



United States Department of the Interior

Fish and Wildlife Service
Arizona Ecological Services Office
9828 North 31st Avenue, Suite C3
Phoenix, Arizona 85051



Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:

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August 21, 2019

Memorandum

To: Field Office Manager, Safford Field Office, Bureau of Land Management,
Safford, Arizona

From: Field Supervisor, Arizona Ecological Services Field Office, U.S. Fish and
Wildlife Service, Phoenix, Arizona

Subject: Biological and Conference Opinion for the Proposed Brown Canal Diversion
Structure Improvement Project on the Gila River, Graham County, Arizona

Thank you for your request for formal consultation and conference with the U.S. Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1531-1544), as amended (Act). Your March 11, 2019, memorandum was received by us on March 14, 2019. At issue are effects that may result from the proposed Brown Canal Diversion Structure Improvement Project on the Gila River, Graham County, Arizona (proposed action). The proposed action may affect, and is likely to adversely affect the endangered Southwestern willow flycatcher (*Empidonax traillii extimus*; flycatcher) and its critical habitat, the threatened western yellow-billed cuckoo (*Coccyzus americanus*; cuckoo) and its proposed critical habitat, and critical habitat for the razorback sucker (*Xyrauchen texanus*). The proposed action may affect, but is not likely to adversely affect the Gila chub (*Gila intermedia*), loach minnow (*Tiaroga cobitis*), spikedace (*Meda fulgida*), desert pupfish (*Cyprinodon macularius*), and Gila topminnow (*Poeciliopsis occidentalis*). We concur with your determinations for the Gila chub, loach minnow, spikedace, desert pupfish, and Gila topminnow and have provided our rationale in Appendix A.

This Biological and Conference Opinion (BO) is based on: (1) the contents of your February 27, 2019, *Biological Assessment for the Proposed Brown Canal Diversion Structure Improvement Project on the Gila River, Graham County, Arizona* (BA); (2) our November 7, 2016, Formal Consultation and Conference Report on Twenty-five Fuel Break Treatment Sites on the Gila District within Graham, Pima, and Cochise Counties, Arizona (File Number 02EAAZ00-2015-F-0431) (Fuel Break BO); (3) our February 6, 2015, and September 19, 2016, BO and reinitiated BO on the Gila Watershed Partnership's Upper Gila River Vegetation Management Project (File Numbers 02EAAZZ00-2015-F-0151 and 02EAAZZ00-2015-F-0151-R1, respectively); and (4) other published and unpublished sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the threatened and endangered species at issue, the effects of the action on those species and their critical habitats,

or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

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

The Service and the National Marine Fisheries Service (NMFS) published a Final Rule on February 11, 2016 (81 FR 7214), revising the definition for destruction or adverse modification of critical habitat in the Act’s implementing regulations at 50 CFR 402.02. Specifically, we finalized the following regulatory definition: “Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.” This revised definition will be applied to the applicable critical habitat analyses in this consultation.

Furthermore, Service and NMFS published a Final Rule on May 11, 2015 (80 FR 26832- 26845), amending the incidental take statement provisions of the implementing regulations for section 7 of the Act (50 CFR 402.02 and 402.14) to: (1) to refine the basis for development of incidental take statements for programmatic actions; and (2) address the use of surrogates to express the amount or extent of anticipated incidental take. The subject action is site-specific, not programmatic; therefore, the former amendment is not applicable. The latter amendment pertaining to surrogate measures of take, however, is directly relevant to this consultation.

Lastly, in reaching our findings that there is a reasonable certainty that southwestern willow flycatcher and western yellow-billed cuckoo will be incidentally taken, we considered the following:

- Section 9 of the Act and our implementing regulations in the Code of Federal Regulations (CFR) at 50 CFR part 17 prohibit the “take” of fish or wildlife species listed as endangered or threatened.

- Take of listed fish or wildlife is defined under the Act as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”.
- The term “harass” is defined in the regulations as “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” (50 CFR 17.3).
- The term “harm” is defined in the regulations as “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, and sheltering” (50 CFR 17.3).
- “Incidental take” refers to takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant” (50 CFR 402.02).

Consultation History

October 26, 2018: Your staff transmitted a Draft BA to us for review.

March 12, 2019: My staff informed your staff that we would not be able to provide a review of the Draft BA. Your staff then transmitted the Final BA to us via electronic mail. A hard copy of the BA arrived by mail on June 25, 2019.

August 7, 2019: Our respective staffs discussed clarifications to the effects analysis in the BA via electronic mail.

August 16, 2019: We transmitted a draft BO to you via electronic mail for review.

August 20, 2019: We received your comments on our August 16, 2019, draft BO via electronic mail and engaged in additional coordination on the contents of the Incidental Take Statements for the southwestern willow flycatcher and yellow-billed cuckoo.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed action is the Bureau of Land Management’s (BLM) grant of an approximately 6.6-hectare (ha) (16.3-acre) (ac) Public Land right-of-way (ROW) to the Gila Valley Irrigation District (GVID) to conduct the following activities (see BA pages 1-7):

- Diversion structure reconstruction;
- Temporary cofferdam installation, water diversion, and construction dewatering;
- Temporary staging and work areas and secondary access road construction; and
- Diversion structure maintenance.

All activities associated with the proposed diversion structure reconstruction will take place along the Gila River within the requested right-of-way (see BA Figure 2). Sanchez Road, an existing unpaved road that extends south from the project site across private land to Bonita Creek Road, will provide access to the project area. No additional coordination with the private landowner is required because legal access has been secured by GVID. The portion of the existing access road within the requested diversion structure ROW that connects to Sanchez Road will require no additional ground-disturbing work. The estimated amount of permanent ground disturbance associated with the diversion structure repairs is approximately 0.51 ha (1.27 ac), and the estimated construction duration for the project is eight and a half months.

Diversion Structure Reconstruction

The repairs and modifications necessary to reconstruct the Brown Canal diversion structure include constructing two new sections of diversion wall, which will tie into a section of undamaged existing diversion wall, and a new, modified supporting apron for the entire wall immediately downstream from the damaged portions of the Brown Canal diversion structure, which will remain in place. Reconstruction of the diversion structure also includes installation of a new scour wall that will anchor the modified apron and prevent the new structure from being undermined during future flood events.

