



United States Department of the Interior



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In Reply Refer to:
AESO/SE
22410-2011-F-0138

April 20, 2011

Sallie D. McGuire
Chief, Arizona Branch
Department of the Army
Los Angeles District, Corps of Engineers
Arizona-Nevada Area Office
3636 North Central Avenue, Suite 900
Phoenix, Arizona 85012-1939

RE: Construction of a bridge at Palo Parado between Interstate 19 and Pendleton Road, Santa Cruz County, Arizona (File number SPL-2009-280-RJD)

Dear Ms. McGuire:

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated December 17, 2010, and was received by us on December 20, 2010. At issue are the effects of the proposed construction of a bridge over the Santa Cruz River between the Palo Parado interchange on Interstate 19 (I 19) and Pendleton Road in Santa Cruz County, Arizona.

Your letter concluded that the proposed action may adversely affect the endangered Gila topminnow (*Poeciliopsis occidentalis occidentalis*). Your letter also requested concurrence that the proposed action is not likely to adversely affect the endangered southwestern willow flycatcher (*Empidonax traillii extimus*). We concur with your determination and have provided our rationale in Appendix A.

This biological opinion is based on information provided in: (1) the November 2010 Biological Evaluation transmitted with your December 17, 2010, letter; (2) information gathered during a November 2, 2010, meeting between members of my staff, as well as representatives of the Arizona Department of Transportation (ADOT), Santa Cruz County, and consultants to the latter

two entities; and (3) other published and unpublished sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, the clearing of corridors within riparian vegetation and its effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

Consultation History

November 2, 2010: We met with your staff, SWCA, Inc. consulting biologists and CPE engineering consultants to discuss the proposed action, its effects, and potential conservation measures.

December 20, 2010: We received your December 17, 2010, request for consultation.

March 3, 2011: We transmitted a draft BO to you for your review.

April 14, 2011: We received your April 11, 2011, letter indicating your agency had no comments on the March 3, 2011, draft BO. We were also informed by SWCA Environmental Consultants, Inc., agents for the project proponent, that Santa Cruz County also had no comments on the draft BO.

BIOLOGICAL OPINION

Description of the Proposed Action

A complete description of the proposed action is found in the BA transmitted with your December 17, 2010, letter; it is summarized below.

The project is located on Palo Parado Road from Interstate 19 (I-19) to Pendleton Road in Santa Cruz County, Arizona (BE Figure 1 and Figure 2). This project is located approximately 13 miles north of Nogales, Arizona. The majority of the project area is privately owned. Adjacent land ownership includes Arizona Department of Transportation right-of-way and Santa Cruz County right-of-way.

The Santa Cruz County Flood Control District (SCCFCD) is planning a bridge and roadway project on Palo Parado Road from I-19 to Pendleton Drive (BE Figures 3–5). The existing Palo Parado Road is a dirt road on private land, and includes a ford of the Santa Cruz River. The project will require new right-of-way (ROW) from private landowners and a highway easement for the tie-in to I-19 and East Frontage Road. The project limits consist of 16.7 acres. The scope of work for this project consists of:

- Two 12-foot paved travel lanes with 5-foot paved shoulders, east and west bound along the proposed roadway alignment

- Approximately 820-foot span bridge with two 14-foot travel lanes
- Up to 460 linear feet of new bank protection
- New controlled signalized railroad at-grade crossing of the Union Pacific Railroad
- Improved non-signalized intersections at the East Frontage Road and Pendleton Drive
- Drainage modifications
- Landscaping and trailhead access to the Juan Batista de Anza National Historic Trail

Project construction is scheduled for 2011, with an expected duration of approximately 12 months. Santa Cruz County is seeking federal funds to either wholly or partially fund the project. Due to safety and environmental constraints, traffic on the existing dirt road may not be allowed during bridge construction. Work within waters of the U.S. will be required to construct the project, and the U.S. Army Corps of Engineers will receive pre-construction notification of the intent to utilize a Clean Water Act Section 404/401 nationwide permit for construction activities. One or more acre of soil will be disturbed; therefore, a Clean Water Act Section 402 permit will be obtained through the Arizona Department of Environmental Quality and a stormwater pollution prevention plan (SWPPP) will be created and implemented.

Description of the Proposed Conservation Measures

You have proposed a series of measures intended to avoid and/or minimize effects to the terrestrial and aquatic environment at the bridge site. The conservation measures are as follows:

- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed at Santa Cruz County's storage facility prior to entering the construction site.
- To prevent invasive species seeds from leaving the site, Santa Cruz County shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.
- Protected native plants within the project limits will be affected by this project; therefore, Santa Cruz County will determine if Arizona Department of Agriculture notification is needed. If notification is needed, Santa Cruz County will send the notification at least 60 calendar days prior to the start of construction.

