



United States Department of the Interior



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In Reply Refer to:
AESO/SE
22410-2008-F-0474

October 27, 2008

Ms. Victoria Rutson, Chief
Section of Environmental Analysis
Office of Economics, Environmental Analysis and Administration
Surface Transportation Board
Washington, D.C. 20423

RE: Arizona Eastern Railway Safford Branch and Gila River Bridge Project

Dear Ms. Rutson:

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 May 12, 2008. At issue are impacts that may result from the proposed construction and operation of an Arizona Eastern Railway (AZER) spur across the Gila River in Graham County, Arizona. The proposed action will adversely affect the endangered southwestern willow flycatcher (*Empidonax trailii extimus*; flycatcher) and its critical habitat and the endangered razorback sucker (*Xyrauchen texanus*) and its critical habitat.

This biological opinion is based on information provided in the: (1) October 10, 2008, supplemental information submittal to the Biological Assessment (BA Amendment); (2) May 17, 2007, AZER Safford Proposed Rail Alignment – Hydrology and Hydraulics Design Memorandum; (3) the undated Permian Basin Railways AZER Hazmat Security Plan; (4) the August 1, 2007, Geotechnical Design Memorandum, Preliminary Geotechnical Assessment, Gila River Bridge and Approaches; (5) December 19, 2007, Biological Assessment (BA) for the proposed action; (6) your February 25, 2008, two-volume Draft Environmental Assessment (EA) for the proposed action; (7) proceedings of various meetings, conference telephone calls, and electronic mail exchanges between May and October 2008; (8) various published and unpublished sources of information.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, 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

February 19, 2008: We received your February 14, 2008, letter requesting our concurrence that the proposed action was not likely to adversely affect the southwestern willow flycatcher and the razorback sucker.

February 29, 2008: We transmitted a letter (File number 22410-2008-F-0190) to you: (1) indicating that we did not concur with the effects determinations contained in your February 14, 2008, letter; and (2) requesting additional information in order to initiate formal consultation.

March 4, 2008: Your February 25, 2008, letter transmitting the draft Environmental Assessment for the subject action was received at our office.

May 7, 2008: FWS staff met with your project consultants to discuss the proposed action. Later on the same date, documents requested by FWS were delivered by courier.

May 12, 2008: You transmitted a request for formal consultation on the proposed action's effects to the southwestern willow flycatcher and the razorback sucker to us.

August 28, 2008: FWS staff participated in a conference call with your staff and the project consultants to discuss the delivery schedule for a final biological opinion. Your staff indicated that a draft biological opinion could be foregone in order to expedite the process.

October 10, 2008: We received, via electronic mail, an amendment to the BA describing the scope and effects of pre-construction geotechnical exploration and testing activities. We also transmitted a request for a 60-day extension to complete the biological opinion.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed action is the construction of a 12.4-mile railroad spur that will connect the Dos Pobres/San Juan mine and other industrial properties north of Safford and the Gila River with an existing 133.5-mile AZER rail line that operates between the towns of Miami and Bowie, Arizona. The action area, within which effects to threatened and endangered species and their critical habitats are reasonably certain to occur, is limited to the Gila River and adjacent areas, specifically, a 500-foot wide area associated with a 1,600-foot railway bridge, a supporting embankment, river training devices, and the temporary access road for installation of the bridge support structures. The bridge alignment will be contained within a 100-foot-wide right of way (ROW) within the 500-foot-wide corridor defining the action area.

Pre-Construction

Construction of the Gila River Bridge as part of the 12.4-mile AZER Project requires placement of 11 support piers in the Gila River channel; four will be located within upland areas. Pier placement requires that geotechnical investigations be conducted in advance. Geotechnical exploration activities will consist of test borings and temporary access routes to four bore hole locations that will be located south of the existing low flow channel near the Gila River's right bank (Figure 1 in the BA Amendment) and the two bore hole locations north of that low flow

channel (Figure 2 in the BA Amendment). Additional geotechnical investigations will be conducted away from the river, along the proposed railway alignment.