In total, approximately 649.0 feet (ft) of new diversion wall will be constructed, which will tie into existing sections of wall that remained relatively undamaged after the 2005 flood events. An approximately 140.0-ft section of the existing wall near the diversion gate structure at the Brown Canal intake on the west side of the river and the entire length of the new diversion wall will be supported by a 19.0-ft-wide, partially-sloped concrete apron and scour wall below the finished grade on the downstream side of the wall. The new portions of the diversion wall will consist of two sections, an approximately 67.0-ft section that begins at the mouth of the diversion and ties into the southern end of the 140.0-ft section of existing wall, and a longer, approximately 582.0-ft section that will connect to the northern end of the 140.0-ft existing wall and extend northeast across the river to tie into a section of existing wall located outside the project area. The new diversion structure will be anchored to the river bed by steel rails with a minimum length of 27.0 ft, spaced 7.0 ft apart, and driven through the scour walls. The overall length of reconstructed diversion structure will be approximately 789.0 ft.

The top of an approximately 100.0-ft portion of the 582.0-ft section of new diversion wall in line with the original Gila River channel will be lower than the rest of the wall. This “dip” in the diversion wall will serve as a spillway during periods of high flow and will allow the river to naturally reestablish in its original path downstream of the diversion structure.

In addition to the reconstruction of the diversion structure itself, an area damaged by past flooding on the west side of the Gila River downstream from the diversion structure will be repaired and reinforced with grouted concrete rubble riprap to provide bank protection.

Temporary Cofferd Dam Installation and Construction Dewatering

Prior to conducting repairs on the portion of the Brown Canal diversion structure located in the Gila River channel south of the 582-ft section of new wall on the east side of the river mentioned

above, the river will need to be temporarily diverted to the west around the existing diversion structure and down the Brown Canal. This will be accomplished by constructing a temporary cofferdam upstream of the existing diversion structure. Brown Canal has sufficient capacity to conduct flows from the Gila River during low-flow conditions; however, if a high-water event occurs during construction, the river may overtop the temporary cofferdam and flow in its natural course. In addition to diverting river flows, dewatering will be necessary during construction in the river channel, as well as during construction, on the east side of the river to keep groundwater out of the trenches, where the new scour and diversion walls and aprons are constructed. Engine-driven dewatering pumps will be used, with their intakes placed up to 14.0 ft below ground level at the bottom of the trench excavations, and the groundwater pumped out will be discharged back into the river approximately 150 to 300 ft downstream from the construction site.

The cofferdam will be constructed using native soil from the diversion structure wall and apron excavations. Alternatively, a combination of soldier piles and steel sheets may be used in conjunction with native soil to construct the cofferdam. An excavator will be used to deposit and compact soil in the river channel to a height based on the water level in the river during a period of low flow. If soldier piles are needed, they will be installed in the river bed using a pile driver attachment on the excavator, and steel sheets will be placed on the upstream side of the piles. Geomembrane sheeting will be secured to the cofferdam soil to prevent low-flow scouring along the cofferdam and potential effects to water quality. Once all work on the diversion structure is complete, the cofferdam will be removed and flow in the Gila River will be restored by returning the bed of the river to its pre-construction elevation.

Excavations required during reconstruction of the diversion structure and the temporary cofferdam installation in the Gila River channel are considered dredge and fill activities within Waters of the U.S. that would normally require authorization under a Section 404 permit from the U.S. Army Corps of Engineers (USACE). However, USACE has determined that the project is exempt from Section 404 permitting requirements because the Brown Canal diversion structure is “appurtenant and functionally related to irrigation ditches.” Similarly, the project will not require Arizona Department of Environmental Quality (ADEQ) Section 401 certification because there is no Section 404 involvement.

Temporary Construction Staging

Two areas will be used for staging equipment and materials needed during reconstruction of the diversion structure (see BA Figure 2), Temporary Construction Staging Areas (TCSA) A and B. Both TCSAs will be located in previously disturbed areas within the requested diversion structure ROW on the west side of the Gila River, downstream from the diversion structure.

During construction of the new diversion and scour walls and apron, a temporary work area will be required around the diversion structure for equipment maneuvering and access to the eastern side of the river. This area will extend approximately 20.0 ft upstream from the new diversion wall and the same distance downstream from the edge of the new scour wall and finished grade. A temporary equipment maneuvering area will also be needed within the riparian habitat present on the east side of the river to allow room for equipment used during construction to safely turn around (see BA Figure 2). Temporary construction access to the work area and temporary

equipment maneuvering areas on the eastern side of the river will also be provided by a secondary access road extending west across the river from the eastern TCSA located downstream of the diversion structure (see BA Figure 2). The temporary work area, temporary equipment maneuvering area, and temporary secondary access road will all be located within the boundaries of the requested diversion structure ROW.

Estimated Permanent and Temporary Disturbance

The estimated amount of permanent and temporary ground disturbance associated with the Brown Canal Improvement Project is summarized in Table 1.1 of the BA.

Construction Timing and Sequence

All work on the diversion structure within and/or near the Gila River will occur over a maximum of approximately 200-day period of 5-day work weeks, excluding weekends and holidays, between September 30, 2019, and July 10, 2020. The 200-day timeframe is a conservative, maximum work timeframe. The proposed timeframe includes approximately 176 days of actual construction and was adopted to account for unknown factors that may occur and delay construction, such as weather and high-flow river conditions. The estimated sequence of construction under ideal circumstances without any of the 24 “unknown factor” days is as follows:

- Temporary cofferdam construction and river diversion: September 30–October 11*
- Rail installation for scour wall (modified existing structure) and modified apron and scour wall (existing structure) formwork and concrete pouring: October 14–November 15
- New diversion, apron, and scour wall (northern portion) formwork and concrete pouring: November 18–May 22
- Concrete rubble riprap installation: May 25–27
- Temporary diversion cofferdam removal and river flow restoration: May 28–June 3
- Demobilization: June 4–10

* Note that cofferdam construction during the period indicated above will be dependent on flow conditions in the Gila River. If high flow conditions are present, cofferdam construction may be postponed until flows decrease, while reconstruction work on the northern portion of the diversion structure on the east side of the river outside the flowing channel may continue. In any event, cofferdam construction will take approximately 10 days.

