliably found. Critical habitat for the species does occur along these watercourses within the action area (see Appendix A), but habitat at the crossings themselves does not include perennial flows. Individuals may occur intermittently in the proposed action area when dispersing to areas with perennial water or when prey is present as a result of recent rains.

Southwestern Willow Flycatcher

For the environmental baseline, we focus on one river crossing that we also considered above for the gartersnake, at the San Pedro River. Flycatcher surveys were not conducted for the proposed action, so we cannot say if nesting pairs are present at the crossing. However, as we discuss in greater detail in Appendix A, vegetation at the crossing consists of upland desertscrub, dense tamarisk, and scattered mesquite trees. Tamarisk is an important component of flycatcher habitat in the Southwest; thus, breeding pairs could be present at the crossing and habitat there could be used by dispersing, migrating, or foraging birds. The nearest known occupied habitat is in the Middle Gila/San Pedro Management Unit (a designated critical habitat unit; 62 CFR 39129) nine mi north (downstream) of the Parker-Davis crossing. A high of 195 flycatcher nesting territories was counted in the management unit in 2005 (Sogge and Durst 2008). However, except for the tamarisk stands, suitable habitat for the flycatcher is limited at the crossing. The area lacks permanent or semi-permanent water or saturated soils and water is likely only present in the area as a result of recent rains. There are no willow or cottonwood trees and none of the vegetation typical of riparian woodlands. Insect (prey) populations present at the crossing would be those associated with desert scrub and tamarisk habitats, with an unknown amount of overlap with insects typically found in riparian woodlands. We do not know if tamarisk stands at the crossing have been infected by the tamarisk leaf-eating beetle, but they are at risk.

Western Yellow-billed Cuckoo

The Parker-Davis System parallels the north side of the Gila River in Maricopa County, Arizona, 0.5 mi from the river itself. The power line also crosses Cienega Creek at the same location discussed above for the gartersnake, and it crosses the San Pedro River, at the same location as we discussed above for the gartersnake and flycatcher. All three areas include or are near proposed cuckoo critical habitats (see Appendix A).

Cuckoo surveys were not done for the purposes of the proposed action at any of the sites discussed above and no regular or standardized cuckoo counts (e.g., playback surveys) have occurred in these areas. Incidental cuckoo records on the Salt and Gila Rivers during the breeding period are available from two primary sources: the HDMS (http://www.azgfd.gov) and eBird (http://www.ebird.org), an online checklist program. The number of breeding pairs that occur in the Salt/Gila watershed is not known and the extent of use of the area during migration has not been documented. Cuckoos have been documented in multiple years in several locations. The detection nearest the Parker-Davis System occurred on July 14, 2012, on the north side of the river, in the Estrella Mountain Regional Park, two mi from the power line (eBird, accessed June 10, 2015). Vegetation along the ROW consists of creosotebush (*Larrea tridentata*), burage (*Ambrosia dumosa*), cactus, mesquite, and palo verde (*Parkinsonia* spp.).

On Cienega Creek, cuckoos occur at the Las Cienagas National Conservation Area, approximately seven mi south of the Parker-Davis crossing, and within the Cienega Creek Natural Preserve, which includes the crossing. Proposed critical habitat for the cuckoo is 0.7 mi north of the Parker-Davis crossing of Cienega Creek, and seven mi south, at the Las Cienegas National Conservation Area (see Appendix A). However, as we discussed above for the gartersnake, the crossing lacks permanent or semi-permanent water flows and riparian vegetation. Because cuckoos are more flexible in their habitat use during migration, and the area probably supports large insect prey, cuckoos could occur here during dispersal and migration.

On the San Pedro River, the Three Links conservation property, approximately 15 mi northwest of the Parker-Davis crossing, is the nearest site occupied by cuckoos. Cuckoo detections occurred here during flycatcher surveys, from 2004-2013, and during cuckoo breeding season playback surveys, in 2012 and 2013, but the number of breeding territories at the Three Links property is unknown (Tucson Audubon Society Chapter unpubl. data, U.S. Bureau of Reclamation unpubl. data). The greatest number of cuckoos in Arizona, up to 52 pairs, was counted within BLM's San Pedro Riparian National Conservation Area, beginning approximately 18 mi south of the San Pedro River crossing (Halterman 2009). As we discussed above for the flycatcher, vegetation at the San Pedro River crossing consists of upland desertscrub, dense tamarisk, and scattered mesquite, which are not suitable as cuckoo nesting habitat. Because cuckoos are more flexible in their habitat outside of the breeding period, and the area probably supports large insect prey, it is possible cuckoos would occur here during dispersal and migration.

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 will be added to the environmental baseline. Interrelated actions are those that

are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

O&M and IVM activities will occur along the Parker-Davis System on a scheduled basis (see *Description of the Proposed Action*, above). Emergency maintenance may occur at any time to ensure power transmission. O&M and emergency work may include repair of transmission lines or repair or replacement of damaged equipment. Effects to species habitats will be the same for O&M and emergency actions. Emergency actions may occur during breeding seasons, which may affect breeding, migrating or foraging individuals, and are addressed for each species. The IVM program will affect vegetation along the ROW and within proposed critical habitats (see Appendix A).