These six bore holes will be constructed in or proximate to the Gila River floodway. Each of the test borings will be a six-inch diameter hole drilled to a depth of 130 feet. The southern four holes will be drilled with conventional tracked drilling equipment. The two northern holes, where access is more difficult and limited, will be drilled using a portable drilling rig. Access to the south test boring locations will be via the existing all-weather farm road/flood control berm located west of the confluence of the Gila River and the San Simon River. The route to be traveled by the drilling equipment and support vehicles is generally depicted on Figure 1 in the BA Amendment. While accessing the site and setting up the drill rigs, the drilling company will avoid trees or shrubs within the floodplain to the maximum extent practicable. Access to the northern two test boring locations (BA Amendment Figure 2) will be via an existing side drainage that originates on the top of an adjoining bluff. As with the south access alignment, the minimum work necessary to provide temporary access to the drilling sites will be completed. Along the north access location, access route improvements will include moving some larger boulders and rocks to provide suitable access for rubber-tired service equipment using tracked or rubber-tired construction equipment. The north staging area (BA Amendment Figure 2) is situated at the terminus of the temporary access route. It will consist of an area large enough to park the transport vehicle – no additional grading for the staging area is planned.

These techniques will be used on the two northern drill sites to minimize the impacts of geotechnical exploration activities. During drilling operation, drill cuttings will be kept in close proximity to each boring. When drilling is complete, the cuttings will be used to backfill each boring, except for the upper 20 feet of the borings, which will be backfilled with grout in accordance with Arizona Department of Water Resources well-drilling regulations.

Construction

All construction activities, including staging areas, will be located within the 500-foot-wide corridor. The Surface Transportation Board anticipates two equipment staging areas will be required, one at the north and one at the south end of the Bridge. The bridge will be constructed concurrent with grading and railbed construction. Bridge construction will occur in three phases, as described below.

Bridge construction and installation of 15 support piers

The plan and profile for the bridge are shown in Appendix D of the BA. There are 15 pier structures, 11 of which will be located within the Gila River channel. A typical cross section for the pier supports is also provided in Appendix D. The temporary road, described in greater detail in the following section, is required for construction access. The road will be designed to allow placement of the pier drilling rig at the pier locations with room for other construction vehicles to pass. Construction of the piers will require excavation for placement of concrete forms, rebar, and the pier shafts. Excavation of the shafts will generate material (drill spoils) from alluvium underlying the river channel. These materials will not be stockpiled in the river bottom. All drill spoils will be put into dump trucks and transported offsite for use in construction of the railroad embankment approaches for the bridge structure. The estimated volume of drill spoils for each pier structure is about 170 cubic yards.

There are several options for installing the piers and the exact construction methods will be determined during the later stages of engineering design. Alternative methods of construction include temporary casing with a vibratory hammer, uncased/partially cased construction without slurry, or uncased/partially cased with slurry. Preliminary studies indicate that this project could be constructed using partially cased construction without slurry or uncased slurry construction. These construction methods are accomplished using a crane-mounted drill rig on a relatively flat pad adjacent to the access road, as previously described. If slurry construction is used, a closed slurry tank system will be used to ensure the slurry is not introduced into the river or surroundings. Similarly, temporary casings are usually smooth steel plate cans that are positioned with the vibratory hammer and then removed as the shaft is constructed. Partially cased construction typically consists of stay-in-place corrugated metal-pipe forms at the top of the excavation to prevent sloughing in the upper reaches. The metal-pipe forms are used when the lower reaches of the pier are demonstrated to be structurally sound.

Temporary access road within the Gila River

A temporary construction access road will be built adjacent to the bridge crossing within the 100-foot-wide right-of-way (ROW) along the entire length of the bridge. Construction vehicles, including vehicles carrying materials from off-site sources, will travel to the project area on interstate highways, state highways, county, and local roads, pursuant to the posted weight limitations.