Status of the Species – Gila Topminnow

The rangewide status of the Gila topminnow was described in our June 28, 2007, BO for restoration of native fishes in Lower Bonita Creek and implementation of a Memorandum of Understanding and 10-year Operation Plan between the Bureau of Land Management (BLM) and the City of Safford (File number 22410-2007-F-0233). The Status of the Species was subsequently updated in our November 17, 2010, BO that reinitiated formal consultation for additional rotenone application and related native fish management actions in Bonita Creek (File

numbers 22410-2007-F-0233R1 and CCN 2011-77). This information is incorporated herein via reference.

Environmental Baseline – Gila Topminnow

The environmental baseline includes past and present effects of all Federal, State, or private actions in the action area, the anticipated effects of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the effect of State and private actions 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.

The action area includes all areas to be disturbed at the bridge site as well as all downstream areas that may be affected by increased sedimentation and/or the introduction of contaminants from the work areas. The action area is situated on the active floodplain and abandoned river terrace of the Santa Cruz River in the Upper Santa Cruz River valley. Stream flows are dominated by effluent from the Nogales International Wastewater Treatment Facility. The eastern margin of the valley bottom contains a mesquite bosque. A stringer of riparian vegetation is present along both banks of the effluent flow channel and consists of cottonwood (*Populus fremontii*), seep willow (*Baccharis salicifolia*), and Goodding's willow (*Salix gooddingii*). Upslope of this riparian zone, vegetation is dominated by burro brush (*Hymenoclea monogyra*), which is more characteristic of xeroriparian conditions such as ephemeral flows. Further upslope, vegetation is dominated by velvet mesquite (*Prosopis velutina*).

The action area is within the current known distribution of this species (FWS 2008a), there are occurrences of this species within 3 miles of the project limits (Arizona Heritage Geographic Information System [AZHGIS] 2010), and Gila topminnow are found in the 20 mile-long reach of the Santa Cruz River below the Nogales International Wastewater Treatment Plant, which includes the action area (FWS 2003). Gila topminnow have been collected from several locations north of this wastewater treatment facility (AGFD 1998). More recently, improved water quality and increased fish species diversity within the effluent-dominated river reach has been observed (Friends of the Santa Cruz River 2008). The improved water quality, combined with the presence of Gila topminnow in the mainstem Santa Cruz River and tributaries such as Sonoita Creek (FWS 2008b) render it reasonably likely that the fish will be present in the action area during construction. We have conducted no recent section 7 consultations in the action area.

Effects of the Proposed Action – Gila Topminnow

The construction of the project will result in permanent, direct effects to the Santa Cruz River via the placement of a two-column pier and 410 feet of bank protection on areas above the low-flow channel. In addition, the construction may require temporary dewatering (and possible temporary relocation of the channel) at the location where the pier will be placed. This within- and near-water activity is anticipated to result in insults to water quality and harm (via crushing, gill occlusion, and/or increased susceptibility to predation) to any fish that are present.

Indirect effects are likely to result from the time lag between when site revegetation occurs and the point at which it successfully stabilizes the site. The temporarily-increased erosive potential will result in increased sedimentation downstream.

An indirect, beneficial effect is the cessation in the use of the low water crossing, which will result in the removal of the 900 to 1,000 vehicles per day - and associated sedimentation and contamination effects - that presently cross the Santa Cruz River at Palo Parado Road.

We anticipate that a small number of individual Gila topminnow will be harmed during construction activities at the bridge site.

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.

Non-Federal actions most likely to affect Gila topminnow and its habitat in or near the project area are those that occur along or in Peck Canyon, Sonoita Creek, and the Santa Cruz River. Most of the Santa Cruz River corridor south of Tubac and between Atascosa-Pajarito and Patagonia mountains is privately owned. Development has occurred in Peck Canyon, but is low density, and new development is not occurring at a rapid rate. More development is occurring east of the Santa Cruz River and in nearby Rio Rico, where areas of riparian vegetation, particularly in the mesquite bosque, have been cleared for homes, farming, or pastures. Grazing by cattle and horses in the floodplain is expected to continue. With increased population, recreation such as off-highway vehicle use, fishing, woodcutting, and camping can be expected to increase. Vehicle use in the river channel can destabilize banklines, destroy riparian vegetation, and fish could be run over or splashed from shallow ponds. Fishing and use of live bait could result in introduction of nonnative fishes that may compete with or prey upon Gila topminnow. Camping could result in fires that could destroy riparian vegetation. A recent diesel spill in Mexico that spread through the project area illustrates that actions occurring far upstream may also affect Gila topminnow. Recent actions regarding the land status of portions of Sonoita Creek have been beneficial. Sonoita Creek State Natural Area has twice undergone appreciable land acquisitions; one in 2003 and, most recently, Coal Mine Canyon came under the purview of Arizona State Parks. One of the express purposes of these acquisitions was protection of Gila topminnow habitat from development.