Although changes to vegetation and water availability may occur over the life of the O&M and IVM programs, we do not expect these changes to be substantial so the condition of the action area will not change substantially for the species addressed, e.g., breeding habitat for riparian species will not develop where there is no breeding habitat now. In general, factors considered above will continue to limit cactus recovery and recovery of riparian systems important to the gartersnake, flycatcher, and cuckoo.

Pima Pineapple Cactus

Cactus surveys prior to O&M and IVM actions, flagging and fencing of cactus plants inside the ROW, and monitoring by a qualified biologist during surface disturbing activities should eliminate most direct effects to cacti. Thus, effects of the proposed action should have no population-level effects. Emergency actions could result in direct loss of individual plants on rare occasions, but because of the limited amount of cactus habitat that overlaps the transmission system these losses would have no effect at the population level. Some Category B and C activities (Tables 1-3), such as road repairs and tower footing maintenance, could indirectly affect cactus habitat due to sediment runoff from surface disturbances. Ground-disturbing activities could also lead to increased establishment and spread of invasive plant species, which may compete with cacti for space and resources, and could modify fire regimes. Measures to minimize erosion and the spread of invasive plant species, as described in the PBA and EA, would minimize the potential for indirect effects to the cactus.

Northern Mexican Gartersnake

Because the Cienega Creek and San Pedro River crossings are usually dry, individuals would occur only intermittently in the action area, e.g., during dispersal and when water is present after rains. Thus, we are reasonably certain that the likelihood of individuals being directly affected by the proposed action (e.g., crushed by vehicles) is small, and the proposed action would have no effects at the population level. First, actions associated with O&M and IVM activities will occur only sporadically, i.e., every 3-5 years or when emergencies occur. Second, impacts would be temporary and cease with the completion of O&M and IVM activities. Third, no ground disturbing activities will occur during routine O&M and IVM activities at the crossings themselves, although disturbances could occur at nearby towers. Emergency activities could

result in some ground disturbance, but with the generally dry conditions at these crossings, it is unlikely there would be any direct effects to gartersnakes.

Southwestern Willow Flycatcher

No designated flycatcher critical habitat on the San Pedro River is present in the project area; thus, there would be no effect on flycatcher designated critical habitat. Flycatchers are known to breed in large numbers downstream of the Parker-Davis System crossing, and habitat at the crossing itself is only marginally suitable for nesting flycatchers. Thus, the temporary impacts from this project would not cause population effects. From May 15 to August 25 (the flycatcher breeding period), any noisy O&M or IVM ground activities that require equipment other than hand tools and pickup trucks will be prohibited, or a qualified biologist will conduct flycatcher surveys prior to project activities, using methods described in Sogge et al. (2010). If resident birds are detected, the FWS will be contacted for guidance.

Habitat at the Parker-Davis System crossing of the San Pedro River is suitable for foraging and migrating flycatchers. However, IVM activities within the ROW would be limited to the minimum required to maintain clearance between vegetation and the transmission lines, primarily by topping some trees. This would occur as needed, likely every 3-5 years. To avoid impacts to flycatchers, any vegetation management would occur outside of the breeding season with the exception of emergency situations. Emergency maintenance may occur during the breeding season, which could result in temporary displacement of migrating, nesting, or foraging birds. We anticipate that emergency activities would be of short duration, so this displacement should not affect adult survival, and individuals will likely resume normal behavior after emergency maintenance is complete. However, noise disturbance associated with emergency activities could result in loss of eggs or young and could cause nest abandonment if these activities occur near incubating or brooding adults.

Indirect effects to flycatchers as a result of the proposed action could include noise impacts during routine maintenance and vegetation management activities. Potential noise impacts could include changes in habitat use, especially if birds are forced into poorer habitats, and increased stress (e.g., Gordon and Uetz 2012; Herrera-Montes and Aide 2011).

Western Yellow-billed Cuckoo

No impacts from the proposed project on nesting cuckoos are anticipated because nesting habitat is not present in the ROW, and we do not anticipate that nesting habitat will develop within the ROW during the project's lifetime, unless fundamental changes in water use and availability occur at the Cienega Creek and San Pedro River crossings (on the Gila River, the Parker-Davis System crosses desertscrub habitat well away from the nearby riparian zone). Thus, the project will cause no population-level effects. As safeguards, O&M and IVM activities will not occur at any river or stream crossing considered above during the cuckoo breeding period, unless necessary. Also, a qualified biologist will conduct cuckoo surveys prior to any project-related activity, using currently accepted survey methods. If cuckoos are detected, FWS will be contacted for guidance. Migrating or dispersing birds may be impacted by noise during project-related activities; however, these effects would be short-term and birds could move to other suitable foraging habitats. IVM activities within the ROW would be limited to the minimum required to maintain clearance between vegetation and the transmission lines. Emergency

maintenance may displace migrating or dispersing birds, but as with noise-related impacts, the effects would be temporary. Displacement is unlikely to affect a migrant's or dispersing bird's survival, and individuals would likely resume normal behavior after the emergency maintenance is complete.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Habitat for all the species we have considered include areas of State, tribal, and private lands where livestock grazing could occur. Livestock grazing could lead to direct mortality of cacti and gartersnakes (by trampling of individuals), and could further degrade the watersheds and habitats of the riparian species we have considered (gartersnake, flycatcher, and cuckoo), due to trampling and the establishment and spread of invasive plants. However, direct effects of grazing in riparian areas on State lands would not occur because grazing is not permitted in the floodplains or within adjacent riparian woodlands. Other, unregulated, activities could include trespass livestock, inappropriate OHV use, other recreational activities, and cross-border activities from Mexico. These and other human activities may result in habitat loss or damage to areas where the cactus occurs or to the various river and stream crossings we have discussed.