Future Maintenance

- Diversion structure—Silt deposits and debris on the upstream side of the structure will be removed using a backhoe on an annual basis. Removed silt will be spread and compacted over the access road surface.

- Brown Canal—Silt and vegetation accumulating in the canal and on its bank will be removed using a backhoe on an annual basis. Removed silt will be spread and compacted over the access road surface.

Conservation Measures

A total of 67 Goodding's willow (*Salix gooddingii*) and Fremont cottonwood (*Populus fremontii*) seedlings or trees will be planted along areas of the Gila River following the conclusion of construction activities. Specifically, these plantings are intended to benefit southwestern willow flycatcher and yellow-billed cuckoo and will serve to minimize both the permanent and temporary effects to riparian habitat resulting from the proposed construction. Size of willow and cottonwood trees will depend on depth to groundwater at planting sites. The GVID will coordinate with BLM and Gila Watershed Partnership to determine the appropriate size of replacement willow and cottonwood trees based on depth to groundwater. A piezometer may be installed, if needed, to determine depth to groundwater for plantings. These 67 cottonwood and willow plantings will be maintained or replaced to obtain a minimum of 80 percent survival two years after planting.

Status of the Species and Critical Habitat

Southwestern Willow Flycatcher

The status of the southwestern willow flycatcher and its critical habitat is described in detail in: (1) the BA; (2) our November 7, 2016, Fuel Break BO (see pages 40-50) (3) the Final Rule determining endangered status for the southwestern willow flycatcher (60 FR 10694-10715; Service 1995); (4) the *Final Recovery Plan for the Southwestern Willow Flycatcher* (Service 2002); (5) the Final Rule designation of critical habitat for southwestern willow flycatcher (78 FR 344- 534.; Service 2013); and (6) the *Southwestern Willow Flycatcher* (*Empidonax traillii extimus*) *5-Year Review: Summary and Evaluation* (Service 2014c); and the species' *Notice of 12-month petition finding and 5-year review* (Service 2017). The contents of these documents are incorporated here by reference.

Yellow-billed Cuckoo

The status of the yellow-billed cuckoo and its proposed critical habitat is described in detail in: (1) the BA; (2) the Final Rule listing the western distinct population segment of the western yellow-billed cuckoo as threatened (79 FR59992-60038; Service 2014a); (3) the Proposed Rule designating critical habitat for the yellow-billed cuckoo (79 FR48548- 48652; Service 2014b); and (4) the Draft Arizona western yellow-billed cuckoo consultation guidance (Service 2016). The contents of these documents are incorporated here by reference.

Environmental Baseline

Southwestern Willow Flycatcher

The status of the flycatcher and its critical habitat in the action area is described in the BA. Protocol-level surveys (Sogge *et al.* 2010) have not been performed in the action area, but the BA states that approximately 0.89 ha (2.19 acres) of riparian vegetation suitable for southwestern

willow flycatchers exists within the proposed diversion structure ROW. Regardless of the limited acreage of mapped riparian vegetation, approximately 55 percent, or 3.62 ha (8.94 acres), of the 6.6-ha (16.3-acre) proposed diversion structure ROW is located within the Upper Gila Management Unit for Southwestern willow flycatcher (see BA Figure 4).

Johnson *et al.* (2017) surveyed three downstream riparian restoration sites and determined there were 69 territories within them. The most recent year of southwestern willow flycatcher surveys was 2018, when determined there were 208 territories at the Fort Thomas Preserve (Salt River Project 2018). The peak abundance of southwestern willow flycatchers in the greater Upper Gila Management Unit was an estimated 329 territories following the 2007 breeding season (Durst *et al.* 2008).

Yellow-billed Cuckoo

The status of the cuckoo and its proposed critical habitat in the action area is described in BA. No protocol-level surveys (Halterman *et al.* 2016) have been performed in the action area since 2015 (Johnson and Calvo 2015; pp. 33-34), at which time seven yellow-billed cuckoos were detected as probable breeders at Site R26. The presence of riparian vegetation suitable for yellow-billed cuckoos renders it reasonably certain the species continues to occur within and breed in the action area.

The most recent year of complete yellow-billed cuckoo surveys in the vicinity was 2018 when 43 total cuckoo detections representing an estimated 8 to 13 pairs per Halterman *et al.* (2016) occurred at Fort Thomas downstream of the action area. (Salt River Project 2018). In 2017, Johnson *et al.* (2017) detected 23 birds, including probable breeding within three proposed riparian restoration sites, also downstream of the action area.

The proposed action is in the AZ-16 proposed critical habitat unit, which encompasses 929 acres along a continuous 6-river mile reach of the Gila River that includes lower Bonita Creek.

Razorback Sucker

The razorback sucker was listed as endangered in 1991 (USFWS 1991) and critical habitat was designated in 1994 (USFWS 1994). The Primary Constituent Elements (PCEs) of critical habitat for razorback sucker include: (1) suitable water quality and quantity, (2) suitable physical habitat within the Colorado River system for spawning, nursery, rearing, and feeding, as well as corridors between such areas, and (3) the biological environment including living components of the food supply and interspecific interaction (USFWS 1994). In the Gila River, critical habitat for razorback sucker is designated from the Arizona/New Mexico border to Coolidge Dam, where water quantity and quality are suitable (USFWS 1998).

Razorback suckers are currently unlikely to occur in the action area. According to BLM (personal communication with Heidi Blasius, BLM Safford Field Office Fishery Biologist, January 19, 2018), the fish assemblage upstream of the proposed project area is comprised primarily of non-native fish species including Flathead catfish (*Pylodictis olivaris*), Channel catfish (*Ictalurus punctatus*), and Red shiner (*Cyprinella lutrensis*). The BLM SFO conducted a fish survey on June 22, 2018, approximately 0.8 km (0.5 miles) above the proposed project area and captured Flathead catfish and Red shiner. Surveys further upstream (1.1 mile) resulted in the

capture of Channel catfish, Flathead catfish, Red shiner, and Fathead minnow (*Pimephales promelas*). Due in part to the presence of these predatory and competitive species, occupation of the Gila River reaches near the project area by razorback sucker is at most transient, and the less-than 1 year implementation period is unlikely to affect a species that occurs at immeasurably low densities in the action area.