Some non-Federal actions, such as development on private lands, may require Federal permits, such as Department of the Army Permits from your agency. The effects of such activities are not considered cumulative effects; these activities would be addressed through the section 7 process. Compliance with the Act for activities that may result in take of listed animals, but do not have a Federal nexus, could be addressed through section 10(a)(1)(B) of the Act.

Conclusion

After reviewing the current status of the species, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the Gila topminnow. We present these conclusions for the following reasons:

- The status of the Gila topminnow appears to be relatively stable, but the species' abundance is low and its distribution fragmented.
- Gila topminnow have not been detected at the Palo Parado crossing, but are present in the watershed above the site.
- The implementation of BMPs via the SWPPP is anticipated to minimize the effects of sedimentation and contamination during construction.
- The proposed action will result in a measureable loss of instream habitat for Gila topminnow, but will also end the use of the river channel as a low water crossing, thus minimizing the effects of sedimentation and contamination over the long term.
- Critical habitat has not been designated for the Gila topminnow; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is 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 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 sections 7(b)(4) and 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 you 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. You have a continuing duty to regulate the activity covered by this incidental take statement. If you: (1) fail to assume and implement the terms and conditions; or (2) fail to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of

incidental take, the applicant must report, through your agency, the progress of the action and its impact on the species to the FWS as specified in the incidental take statement (50 CFR §402.14(i)(3)).

Amount or Extent of Take – Gila Topminnow

We anticipate that incidental take of Gila topminnow (harm, harassment, and mortality) will occur as a result of the proposed action. The detection of dead or injured Gila topminnow, will be unlikely due to the species' small body size and the fact that the harm and mortality are likely to occur during periods of high discharge and turbidity. An approach whereby take is quantified both in terms of numbers of fish and degradation or loss of habitat is thus warranted in this case. We anticipate the following forms of take:

We anticipate the following forms of take:

- Up to 20 Gila topminnow will be incidentally taken as a result of mortality or injury caused by vehicle or equipment use in the Santa Cruz River, and other proposed activities.
- All area displaced by the bridge piers and up to 420 linear feet of aquatic habitat that will be rendered unsuitable for Gila topminnow by the installation of soil cement bank protection.

Because dead or injured Gila topminnow will be difficult to detect, the following will also indicate that take, as measured in items 1 and 2, has been exceeded:

- More than 100 fish of any species are found dead in the Santa Cruz River during construction activities.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If the incidental take anticipated in the preceding paragraphs is met, you shall immediately notify the FWS in writing. If, during the course of the action, the level of anticipated incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation. In the interim, you must cease the activity resulting in the take if it is determined that the impact of additional taking will cause an irreversible and adverse impact on the species. You must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures. This biological opinion does not authorize any form of take not incidental to your proposed action as described herein.

Effect of the Take

In this biological opinion, the Service finds the anticipated level of take is not likely to jeopardize the continued existence of the Gila topminnow.

Reasonable and Prudent Measures

We believe the following reasonable and prudent measures are necessary and appropriate to minimize take of Gila topminnow:

1. You shall implement (or ensure the applicant implements) personnel education programs, defined construction areas, and well-defined operational procedures during construction.
2. You shall monitor (or ensure the applicant monitors) implementation of the proposed action and any resulting incidental take and report to the FWS and the Arizona Game and Fish Department the findings of that monitoring.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, you must comply (or ensure the applicant complies) with the following terms and conditions in regard to the proposed action. These terms and conditions implement the reasonable and prudent measures described above. Terms and conditions are nondiscretionary.

1. The following terms and conditions implement reasonable and prudent measure number one:
 - a. You shall designate (or ensure the applicant designates) a field contact representative (FCR) who shall be responsible for overseeing compliance with these terms and conditions and proposed minimization measures, and shall also be responsible for coordinating compliance with us. The FCR shall have the authority and the responsibility to halt all project activities that are in violation of these terms and conditions. The FCR shall have a copy of the terms and conditions and proposed minimization measures of this biological opinion while on the work site.
 - b. You shall inform (or ensure that the applicant informs) construction personnel of these terms and conditions and proposed minimization measures herein, and the need to comply with them.
2. The following terms and condition implements reasonable and prudent measure number two:
 - a. You shall retain (or ensure the applicant retains) a qualified biologist who will monitor the Santa Cruz River downstream from the construction area on each occasion that a discrete occurrence of in-water work occurs (i.e. the initial onset of diversion, dewatering, in-channel excavation, removal of a diversion, etc.) until in-water construction is completed. During these monitoring efforts, the monitor shall document and record any take of Gila topminnow, dead fish of any species, and take notes on the condition of the habitat.