CONCLUSION

The conclusions of this biological opinion are based on full implementation of the project as described in the *Description of the Proposed Action* section of this document, including the *Conservation Measures* that were incorporated into the project design.

Pima Pineapple Cactus

After reviewing the current status of the cactus, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the FWS's biological opinion that the proposed action is not likely to jeopardize the continued existence of the cactus. We base these conclusions on the following reasons:

- Although Individual plants may be affected or removed, relocation of plants should reduce loss of individuals. Cacti will continue to be present in the project vicinity and will contribute to the continued persistence of the population in the action area.

Northern Mexican Gartersnake

After reviewing the current status of the gartersnake, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the FWS's biological opinion that the proposed action is not likely to jeopardize the continued existence of the gartersnake. We base these conclusions on the following reasons:

- The likelihood of individuals being directly affected is small, considering the relatively small areas that will be affected by the project and the lack of permanent water and prey. We expect that habitat in the project area, which is used primarily for movements and dispersal, will continue to remain functional into the future.

Southwestern Willow Flycatcher

After reviewing the current status of the flycatcher, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the FWS's biological opinion that the proposed action is not likely to jeopardize the flycatcher's continued existence. We base this conclusion on the following reasons:

- Most nesting, foraging, and migrating individuals will not be affected because proposed actions will occur only outside of the breeding period. Although emergency maintenance may affect nesting, migrating, or foraging individuals, these activities will be of short duration and we do not expect that reproduction or survival will be affected.
- Habitat within riparian areas would only be affected by maintenance actions requiring removal of minimal amounts of vegetation to maintain line clearance. Habitat conditions will remain suitable for nesting, foraging, and migration.

Western Yellow-billed Cuckoo

After reviewing the current status of the cuckoo, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the FWS's biological opinion that the proposed action is not likely to jeopardize the continued existence of the cuckoo, and it is our conference opinion that the proposed action is not likely to destroy or adversely modify proposed cuckoo critical habitat. We base these conclusions on the following reasons:

- Breeding habitat does not occur within the ROW and is not expected to develop during the project's lifetime; therefore, there will be no effect to breeding activity.
- Most migrating and foraging individuals will not be affected because proposed actions will occur only outside of the breeding period. Although emergency maintenance may affect migrating or foraging individuals, these activities will be of short duration and we do not expect that survival will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm," is defined (50 CFR 17.3) and means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. "Harass" is defined (50 CFR 17.3) and means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral 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 ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

AMOUNT AND EXTENT OF TAKE

Pima Pineapple Cactus

Sections 7(b)(4) and 7(o)(2) of the ESA generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the ESA prohibits the removal and reduction to possession of federally-listed endangered plants from areas under Federal jurisdiction, or for any act that would remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any regulation of any State or in the course of any violation of a State criminal trespass law. Our review of the project does not indicate that any such prohibited activities will result from the proposed action.

Northern Mexican Gartersnake

We do not anticipate that implementation of the proposed action is reasonably certain to result in incidental take of any gartersnake because:

- Conservation measures will ensure that direct effects to gartersnakes are avoided by use of appropriate erosion control products and by minimizing vegetation control procedures and avoiding surface disturbances.
- Very little information exists on gartersnake occurrence in the action area; however, the lack of perennial flows at Cienega Creek and at the San Pedro River indicate that snakes would occur at these crossings only intermittently.
- We cannot predict whether, when, or where emergency actions may occur at the above crossings. Due to the generally dry conditions at these crossings, we are not reasonably certain that emergency responses could result in take of gartersnakes.

Southwestern Willow Flycatcher

We do not anticipate that implementation of the proposed action is reasonably certain to result in incidental take of any flycatcher because:

- Proposed actions will occur only outside of the breeding period and flycatcher surveys will precede any O&M and IVM activities.
- Emergency maintenance that may affect nesting, migrating, or foraging individuals cannot with reasonable certainty be expected to occur at the San Pedro River crossing when flycatchers are present.

Western Yellow-billed Cuckoo

We do not anticipate that implementation of the proposed action is reasonably certain to result in incidental take of any cuckoo because:

- There is no breeding habitat within the ROW.
- Emergency maintenance that may affect migrating or dispersing individuals cannot with reasonable certainty be expected to occur.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA 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.

Pima Pineapple Cactus

We recommend that Western coordinate with the Arizona-Sonoran Desert Museum in salvaging for their collection any individual cactus that cannot be relocated for any reason.

Northern Mexican Gartersnake

We recommend that Western work with us and AGFD to participate in recovery planning and implementation of conservation actions for the gartersnake, particularly on efforts to remove harmful nonnative species from occupied gartersnake habitats.

Southwestern Willow Flycatcher

We recommend that Western work with us and AGFD to implement recovery actions for the flycatcher.

Western Yellow-billed Cuckoo

We recommend that Western work with us and AGFD to participate in recovery planning and implementation of conservation actions for the cuckoo.