Razorback Sucker Critical Habitat

A summary of the proposed action's permanent and temporary effects on razorback sucker critical habitat that would result from the proposed project is presented in Table B in the BA.

Approximately 39 percent, or 6.28 acres, of the 16.3-acre proposed diversion structure ROW is located within the Gila River, Complex 11 critical habitat unit for Razorback sucker, the extent of which roughly corresponds to the 100-year floodplain surrounding the river (BA Figure 5). The 100-year floodplain is part of the critical habitat because, when inundated, it provides nursery habitat for razorback sucker.

Razorback sucker critical habitat within the action area includes both the aquatic habitat of the river itself, which is a PCE of the critical habitat, and the 100-year floodplain. Approximately 0.51 acre of this critical habitat will be permanently affected by the placement of the new diversion and scour walls, apron, and riprap. Of this 0.51 acre of effects to critical habitat, approximately 0.16 acre represents effects to the aquatic PCE and the remaining 0.35 acre are effects the associated 100-year floodplain portion.

An additional approximately 1.34 acres of the 100-year floodplain portion of razorback sucker critical habitat will be temporally affected by the temporary work area around the diversion structure, a portion of the secondary access road, and the two temporary construction staging areas downstream from the diversion structure.

The total permanent and temporary effects to 1.85 acres of razorback sucker critical habitat exist along an estimated 1,750 feet (0.33 mile) of the Gila River. These effects are an immeasurably small fraction of the 1,724 river miles of razorback sucker critical habitat rangewide and the approximately 157 river miles in the Gila River from the Arizona/New Mexico border to Coolidge Dam. We note that the rangewide and local river miles also include a 100-year floodplain component, but these data are not available at these scales.

Effects of the Proposed Action

The Brown Canal Company water rights date to the late nineteenth century. The diversion of water from the mainstem Gila River therefore predates the listing of the southwestern willow flycatcher (1995), yellow-billed cuckoo (2014), and razorback sucker (1991). The effects of the diversion are therefore part of the species' respective environmental baselines and are not considered among the adverse effect of the currently proposed action.

Southwestern Willow Flycatcher

Our analyses, below, are focused on flycatcher territories rather than known pairs and/or individual birds because territory data spans a longer survey history and exhibits less interannual

variability than nest data. Territory is the unit of measure employed in the Recovery Plan (Service 2002). Southwestern willow flycatchers are a territorial species, where males select and defend exclusive breeding territories in which they attempt to attract a mate and breed. Because it can be difficult to determine whether a particular male is paired with a female, the Service selected “territory” as the unit of measure for recovery goals (rather than “pairs”), recognizing that overall one territory generally equates to two flycatchers (one male and one female). More importantly, territories, more thoroughly describe the site’s potential occupancy and/or its ability to accommodate changes in riparian condition under either natural variation (floods, drought) or resulting from the proposed action.

Flycatchers often cluster their territories into small portions of riparian sites (Whitfield and Enos 1996, Paxton *et al.* 1997, Sferra *et al.* 1997, Sogge *et al.* 1997b), and major portions of the site may be occupied irregularly or not at all. Most flycatcher breeding patches are larger than the sum total of the flycatcher territory sizes at that site. Flycatchers typically do not pack their territories into all available space within a habitat. Instead, territories are bordered by additional habitat that is not defended as a breeding territory, but may be important in attracting flycatchers to the site and/or in providing an environmental buffer (from wind or heat) and in providing post-nesting use and dispersal areas.

Southwestern willow flycatchers are strongly territorial. Flycatcher territories are often clumped together, rather than spread evenly throughout a habitat patch. This has led some authors to label willow flycatchers as “semi-colonial” (McCabe 1991), although they do not fit the strict definition of a colonial species and regularly breed at sites with only one or a few pairs (Sferra *et al.* 1997, Sogge *et al.* 1997a and 1997b, Paradzick *et al.* 1999). Flycatcher territory size varies greatly, probably due to differences in population density, habitat quality, and nesting stage. Estimated breeding territory sizes generally range from approximately 0.25 to 5.7 acres, with most in the range of approximately 0.5 to 1.2 acres (Sogge 1995, Whitfield and Enos 1996, Skaggs 1996, Sogge *et al.* 1997b). Flycatchers may use a larger area than their initial territory after their young are fledged, and use non-riparian habitats adjacent to the breeding area. Even during the nesting stage, adult flycatchers sometimes fly outside of their territory, often through an adjacent flycatcher territory, to gather food for their nestlings.

Flycatchers exhibit strong site fidelity and will often return to former nesting sites in subsequent years (Service 2002). Adverse effects, including reduced nest success or higher predation/parasitism, are likely to occur when flycatchers return to former nest sites where its habitat quality and abundance have been reduced (Service 2002). Habitat alteration can also force returning flycatchers to attempt nesting at other sites already occupied by other breeding pairs or force movements over significant distances in an attempt to find unoccupied suitable habitat (an effort that may also be unsuccessful).

The permanent removal of 0.39 acre of riparian vegetation (BA Table 4.4) and temporary impacts to 0.5 acre of riparian vegetation (BA Table 4.4) to accommodate the construction of the diversion and scour walls, apron, and riprap during the April 15 through September 30 southwestern willow flycatcher breeding season make it likely that southwestern willow flycatcher territories will be adversely affected by the proposed action. The overlap of construction activities with the flycatcher breeding season will also adversely affect birds attempting to nest in adjacent habitat, thus further reducing nest success. There will also be

temporal effects to riparian vegetation from construction and use of the two temporary staging areas south of the diversion structure, the secondary access road that will be used only during construction, the temporary work area around the diversion structure, and in the temporary equipment maneuvering area. The 1.0-acre temporary equipment maneuvering area is located completely within riparian vegetation, and while an estimated 25 percent (0.25 acre) will be temporarily affected, it is likely that noise and vehicles will disturb southwestern willow flycatchers throughout the entire 1.0-acre site.

Given that most flycatcher territories range from approximately 0.5 to 1.2 acres (Sogge 1995, Whitfield and Enos 1996, Skaggs 1996, Sogge *et al.* 1997b), the temporal effects to 1.5 acres of riparian vegetation at the diversion in temporary work areas will affect up to three (3) territories along an estimated 1,750 feet (0.33 mile) of the Gila River. The permanent removal of 0.39 acre of riparian vegetation at the diversion is likely to affect one additional flycatcher territory. While we anticipate that the effects of noise and other disturbance will affect flycatchers outside of the affected riparian vegetation, we also stated that flycatchers typically do not pack their territories into all available space within a habitat. It is therefore reasonable to assume that while the affected area may not encompass the boundaries of four territories, at most four territories will be affected by noise and disturbance emanating from the construction activities within riparian vegetation.