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.

- We recommend that the U.S. Army Corps of Engineers and the project proponent, Santa Cruz County, implement the Gila Topminnow Recovery Plan (FWS 1984) or, when published, the revised version thereof.

In order that we are kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the proposed construction of the Palo Parado Bridge over the Santa Cruz River in Santa Cruz 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 (not applicable to this consultation); (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.

Thank you for your continued coordination. No further section 7 consultation is required for this project at this time. Should project plans change, or if information on the distribution or abundance of listed species or critical habitat becomes available, those determinations may need to be reconsidered. In all future correspondence on this project, please refer to consultation number 22410-2011-F-0138.

Should you require further assistance or if you have any questions, please contact Jason Douglas at (520) 670-6150 (x226) or Scott Richardson (520) 670-6150 (x242).

Sincerely,

/ s / Mima Falk for
Steven L. Spangle
Field Supervisor

cc (hard copy):

Field Supervisor, Fish and Wildlife Service, Phoenix, Arizona (2)
Assistant Field Supervisor, Fish and Wildlife Service, Tucson, Arizona

cc (electronic copy):

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, Arizona
Regional Supervisor, Arizona Game and Fish Department, Tucson, Arizona
Angela Barclay, SWCA, Inc. Tucson, Arizona

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Appendix A: Concurrence for Southwestern Willow Flycatcher

Background

The project area is within the current known breeding distribution of the Southwestern willow flycatcher (FWS 2008b), and there are occurrences of this species within 3 miles of the project limits (AZHGIS 2010). The project area occurs in the elevational range of the Southwestern willow flycatcher. Although the project area does not contain a high density of mature cottonwood–willow stands considered suitable as nesting and breeding habitat, it does contain riparian vegetation (cottonwood and willow) typical of suitable dispersal and foraging habitat, and there is perennial flow in the Santa Cruz River at the project location. It is possible that individuals of this species could perch and forage within, and disperse throughout, the riparian vegetation in the project area. While migrating between nesting and wintering habitats or during foraging activities from nearby nests, individual willow flycatchers could disperse throughout the project area. Critical habitat has been designated, but none is present in the action area.

Effects Determination

We concur with your determination that the proposed action may affect, but is not likely to adversely affect, the southwestern willow flycatcher. Our rationales for this determination are as follows:

- No riparian vegetation through which southwestern willow flycatchers may migrate, disperse, and/or forage may be affected during construction. Direct effects will be limited to temporally and spatially limited disturbance of migrating individuals.
- The implementation of BMPs via the SWPPP is anticipated to minimize the effects of sedimentation and contamination during construction.
- Critical habitat has been designated for the southwestern willow flycatcher, but none is present at the project site.

Literature Cited

- Arizona Game and Fish Department (AGFD). 1998. Gila Topminnow, *Poeciliopsis occidentalis occidentalis*, Revised Recovery Plan. Prepared for U.S. Fish and Wildlife Service, Albuquerque.
- Arizona Heritage Geographic Information System (AZHGIS). 2010. Arizona Game and Fish Department on-line environmental review tool. Available at: <http://www.azgfd.gov/hgis>. Accessed October 5, 2010.
- Friends of the Santa Cruz River. 2008. Riverwatch Water Testing Graphs. 6 pp.
- U.S. Fish and Wildlife Service (FWS). 2008a. Arizona Ecological Services field office web site: document library, generalized species information and location map for Gila topminnow. Available at: <http://arizonaes.fws.gov/>. Accessed October 11, 2010.
- U.S. Fish and Wildlife Service (FWS). 2008b. Reinitiated Biological Opinion on Transportation and Delivery of Central Arizona Project Water to the Gila River Basin in Arizona and New Mexico and its Potential to Introduce and Spread Nonindigenous Aquatic Species (File Nos. 02-21-90-F-119, 02-21-91-F-406, and 22410-2007-F-0081). 136 pp w/appendices.
- . 2003. Biological Opinion: Effects of the proposed State Route 82 Santa Cruz River Bridge project in Santa Cruz County, Arizona. Arizona Ecological Services Field Office, Phoenix, Arizona.
- . 1984. Gila and Yaqui Topminnow Recovery Plan. US Fish and Wildlife Service, Albuquerque, NM. 67 pp.