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

REINITIATION NOTICE

This concludes formal consultation on the actions outlined in the request, and no further section 7 consultation is required for this project at this time. As provided in 50 CFR '402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please note that we are currently reviewing that status of the candidate species that may occur in the action area (roundtail chub, Sonoran desert tortoise, and Sprague's pipit) to determine if they should be added to the Federal Lists of Endangered and Threatened Wildlife and Plants. We are available to provide technical assistance for any of these species, if necessary, to ensure they are not negatively impacted by O&M or IVM treatments or activities.

Certain project activities may also affect species that are 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 (BGEPA). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by FWS. BGEPA prohibits anyone, without a permit issued by the FWS, from taking (including disturbing) eagles, and including their parts, nests, or eggs. If you believe migratory birds will be affected by the project, we recommend you contact our Migratory Bird Permit Office, P.O. Box 709, Albuquerque, NM 87103, (505) 248-7882, or permitsR2mb@fws.gov. For more information regarding the MBTA, please visit the following websites: http://www.fws.gov/migratorybirds and http://www.fws.gov/migratorybirds/mbpermits.html.

For information on protections for bald eagles under the BGEPA, please refer to the FWS's National Bald Eagle Management Guidelines (72 FR 31156) and regulatory definition of the term "disturb" (72 FR 31132) that were published in the Federal Register on June 5, 2007. Existing take authorizations for bald eagles issued under the ESA became covered under the BGEPA via a final rule published in the Federal Register on May 20, 2008 (73 FR 29075). Our office is also available to provide technical assistance to help you with compliance.

The FWS appreciates Western's efforts to identify and minimize effects to listed species from this project. We encourage you to coordinate the review of this project with AGFD. We also appreciate your ongoing coordination during implementation of this program. In keeping with our trust responsibilities to American Indian Tribes, we are providing copies of this memorandum to the Bureau of Indian Affairs (BIA) and are notifying affected Tribes.

For further information please contact Robert Lehman (602) 242-0210 (x217) or Brenda Smith at (928) 556-2157. In all future correspondence on this project, please refer to consultation numbers 02EAAZ00-2014-TA-0138 and 02EAAZ00-2014-CPA-0020.

Sincerely,

/s/ Steven L. Spangle
Field Supervisor

cc (electronic)

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Table 1. Category A – Inspection and Minor Maintenance Activities

Substation and Facilities Maintenance	
▪ Building maintenance including interior and exterior painting; and roof, ceiling, floor, window, and door maintenance ▪ Substation inspections ▪ Maintenance and replacement of transformers and breakers ▪ Servicing and testing of equipment at existing substations, including oil change-outs ▪ Installation or replacement of brushings ▪ Cleaning or replacement of capacitor banks ▪ Maintenance or installation of switches (manual and motor-operated), interrupters, voltage regulators, reactors, reclosers, and valves ▪ Replacement of wiring in substations and switch yards ▪ Replacement of existing substation equipment including regulators, capacitors, switches, wave traps, radiators, instrument transformers, and lightning arresters	▪ Installation of cut-out fuses ▪ Adjustments and cleaning disconnect switches ▪ Placement of temporary transformer ▪ Maintenance, installation, and removal of solar power array and controller ▪ Installation of foundation for storage buildings above ground mat within existing substation yard ▪ Maintenance or installation of propane tanks within a substation yard ▪ New footings ▪ Ground mat repairs ▪ Clearing vegetation by hand within the property boundary of a substation ▪ Application of approved herbicides (including pesticides) within the property boundary of a substation ▪ Main station battery bank maintenance and installation ▪ Remediation of small spill of oil (less than 1 gallon)
Transmission Line Maintenance	
▪ Ground and aerial patrols ▪ Climbing inspection and tightening hardware on wood and steel transmission line structures ▪ Ground wire maintenance ▪ Aircraft warning device maintenance (e.g., light beacons, aerial marker balls, etc.) ▪ Insulator maintenance ▪ Bird guard maintenance ▪ Cross arm maintenance on wood pole transmission line structures ▪ Emergency hand removal and/or pruning of danger trees or vegetation ▪ Maintenance or replacement of steel members of steel transmission line structures	▪ Maintenance or replacement of hardware on wood and steel transmission line structures ▪ X brace and knee brace maintenance ▪ Wood pole testing ▪ Ground rod maintenance ▪ Armor rod maintenance and clipping-in structures ▪ Conductor maintenance ▪ Wood preservative maintenance on wooden pole structures ▪ Emergency placement of rocks at bases of poles or structures to stabilize small eroded areas ▪ Antenna maintenance ▪ Structure mile-marker maintenance ▪ Remediation of small spill of oil (less than 1 gallon)
Protection and Communication System Maintenance	
▪ Generator maintenance ▪ Maintenance and inspection of microwave radio towers and dishes ▪ Maintenance and inspection of communication towers, antennae, and appurtenant equipment ▪ Panel additions and removals, wiring changes, and controls modifications	▪ Maintenance and inspection of parabolic dishes ▪ Light beacon maintenance ▪ Refilling of propane tanks, and maintenance of associated gauges and switches ▪ Above-ground foundation and footings maintenance ▪ Application of herbicides (including pesticides) within the property boundary of a communications site