We anticipate that the planting of 67 Goodding's willow and Fremont cottonwood trees along the Gila River in areas disturbed by the proposed action will minimize the adverse effects to southwestern willow flycatchers and the species' critical habitat described above. We note, however, that as few as 54 trees may become established (representing the target 80 percent survival two years after planting) and that the habitat value for flycatchers is unlikely to be realized for multiple growing seasons.

Southwestern Willow Flycatcher Critical Habitat

We anticipate that construction in the proposed diversion structure, the temporary staging areas, the secondary access road, the temporary work area around the diversion, and in the temporary equipment maneuvering area will result in permanent effects to 1.13 acres and temporary effects to 1.77 acres of critical habitat (BA Table 4.4) along an estimated 1,750 feet (0.33 mile) of the Gila River. These effects are the result of the proposed action's impacts to flycatcher critical habitat PCE 1 (riparian vegetation; see species-level analysis, above) and PCE 2 (insect populations) (Service 2013).

Yellow-billed Cuckoo

The placement of the diversion and scour walls, apron, and riprap will adversely affect yellow-billed cuckoos via the permanent removal of 0.39 acre of riparian vegetation and temporary impacts to 0.5 acre of riparian vegetation (BA Table 4.3). The 1.0-acre temporary equipment maneuvering area is located completely within riparian vegetation, and while an estimated 25 percent (0.25 acre) will be temporarily affected, it is likely that noise and vehicles will disturb yellow-billed cuckoos throughout the entire 1.0-acre site.

Cuckoos exhibit large home ranges; individual home ranges during the breeding period average over 98.8 acres, and home ranges up to 499.2 acres have been recorded (Laymon and Halterman 1987, Halterman 2009, Sechrist *et al.* 2009, McNeil *et al.* 2011, McNeil *et al.* 2012, McNeil *et al.* 2013). Cuckoos do not exhibit the strong nest site fidelity exhibited by flycatchers (see above) and move from one area to another within and between years in response to hydrological conditions. Cuckoos may also nest at more than one location in a year. Some individuals roam widely (several hundred miles), apparently assessing food resources before selecting a nest site (Sechrist *et al.* 2012). Breeding cuckoos are also thought to be weakly territorial (Hughes 1999).

The proposed action will be implemented from September 30 to July 12, which will directly and indirectly affect yellow-billed cuckoos during the species' May 15 through September 30 breeding season via disturbance to adjacent habitat. The overlap of construction activities with the cuckoo's breeding season will adversely affect birds attempting to nest in the affected areas, but it is anticipated these individuals will be able to reestablish nests in adjacent areas.

The proposed diversion structure work will have both permanent (0.39 acre) and temporary (0.5 acre) effects on riparian vegetation (see flycatcher analysis, above). Within the footprint of the diversion structure, placement of diversion and scour walls, apron, and riprap will result in permanent effects to riparian vegetation. In areas outside the footprint of the diversion structure, there will be temporary effects to riparian vegetation from construction and use of the two temporary staging areas south of the diversion structure, the secondary access road that will be used only during construction, the temporary work area around the diversion structure, and in the temporary equipment maneuvering area. The 1.0-acre temporary equipment maneuvering area is located completely within riparian vegetation, and while an estimated 25 percent (0.25 acre) will be temporarily affected, it is likely that noise and vehicles will disturb cuckoos throughout the entire 1.0-acre site.

The 1.89 acre total area of riparian vegetation affected by the construction of the diversion along an estimated 1,750 feet (0.33 mile) of the Gila River as well as the temporarily-disturbed areas is most likely a small portion of multiple cuckoos' home ranges rather than one bird's home range. It is more likely that multiple cuckoos forage within all or an appreciable portion of the overall action area. Regardless, the areal extent of the proposed action is a relatively small fraction of the species' 98.8-acre average, individual home range described previously. The remainder of the action area adjacent lands will remain available for nesting and foraging. Moreover, cuckoos opportunistically forage in open areas and thus, the removal of riparian vegetation may not represent a complete loss of foraging potential. Because we cannot definitively ascertain how many yellow-billed cuckoos occupy the site, we anticipate that two pairs, representing a pair situated at the diversion site and a pair situated at the temporary equipment maneuvering area, will be affected.

No temporary effects to riparian vegetation will occur in the staging areas south of the diversion structure or in the path of the secondary access road because there is no riparian vegetation present in these locations.

Yellow-billed Cuckoo Proposed Critical Habitat

The reconstruction of the diversion and permanent removal of riparian vegetation resulting from the proposed action will permanently affect PCEs 1 (riparian woodlands) and 2 (adequate prey base) in 1.27 acres of yellow-billed cuckoo proposed critical habitat in unit AZ-16 (Service 2014a). The proposed action will temporarily adversely affect PCEs 1 and 2 in 5.05 acres of proposed critical habitat along an estimated 1,750 feet (0.33 mile) of the Gila River in the same unit. We note that PCE 3 (dynamic riverine processes) are compromised by the private diversion of water from the Gila River but the diversion and its works predate the proposed critical habitat designation.

None of the temporary project components, with the exception of the work area around the diversion structure and the temporary equipment maneuvering area, are located in areas that currently contain riparian habitat. Any effects from these project components to riparian habitat will be temporary in nature and therefore will not result in permanent effects to proposed critical habitat unit AZ-16 proposed critical habitat unit because the affected vegetation is anticipated to naturally regenerate following the cessation of construction.

We anticipate that the planting of 67 Goodding's willow and Fremont cottonwood trees along the Gila River in areas disturbed by the proposed action will minimize the adverse effects to both the yellow-billed cuckoo and its proposed critical habitat described above. We note, however, that as few as 54 trees may become established (representing the target 80 percent survival two years after planting) and that the habitat value for cuckoos is unlikely to be realized for multiple growing seasons.