Table 2. Category B – Routine Maintenance Activities

• **Transmission Line Maintenance**	
▪ Maintenance and repair of existing culverts	▪ Installation of minor rip-rap on washes, creeks, and rivers
▪ Installation of new culverts (for areas outside of jurisdictional waters)	▪ Place fill or rock(s) around existing culverts
▪ Installation of new foundation for storage building at existing facilities	▪ Place fill or rock(s) around existing towers or structures
▪ Cross arms replacements on wood pole structures	▪ Vehicle and equipment staging
▪ Remove soil deposition around tower legs	▪ Installation and repair of fences and gates
▪ Ground anchors maintenance	▪ Installation of underground and overhead power, communication, or ground electrical line (less than 100 ft)
▪ Wood pole maintenance and replacement	▪ Hand removal and/or pruning of danger trees or vegetation
▪ Fill in erosional features on access roads	▪ Mechanical vegetation management by means of bulldozers, masticators, or other mechanical equipment
▪ Remediation of small spill of oil and hazardous materials (up to 10 gallons)	▪ Spacer/damper replacement and maintenance
▪ Grading existing access roads (within existing road footprint)	
• **Substations, Facilities, Protection, and Communication System Maintenance**	
▪ Foundations or footings maintenance	▪ Maintenance and repair of existing culverts
▪ Installation of underground and overhead water, power, communication, or ground electrical line (less than 100 ft)	▪ Remediation of small spill of oil and hazardous materials (up to 10 gallons)
▪ Installation or replacement of antennas to existing structures	▪ Access road repair (within existing footprint)
	▪ Installation and repair of fences and gates

Table 3. Category C – Minor Additions or Modifications to Existing Infrastructure

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▪ Adding access roads to structures (approximately 300 ft or less in length) ▪ Relocation of existing access roads within the ROW ▪ Installation of new culverts (for areas within jurisdictional waters) ▪ Erosion control projects at existing facilities ▪ Replacing existing conductor ▪ Installation of rip-rap to recontour washes, creeks, or rivers	▪ Tower/pole relocation/realignment/replacement ▪ Installation of inset structures and shoo-flys ▪ Installation of underground and overhead water, power, or communication line (greater than 100 ft) ▪ Remediation of small spill of oil and hazardous materials (greater than 10 gallons) ▪ Application of approved herbicides

Figure 1-Proposed Action Location

APPENDIX A: CONCURRENCES/CONFERENCE REPORTS

This appendix contains our concurrences with your "may affect, not likely to adversely affect" determinations for the endangered California condor outside of the nonessential experimental population (10(j)) area, and the endangered lesser long-nosed bat. We are providing a conference report for the 10(j) population of the California condor. Additionally, we provide our conference report and concurrence that the proposed action will not likely adversely modify critical habitat for the northern Mexican gartersnake and the western yellow-billed cuckoo.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is described above in the Biological Opinion (BO) and is incorporated herein by reference. In summary, the proposed action is to continue Western's Operations and Management (O&M) program and to institute an Integrated Vegetation Management (IVM) program for the existing Parker-Davis Transmission System in Arizona. O&M activities are preventative and involve inspections and repair of Parker-Davis infrastructure and maintenance of access roads. The IVM program is needed to eliminate the threat of vegetation interference with operation of the transmission system.

California Condor (inside and outside the nonessential experimental area)

Condors in Arizona, specifically within the Grand Canyon complex along the Colorado River corridor and Kaibab Plateau, are part of the 10(j) nonessential experimental population, and as such are treated as though they are proposed for listing for section 7 consultation purposes. No proposed action impacting a population so designated could lead to a jeopardy determination for the entire species. However, when condors extend beyond the experimental population boundaries, they are fully protected as endangered.

No known condor records exist within the action area and suitable canyon and gorge habitat for condors is limited to northern portions of the action area. These areas lie outside the 10(j) nonessential experimental population area. The nearest reported condor sightings are from north of Sedona, in Yavapai and Coconino Counties, Arizona (C. Parish, The Peregrine Fund, pers. comm.), also outside the nonessential experimental population area and the action area.

Conservation Measures

Program Conservation Measures (PCMs), as outlined in Western's PBA (section 10, page 76) will be implemented to reduce, mitigate, or prevent direct and indirect project effects to condors, as follows:

- If condors occur at a project site, Western will cease all activity until condors leave on their own. There will be no hazing or "shooing" of birds.

- Western and contract personnel will clean project sites at the end of each day to avoid attracting condors.

- Western will not conduct project activities within 1 mi of a nest site between February 1 and June 30. No activities will be conducted within 0.5 mi of communal roosts while

occupied by condors. Avoidance periods will be adjusted at the discretion of FWS or Western's Environmental Affairs Division.

- Western will require awareness training for all crews and contractors working within potential condor habitats.

DETERMINATION

We concur with your determination that the proposed action will not likely adversely affect the California condor outside of the 10(j) population area, and agree that the proposed action will not jeopardize the continued existence of the condor within the 10(j) area for the following reasons:

- Although condors have not been observed in the action area, there is the possibility of a rare interaction between condors and O&M and IVM ground crews conducting hazard vegetation removal, routine vegetation maintenance, vegetation disposal, inspections of vegetation and line facilities, maintenance and repair of line facilities, vehicle travel associated with all of these activities, and maintenance of access routes. We think these instances will be rare. As a result, any disturbance to condors associated with on-the-ground O&M or IVM activities (i.e., flushing a condor from a perch or carcass) is anticipated to be insignificant and discountable.

- Aerial monitoring (helicopter and fixed-wing reconnaissance and patrol flights) will also occur throughout the action area each year; thus, it is not unreasonable to anticipate that aircraft may briefly disrupt condors (i.e. startle or flush them). Again, however, these incidents will be rare and overall the effects of these disturbances to condors are anticipated to be insignificant and discountable.

- No nesting areas for condors occur outside of the non-essential experimental boundary, and all nests in Arizona have occurred on cliffs. As a result, no nesting areas or nesting habitat would be impacted by the proposed action.

Lesser Long-nosed Bat

Nine major lesser long-nosed bat roosts and several hundred smaller roosts occur in Arizona. However, no known roosts occur in the action area. The nearest known roosts are at the Bluebird and Copper Mines in western Pima County, and Old Mammon mine in southwestern Pinal County, >15 mi from the Parker-Davis line.

Portions of the action area in western and central Maricopa County—about 60 mi of the Parker-Davis line—pass through the current range of the species and within suitable habitat (Sonoran Desert scrub). Caves and abandoned mines potentially suitable as roost sites are likely present in the project vicinity, but none occur within the action area. Saguaros *(Carnegiea gigantea)* are rare to locally common in the action area. Agaves occur rarely in the action area where it overlaps the bat's range.

Conservation Measures

Program Conservation Measures (PCMs), as outlined in Western's PBA (section 10, page 77) will be implemented to reduce, mitigate, or prevent direct and indirect project effects to bats, as follows:

- Columnar cacti and agave will be avoided to the extent practicable. If avoidance is not possible, agave and small (<10-ft) cacti may be relocated within the ROW outside of disturbance areas.

DETERMINATION

We concur with your determination that the proposed action will not likely adversely affect the lesser-long-nosed bat for the following reasons:

- Because there are no known roosts in the action area, there will be no known effects on roosting bats. Project activities would occur more than 15 mi from the nearest known roosts. Although bats may forage in the southeastern extent of the action area, project activities will be restricted to daytime hours and would not affect foraging individuals.

- PCMs will provide for the avoidance of forage species wherever practicable; therefore, effects to forage plants will be negligible relative to the remaining suitable forage species in the project area.

Northern Mexican Gartersnake

Proposed Critical Habitat

Critical habitat for the gartersnake has been proposed in 14 units in portions of Arizona and New Mexico totaling 421,423 ac. Within these areas, the primary constituent elements (PCEs) of the physical and biological features essential to gartersnake conservation are:

1. Aquatic or riparian habitat that includes:
   a. Perennial or spatially intermittent streams of low to moderate gradient that possess appropriate amounts of in-channel pools, off-channel pools, or backwater habitat, and that possess a natural, unregulated flow regime that allows for periodic flooding or, if flows are modified or regulated, a flow regime that allows for adequate river functions, such as flows capable of processing sediment loads; or
   b. Lentic wetlands such as livestock tanks, springs, and cienegas; and
   c. Shoreline habitat with adequate organic and inorganic structural complexity to allow for thermoregulation, gestation, shelter, protection from predators, and foraging opportunities (e.g., boulders, rocks, organic debris such as downed trees or logs, debris jams, small mammal burrows, or leaf litter); and
   d. Aquatic habitat with characteristics that support a native amphibian prey base, such as salinities less than 5 parts per thousand, pH greater than or equal to 5.6, and pollutants

absent or minimally present at levels that do not affect survival of any age class of the gartersnake or the maintenance of prey populations.

2. Adequate terrestrial space (600 ft lateral extent to either side of bankfull stage) adjacent to designated stream systems with sufficient structural characteristics to support life-history functions such as gestation, immigration, emigration, and brumation.
3. A prey base consisting of viable populations of native amphibian and native fish species.
4. An absence of nonnative fish species of the families Centrarchidae and Ictaluridae, bullfrogs, and/or crayfish (*O. virilis*, *P. clarki*, etc.), or occurrence of these nonnative species at low enough levels such that recruitment of northern Mexican gartersnakes and maintenance of viable native fish or soft-rayed, nonnative fish populations (prey) is still occurring.

Status of and Factors Affecting Proposed Critical Habitat in the Action Area

Here we focus on two units proposed as gartersnake critical habitat within the action area. The Parker-Davis System crosses Cienega Creek approximately 16 mi west of Benson, Arizona, 1.5 mi south of I-10, in Pima County. The line also crosses the San Pedro River two mi east of Benson, one mi north of I-10, in Cochise County, Arizona. At the two units combined, the Parker-Davis System crosses 0.5 mi of proposed gartersnake critical habitat. The units at these sites include the Cienega Creek Subbasin Unit and San Pedro River Subbasin Unit (78 FR 41550).

Cienega Creek Subbasin Unit

The Cienega Creek Subbasin Unit consists of springs, seeps, streams, stock tanks, and terrestrial space within 50,393 ac of proposed critical habitat in the Las Cienegas National Conservation Area, the Cienega Creek Natural Preserve (NP), and a 7.1 mi segment of Cienega Creek between the Las Cienegas National Conservation Area and NP.