Cumulative Effects

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

The analysis of cumulative effects will consider the razorback sucker, southwestern willow flycatcher, and yellow-billed cuckoo simultaneously; each species depends on the proper function of the Gila River in the action area.

The action area is small and is located largely within a relatively small areal extent of Federal Public Lands administered by the BLM. As such, there are few non-Federal actions occurring within the action area beyond the water use associated with the GVID diversion itself.

The tamarisk leaf beetle (*Diorhabda* sp.) was introduced into the United States from Eurasia to control tamarisk via defoliations. Tamarisk leaf beetles were first detected affecting tamarisk within the range of the flycatcher in 2008 along the Virgin River in St. George, Utah. Initially, this insect was not believed to be able to move into or survive within the southwestern United States in the breeding range of the flycatcher. Along this Virgin River site in 2009, 13 of 15 flycatcher nests failed following vegetation defoliation (Paxton *et al.* 2010). As of 2012, the beetle has been found in southern Nevada/Utah and northern Arizona/New Mexico within the flycatcher's breeding range. Beetles were detected along the Colorado River below Hoover Dam in 2012, and on the upper Verde River in 2019. Because tamarisk is a component of about 50

percent of all known flycatcher territories (Durst *et al.* 2008), continued spread of the beetle has the potential to significantly alter the distribution, abundance, and quality of flycatcher nesting habitat and impact breeding attempts.

Tamarisk leaf beetles are already present in the Gila River watershed (upper Verde River) and should the taxon arrive in the lower San Pedro River, the effects to a crucial flycatcher breeding reach could be appreciable. Tamarisk leaf beetles are selectively herbivorous on tamarisk rather than native Fremont cottonwood (*Populus fremontii*) and Goodding's willow (*Salix gooddingii*) trees, so advance reestablishment of native broadleaf riparian trees is an important conservation measure to help ensure continued occupancy by flycatchers.

Conclusions

After reviewing the current status of the razorback sucker, southwestern willow flycatcher, yellow-billed cuckoo, and their designated and proposed critical habitats, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological and conference opinion that the proposed action is not likely to jeopardize the continued existence of the sucker, flycatcher, or cuckoo or destroy or adversely modify their critical habitats. We base this conclusion on the following reasons:

Razorback Sucker

- We do not anticipate that the proposed action will directly or indirectly affect any individual razorback sucker. The species is exceedingly rare in the Gila River, and it is unlikely that any individuals will encounter the near and in-water construction activities. The proposed action will therefore not jeopardize the continued existence of the razorback sucker.
- The proposed action will result in permanent effects to 0.51 acre and temporary effects to 1.34 acres of razorback sucker critical habitat exist along an estimated 1,750 feet (0.33 mile) of the Gila River. These effects are an immeasurably small fraction of the 1,724 river miles of razorback sucker critical habitat rangewide and the approximately 157 river miles in the Gila River from the Arizona/New Mexico border to Coolidge Dam.
- The small scale of these effects, and the 0.51 acre of permanently affected critical habitat, is unlikely to render the Gila River or rangewide critical habitat designations from contributing to the recovery of the species. The proposed action will thus not reach a tipping point beyond which the razorback sucker can no longer be recovered.
- The proposed action will not destroy or adversely modify razorback sucker critical habitat

Southwestern Willow Flycatcher

- We anticipate that the permanent effects to one (1) southwestern willow flycatcher territory in 0.39 acre of permanently affected riparian vegetation and the three (3) territories in 1.5-acres of temporarily affected vegetation represent an immeasurably small fraction of the 69 flycatcher territories found in downstream restoration sites (Johnson *et al.* 2017) and 208 territories found at the Fort Thomas Preserve in 2018 (Salt River Project 2018). The peak abundance of southwestern willow flycatchers in the greater Upper Gila Management Unit,

which includes additional lands not surveyed by the prior authors, was an estimated 329 territories following the 2007 breeding season (Durst *et al.* 2008).

- We anticipate, because of the retention of adjacent riparian vegetation, and the post-project establishment of Goodding's willow and Fremont cottonwood in areas disturbed by the project, that these effects will persist for two (2) years.
- The amount of flycatcher critical habitat (PCEs 1 and 2) affected by the proposed action (1.13 acres permanently and 1.77 acres temporarily) over approximately 1,750 feet (0.33 mile) of the Gila River is an immeasurably small fraction of the 110.3 river miles of critical habitat along the Upper Gila River Management Unit (Service 2002, 2013) and the 1,227 river miles rangewide. These effects are incapable of rendering the southwestern willow flycatcher's critical habitat incapable of contributing to the recovery of the species at any spatial scale, and do not reach a tipping point beyond which the species could no longer be recovered.
- We have determined that the aforementioned direct and indirect effects of the proposed action to the southwestern willow flycatcher are incapable of jeopardizing the species. The effects are also incapable of rendering the flycatcher's critical habitat incapable of contributing to the recovery of the species at any spatial scale, and do not reach a tipping point beyond which the species could no longer be recovered. The critical habitat will therefore not be adversely modified or destroyed.

Yellow-billed Cuckoo

- We anticipate that the 1.89 acre total area of riparian vegetation affected by the construction of the diversion along an estimated 1,750 feet (0.33 mile) of the Gila River and temporarily-disturbed will affect two pairs (4 birds). The four (4) birds temporarily affected by the proposed action are a small fraction of the 43 yellow-billed cuckoos (representing an estimated 8 to 13 pairs) at Fort Thomas in 2018 (Salt River Project 2018) and the 2017 detection of 23 birds (including probable breeding) within three Gila Valley riparian restoration sites (Johnson *et al.* 2017).
- Further, given the cuckoo's 98.8-acre average, individual home range, the retention of adjacent riparian vegetation, and the post-project establishment of Goodding's willow and Fremont cottonwood in areas disturbed by the project, we anticipate that these effects will persist for one (1) year.
- We anticipate that the proposed action will permanently affect PCEs 1 (riparian woodlands) and 2 (adequate prey base) in 1.27 acres of yellow-billed cuckoo proposed critical habitat along an estimated 1,750 feet (0.33 mile) of the Gila River in unit AZ-16 (Service 2014b). The proposed action will temporarily adversely affect PCEs 1 and 2 in 5.05 acres of proposed critical habitat along the same 1,750 feet (0.33 mile) of the Gila River in the same unit. These effects represent small portions of the AZ-16 proposed critical habitat unit, which encompasses 929 acres along a continuous 6-river mile reach of the Gila River and Bonita Creek.