The Parker-Davis System crosses the Cienega Creek Subbasin Unit inside the 7.1-mi segment. This area consists of 1,113 ac of proposed critical habitat. The Cienega Creek Subbasin Unit occurs on lands managed by the Arizona State Land Department and a small amount of private land. Native fish and both Chiricahua (*L. chiricahuensis*) and lowland (*L. yavapaiensis*) leopard frog populations provide prey for the gartersnake, and ongoing bullfrog eradication in the area has reduced the threat of bullfrogs within this subunit (78 FR 41550).

Our examination of aerial photographs at the Cienega Creek crossing (Google Earth, accessed June 25, 2015) indicates that the crossing itself is a dry creek bed. Water is present here probably only in response to recent rains. Google Earth images of the proposed crossing, reported in another BO, the Proposed Southline Transmission Line BO (02EAAZ00-2014-F-0140), show that water was not present on any of the following dates: November 14, 1992; May 31, 1996; September 20, 2003; May 30, 2005; June 15, 2006; June 20, 2007; September 9, 2010; and June 11, 2011. These dates were inclusive of all dates reported (i.e., on no occasion was water present at the Cienega Creek crossing).

Our examination of Google Earth imagery on June 25, 2015, also indicates that there is little to no riparian vegetation at the crossing. Vegetation here appears to be mostly Arizona Upland

Sonoran Desertscrub habitat, possibly with one or two stringers of tamarisk. Thus, the Cienega Creek crossing itself appears to have few of the PCEs of gartersnake critical habitat: there are no perennial flows; no aquatic or riparian habitat; and probably no permanent, viable prey populations, native or nonnative. However, gartersnakes may move through the crossing when they are foraging or dispersing between more suitable habitat areas, in spite of the lack of perennial flows. When intermittent flows occur, the chances of gartersnake prey being present and the chances of gartersnake use will increase.

San Pedro River Subbasin Unit

The San Pedro River Subbasin Unit consists of 23,690 ac along 165 mi of proposed critical habitat along the San Pedro River and Bear Creek. Here, we focus on the portion of the subbasin unit that contains the Parker-Davis System crossing of the San Pedro River (the San Pedro River Subunit).

The San Pedro River Subunit includes 22,669 ac of critical habitat along 158.4 mi of the river, from its confluence with the Gila River at Winkelman, upstream (south) to the International Border, in Cochise, Pima, and Pinal Counties, Arizona. The subunit occurs predominately on private lands, with remaining lands managed by the U.S. Bureau of Land Management. Native fish and lowland leopard frogs occur throughout the San Pedro River and provide a prey base for gartersnakes, with prey population densities increasing in the downstream direction (north). Crayfish, bullfrogs, and nonnative, spiny-rayed fish occur predominately upstream (south) of the I-10 crossing (the Parker-Davis System crosses the San Pedro River one mi north of I-10).

Our examination of aerial photographs at the crossing (Google Earth, accessed June 25, 2015) indicates that the Parker-Davis System crosses a dry creek bed. Water is present here probably only in response to recent rains. Google Earth images of the proposed crossing reported in the BO mentioned above (02EAAZ00-2014-F-0140) indicate that water was not present on any of the following dates: November 14, 1992; May 31, 1996; October 5, 2002; September 20, 2003; December 22, 2005; June 20, 2007; May 23, 2009; September 9, 2010; April 29, 2011; and June 11, 2011. Water was present in the channel on October 1, 2006.

Our examination of Google Earth imagery on June 25, 2015 also indicates that there is little to no riparian vegetation at the San Pedro River crossing. Vegetation consists of a stringer of dense tamarisk on the east bank. Upland vegetation on the east bank, beyond the stringer, and on the west bank, is typical of Arizona Upland Sonoran Desertscrub habitat. Scattered velvet mesquite (*P. velutina*) is present on the west bank and upstream and downstream of the crossing on both banks. Dense stands of tamarisk occur upstream and downstream of the crossing on both banks as well. Thus, the San Pedro River crossing appears to have few of the PCEs of gartersnake critical habitat: there are no perennial flows; no aquatic or riparian habitat; and probably no permanent, viable prey populations, native or nonnative. However, gartersnakes may move through the crossing when they are foraging or dispersing between more suitable habitat areas, in spite of the lack of perennial flows. When intermittent flows occur, the chances of gartersnake prey being present and the chances of gartersnake use will increase.

Conservation Measures

PCMs, as outlined in Western's PBA (section 10, pages 77-78) will be implemented to reduce, mitigate, or prevent direct and indirect project effects to gartersnake critical habitat, as follows:

- Suitable habitat will be flagged or mapped for avoidance by a qualified biologist.
- Only manual vegetation removal will be allowed within the flagged or mapped areas.
- Vegetation management will be confined to the minimum area necessary to facilitate O&M and IVM activities.
- Movement of heavy equipment will be confined to existing roadways to minimize habitat disturbance.

DETERMINATION

We concur with your determination that the proposed action will not likely adversely affect proposed northern Mexican gartersnake critical habitat for the following reasons:

- The Cienega Creek and San Pedro River crossings are usually dry and appear to have few of the PCEs of proposed gartersnake critical habitat.