- We have determined that the aforementioned direct and indirect effects of the proposed action to the yellow-billed cuckoo are incapable of jeopardizing the species. We have also determined, in conference, that the effects are also incapable of rendering the yellow-billed cuckoo's proposed critical habitat incapable of contributing to the recovery of the species at any spatial scale, and do not reach a tipping point beyond which the species could no longer be recovered. The proposed critical habitat will therefore not be adversely modified or destroyed.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

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

Amount or Extent of Take

Razorback Sucker

We do not anticipate that the proposed action will result in the incidental take of razorback suckers for the reasons outlined in the Effects of the Proposed Action section, above.

Southwestern Willow Flycatcher

We anticipate that the proposed action will result in incidental take of southwestern willow flycatchers in the form of harm through temporary and permanent loss of habitat occupied by

nesting flycatchers in the action area. We recognize that providing a numerical estimate of incidental take is the preferred method of measuring take. However, we must use flycatcher territories as a surrogate for the amount or extent of take because the survey protocol (Sogge *et al.* 2010) is designed only to determine presence/absence in a given reach rather than an accurate count of individual birds.

The incidental take of southwestern willow flycatchers is quantified in territories to allow for some baseline level of interannual variation in occupancy. Territories represent potential flycatcher occupancy in any given year, though birds may not be detected in every year. The Service anticipates that four (4) flycatcher territories will be incidentally taken for two (2) years by displacement to lower quality and/or already occupied habitats and/or reduced reproductive success. The incidental take of four (4) southwestern willow flycatcher territories will cease in two (2) years as temporarily-disturbed areas recover and restoration plantings become established.

We cannot, however, determine a numeric threshold for the exceedance of incidental take. The site has not been surveyed for southwestern willow flycatchers. The proposed action will be implemented during part of the 2020 breeding season, so subsequent surveys per the Sogge *et al.* (2010) protocol could only be conducted in 2021. The absence of pre-project flycatcher surveys renders subsequent survey results meaningless for use in determining if incidental take expressed in territories has been exceeded.

The proposed action already includes a year two performance standard of 80 percent success for the 67 cottonwood and willow plantings. These species are a component of southwestern willow flycatcher habitat and critical habitat, and are therefore a useful surrogate for tracking incidental take. The incidental take of flycatchers will therefore be exceeded if the Gooding's willow and Fremont cottonwood plantings do not achieve 80 percent success within three growing seasons and the failure of greater than 20 percent of the seedlings is due to poor site selection relative to alluvial water depth, lack of irrigation, off-highway vehicle use, etc. The failure of greater than 20 percent of the seedlings from natural events such as flooding and fire, particularly if the event removes existing, unaffected vegetation, will not be considered an exceedance of incidental take.

We anticipate that first-year tree growth will support southwestern willow flycatcher foraging activities, with additional growth over subsequent years allowing the restored areas to potentially support nesting.

Yellow-billed Cuckoo

We have quantified the incidental take of yellow-billed cuckoos in individual birds due to the species' low nest-site fidelity, the tendency for females to lay multiple clutches with different mates, and single breeding season re-nesting behavior (Service 2014). The Service anticipates four (4) individual yellow-billed cuckoos will be incidentally taken over a one (1) year period by human disturbance of birds; disrupted nest construction, incubation, and foraging; and/or displacement of birds to lower quality and/or already occupied habitats during implementation of the proposed action.

We cannot, however, determine a numeric threshold for the exceedance of incidental take. The site has not been surveyed since 2015 (Johnson and Calvo 2015), at which time seven yellow-billed cuckoos were determined to be probable breeders. The proposed action will be implemented during part of the 2020 breeding season, so subsequent surveys per the Halterman *et al.* (2016) protocol, could only be conducted in 2021. The six-year time lag, and the difficulty in confirming yellow-billed cuckoo breeding (rather than probable breeding), renders survey results inadequate for use in determining when incidental take is exceeded.

The proposed action already includes a year two performance standard of 80 percent success for the 67 cottonwood and willow plantings. These species are a component of yellow-billed cuckoo habitat and proposed critical habitat, and are therefore a useful surrogate for tracking incidental take. The incidental take of cuckoos will therefore be exceeded if the Gooding's willow and Fremont cottonwood plantings do not achieve 80 percent success within three growing seasons and the failure of greater than 20 percent of the seedlings is due to poor site selection relative to alluvial water depth, lack of irrigation, off-highway vehicle use, etc. The failure of greater than 20 percent of the seedlings from natural events such as flooding and fire, particularly if the event removes existing, unaffected vegetation, will not be considered an exceedance of incidental take.

We anticipate that first-year tree growth will support yellow-billed cuckoo foraging activities, with additional growth over subsequent years allowing the restored areas to potentially support nesting.

Effect of the Take

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

REASONABLE AND PRUDENT MEASURES

Southwestern Willow Flycatcher and Yellow-billed Cuckoo

The following reasonable and prudent measure is necessary and appropriate to minimize take of both the southwestern willow flycatcher yellow-billed cuckoo:

1. The Service shall ensure that the BLM monitors and reports the incidental take of flycatchers and cuckoos (i.e. verifies that the BA's stated areal extent of effects is not exceeded), as well as the success of the Gooding's willow and Fremont cottonwood plantings.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Service shall ensure that the BLM complies with the following terms and conditions, which implement the reasonable and prudent measure described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

- 1.1 The BLM shall ensure that GVID implements the proposed action consistent with the limits and types of disturbance described in the BA.
- 1.2 The BLM shall ensure that GVID ensures that the 67 Gooding's willow and Fremont cottonwood plantings achieve at least 80 percent success and if not, that additional plantings are implemented until the goal is achieved.

Review Requirement

The reasonable and prudent measure, with its implementing terms and condition, is designed to minimize the effect of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The BLM must ensure that GVID immediately provides an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 4901 Paseo del Norte NE, Suite D, Albuquerque, NM 87113; 505-248-7889) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that the BLM continue to monitor and assist in the recovery of the southwestern willow flycatcher and yellow-billed cuckoo at the project and rangewide scales, including tasks identified in the former species' Recovery Plan (Service 2002).
2. We recommend that the BLM continue to collaborate with local land owners and managers to conserve natural resources along the Gila River and Bonita Creek.

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

REINITIATION NOTICE

This concludes formal consultation for the Proposed Brown Canal Diversion Structure Improvement Project on the Gila River in Graham County, Arizona. 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.

This also concludes the conference for the effects of the proposed action on the proposed critical habitat for the yellow-billed cuckoo. You may ask us to confirm the conference opinion as a biological opinion issued through formal consultation if the cuckoo's critical habitat is designated. The request must be in writing. If we review the proposed action and find there have been no significant changes in the action as planned or in the information used during the conference, we will confirm the conference opinion as the biological opinion for the project and no further section 7 consultation will be necessary.

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

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

In keeping with our trust responsibilities to American Indian Tribes, we encourage you to continue to coordinate with the Bureau of Indian Affairs in the implementation of this consultation and, by copy of this biological opinion, are notifying the following Tribes of its completion: the Ak Chin Indian Community, White Mountain Apache Tribe, Fort McDowell Yavapai Nation, Salt River Pima-Maricopa Indian Community, San Carlos Apache Tribe, Gila River Indian Community, Tohono O'odham Nation, and the Pascua Yaqui Tribe

We appreciate the BLM and GVID's efforts to identify and minimize effects to listed species from this project. Please refer to the consultation number, 02EAAZ00-2019-F-0882 in future correspondence concerning this project. Should you require further assistance or if you have any questions, please contact Jason Douglas at (520) 670-6150, extension 226; or Julie McIntyre at (520) 670-6150, extension 223.



for Jeffrey A. Humphrey

cc (electronic):

Field Supervisor, U.S. Fish and Wildlife Service, Phoenix, AZ
 Assistant Field Supervisor, U.S. Fish and Wildlife Service, Tucson, AZ
 Heidi Blasius, Bureau of Land Management, Tucson AZ
 Alessandro Amaglio, Federal Emergency Management Agency, Oakland CA
 Chairman, Ak Chin Indian Community, Maricopa, AZ
 Chairman, White Mountain Apache Tribe, Whiteriver, AZ
 Chairman, Fort McDowell Yavapai Nation, Fort McDowell, AZ
 Chairman, Salt River Pima-Maricopa Indian Community, Scottsdale, AZ
 Chairman, San Carlos Apache Tribe, San Carlos, AZ
 Chairman, Gila River Indian Community, Sacaton, AZ
 Chairman, Tohono O'odham Nation, Sells, AZ
 Chairman, Pascua Yaqui Tribe, Tucson, AZ
 Environmental Specialist, Environmental Services, Western Regional Office, Bureau of
 Indian Affairs, Phoenix, AZ

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ (pep@azgfd.gov)

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Appendix A: Concurrences

Gila Chub

The Gila chub was listed as endangered with critical habitat in 2005 (67 FR 51948). Gila chub was formerly considered a separate taxonomic entity but is now recognized, along with headwater chub and roundtail chub, as a single taxonomic species – the roundtail chub (*Gila robusta*) (82 FR 16981). We intend to reevaluate the status of the Gila chub, which is currently listed as endangered with critical habitat (67 FR 51948). However, until that evaluation is completed and potential proposed and final rules to delist the Gila chub are published, its legal status remains as an endangered species with designated critical habitat.

Additional information on the species' status can be found in the Draft Recovery Plan (Service 2015) and our January 25, 2018, *Re-initiation of the Intra-Service Consultation on the Granting of Section 6 Nontraditional Recovery Land Acquisition Funds to the Arizona Game and Fish Department for the Purchase of the Horseshoe Ranch Property, Yavapai County, Arizona* (File Number 02EAAZ00-2017-F-1271) (Horseshoe ranch BO). The contents of both documents are incorporated herein via reference.

Loach Minnow

Loach minnow was reclassified from a threatened to an endangered with a revised critical habitat designation on February 23, 2012 (77 FR 10810). Additional status information for the loach minnow can be found in the species' *5-Year Review: Summary and Evaluation* (Service 2012b). The contents of these documents are incorporated herein via reference.

Spikedace

Spikedace was reclassified from a threatened to an endangered with a revised critical habitat designation on February 23, 2012 (77 FR 10810). Additional status information for the loach minnow can be found in the species' *5-Year Review: Summary and Evaluation* (Service 2012c). The contents of these documents are incorporated herein via reference.

Desert Pupfish

The desert pupfish was listed as an endangered species with critical habitat in 1986 (51 FR 10842). Additional life history information can be found in the recovery plan (Service 1993), other references cited there, and in the Horseshoe Ranch BO, all of which are incorporated herein via reference.

Gila Topminnow

The Gila topminnow was listed as endangered in 1967 without critical habitat (32 FR 4001). Life history information can be found in the 1984 Recovery Plan (Service 1984), the Draft Gila topminnow Revised Recovery Plan (Weedman 1999), references cited in the plans, and in the Horseshoe Ranch BO, all of which are incorporated herein via reference.

Rationale for Concurrence

All five of these species are known to occur in the Gila River at least historically, and according to the Arizona Game and Fish Department Heritage Data Management System, Gila chub has a known occurrence within 3.0 miles of the project area. All five species are also known to occur in Bonita Creek located approximately 3.25 river miles upstream of the project area (Service 2012a). According to BLM (personal communication with Heidi Blasius, BLM Safford Field Office (SFO) Fishery Biologist, January 19, 2018, as cited in the BA), the fish assemblage upstream of the proposed project area is comprised primarily of non-native fish species including Flathead catfish, Channel catfish, and Red shiner. The SFO conducted a fish survey on June 22, 2018, approximately 0.5 miles above the proposed project area and captured Flathead catfish and Red shiner. Surveys further upstream (1.1 mile) resulted in the capture of Channel catfish, Flathead catfish, Red shiner, and Fathead minnow.

Due in part to the presence of these predatory and competitive species, occupation of the Gila River reaches near the project area by these threatened and endangered fishes is transient, and all taxa are unlikely to be present in the project area during construction the less-than-one-year construction window. None of these species critical habitat (as applicable) is present in the project area. The effects are insignificant and discountable, and we therefore concur that the proposed action is not likely to adversely affect the Gila chub, loach minnow, spikedace, Gila topminnow, and desert pupfish.