- Vegetation management would involve topping of trees that may contact the power line and would have little to no effect on the gartersnake.

- No ground disturbing activities will occur during routine O&M and IVM activities at the crossings. Effects of emergency activities would be rare and discountable.

Western Yellow-billed Cuckoo

Proposed Critical Habitat

Critical habitat for the cuckoo has been proposed in 80 units in California, Arizona, New Mexico, Colorado, Utah, Idaho, Nevada, Wyoming, and Texas totaling 546,335 ac (79 FR 48548). Within these areas, the PCEs of the physical and biological features essential to cuckoo conservation are:

1. *Riparian woodlands*. Riparian woodlands with mixed willow-cottonwood vegetation, mesquite-thorn forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 ft (100 m) in width and 200 ac (81 ha) or more in extent. These habitat patches contain one or more nesting groves, which are generally willow-dominated, have above average canopy closure (>70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats.

2. *Adequate prey base*. Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies) and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.

3. *Dynamic riverine processes*. River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams). This allows habitat to regenerate at regular intervals, leading to riparian vegetation with variously aged patches from young to old.

Status of and Factors Affecting Proposed Critical Habitat in the Action Area

Here we focus on four units proposed as cuckoo critical habitat within the action area. The Parker-Davis System parallels the north side of the Gila River in Maricopa County, Arizona, intersecting proposed critical habitat near Goodyear, near the confluence of the Salt River. The line also crosses Cienega Creek, at the same location discussed above for the gartersnake, north and south of proposed cuckoo critical habitat units (79 FR 48548). Finally, the line crosses proposed critical habitat at the San Pedro River, at the same location as we discussed above for the gartersnake.

Gila/Salt River Unit

The proposed critical habitat unit on the Gila and Salt Rivers is a 26-mi-long, 17,585-ac continuous segment extending from Arlington, on the Gila River, east (upstream) to the confluence of the Salt River, then continuing upstream on the Salt River for 4 mi towards the southern boundary of Phoenix. About 1.25 mi of the Parker-Davis System passes through this proposed critical habitat unit. The critical habitat unit is mostly privately-owned, but portions are also owned or managed by the Arizona State Lands Department, U.S. Bureau of Land Management, and Salt River Pima-Maricopa Indian Community.

The ROW is 0.5 m north of the Gila River and crosses through an area that is characteristic of Arizona Upland Sonoran Desertscrub habitat. Vegetation along the ROW includes creosotebush (*Larrea tridentata*), burage (*Ambrosia dumosa*), cactus, mesquite, and palo verde (*Parkinsonia* spp.). Riparian habitats nearby (at the river) are composed of scattered, mixed stands of cottonwood-willow and mesquite, but much of the vegetation here consists of dense stands of tamarisk. Thus, the Parker-Davis System crosses an area that lacks any of the PCEs of proposed cuckoo critical habitat, and PCEs are ≥0.5 mi away.

Cienega Creek

The Upper Cienega Creek Proposed Critical Habitat Unit is a 5,204-acre area approximately seven mi south of the Parker-Davis crossing of Cienega Creek and encompasses the Las Cienegas National Conservation Area, managed by the U.S. Bureau of Land Management. The Lower Cienega Creek Proposed Critical Habitat Unit is 2,360 ac in extent and is 0.7 mi north of the crossing. This lower unit is within the Cienega Creek Natural Preserve, managed by Pima County. As we discussed above for the gartersnake, the Parker-Davis crossing itself lacks permanent or semi-permanent water flows and riparian vegetation; thus, the crossing lacks two of three PCEs of proposed cuckoo critical habitat. However, because cuckoos are more flexible in their habitat use during migration, and the area probably supports large insect prey, cuckoos could occur here during dispersal and migration.

San Pedro River

The Upper San Pedro River Proposed Critical Habitat Unit is an approximately 83-mi-long, 21,786-ac segment of the San Pedro River extending from the border with Mexico north (downstream) to Saint David, in Cochise County, Arizona. Lands in the critical habitat unit are privately owned or managed by the Arizona State Lands Department and U.S. Bureau of Land Management.

As we discussed above for the gartersnake, vegetation at the San Pedro River crossing consists of upland desertscrub, dense tamarisk, and scattered mesquite trees. Thus, vegetation in this area lacks the multiple layers of canopy and subcanopy and well developed understory that constitute the riparian woodland PCE of proposed critical habitat that is preferred by cuckoos for breeding. Also lacking are the dynamic riverine processes and native tree species (willow, cottonwoods) that are important components to breeding habitat. Because cuckoos are more flexible in their habitat use during migration, and the area probably supports large insect prey, it is possible cuckoos would occur here during dispersal and migration.

Conservation Measures

Conservation measures involving effects to habitat are not outlined in the PBA.

DETERMINATION

We concur with your determination that the proposed action will not likely adversely affect proposed western yellow-billed cuckoo critical habitat for the following reasons:

- The Parker-Davis intersection of the Salt/Gila River critical habitat unit is desert scrub and has none of the PCEs of proposed cuckoo critical habitat.

- The Cienega Creek and San Pedro River crossings are usually dry and appear to have few of the PCEs of proposed cuckoo critical habitat.

- The PCE of dynamic riverine processes do not occur within the ROW, and are not expected to develop during the project's lifetime.