The temporary access road will be constructed for use during the estimated 11-month construction period. The modeled two-year return interval storm event at the Gila River crossing is 9,400 cubic feet per second. Designing the temporary access road to allow flows of this volume to pass underneath is not practicable, therefore the road will most likely be washed out at some point during construction. On-site native materials from within the Gila River channel will be sufficient for construction of the temporary access road, resulting in no change in the character of the sediment within the river. No material will be imported for road construction. The road will be designed to pass low flow volume; the height and number of culverts will guide design of the access road. The top of the road will be approximately 20 feet wide with a 60 foot-wide graded work zone at each of the pier structures. A typical cross section is provided, although the exact dimensions of the road cannot be determined until additional field surveys are conducted (Figure 7 in the BA).

Railroad construction would follow generally accepted practices, including conformance to American Railway Engineering and Maintenance-of-Way Association standards. Extensive grading is anticipated in the Gila River crossing area. Unneeded excavated materials will be disposed at approved off-site locations. The selected contractor would obtain all necessary permits for disposal of waste including vegetation and other debris removed during clearing, grading and construction of the ROW.

Bridge embankment and river training devices

River training devices will protect the structure and the embankment during flood events and will be constructed along the west bank of the San Simon River where it runs parallel to the east side of the Bridge. In the event of a flood, these devices will divert the overflow north toward the Gila River. The actual method of bank protection will be determined during design and therefore is subject to change. There are numerous methods available for protection, though the selected

option will be designed to avoid encroachment on the San Simon River low flow channel and to avoid the need for the purchase of additional right of way. Fill slope protection may include riprap, rail bank protection, or sheet pile (Figure 7 and Appendix D in the BA).

Operations and Maintenance

The bridge will handle one train's round trip per day at 20 to 25 carloads per train trip, seven days a week. On an annual basis, this would total between 7,300 to 10,950 railcars traveling the bridge. Six to 12 permanent employees are anticipated to be hired to perform operations and maintenance tasks.

AZER would perform all maintenance and inspections in compliance with Federal Railroad Administration Standards. Crews using "high-rail" vehicles traveling on the rail line would perform daily inspection and maintenance activities. AZER would take necessary measures to ensure that appropriate vegetation control is followed and that any herbicides applied are approved by the United States Environmental Protection Agency. In areas where the Alignment crosses public highways, the maintenance requirements of Arizona Department of Transportation and/or Graham County will be employed. AZER has contingency plans for emergencies such as derailments and natural disasters. AZER emergency crews are headquartered at Claypool, Arizona.

Conservation Measures

Construction of the bridge and associated features, including pre-construction geotechnical investigations, will be completed using methods designed to minimize environmental impacts to the extent practicable. The temporary access road within the channel of the Gila River will consist of on-site native materials with no armoring. In the likely occurrence of a flood event, the road will wash out but will not result in the addition of pollutants or non-native materials into the Gila River. The river training devices will be constructed to maintain the San Simon River channel so that current conditions at the confluence with the Gila River will remain unchanged during normal flow conditions.

The Arizona Department of Environmental Quality (ADEQ) provided a list of conditions likely to be required under the Section 401 Water Quality Certification. This list was based on preliminary design information provided by the engineers. The individual Section 401 Certification is a requirement of the 404 permit and will be obtained concurrent with the CWA Section 404 permit. The conditions provided by ADEQ are intended to minimize the potential for water quality degradation and will be incorporated in the Project's design and construction. There are 3 general conditions regarding completion of the Stormwater Pollution Prevention Plan (SWPPP) and Arizona Pollution Discharge Elimination Permit (APDES) that are designed to minimize potential negative effects to surface water quality. Nineteen specific conditions provide more detailed direction (Attachment E to the BA). In accordance with these conditions,

AZER will not import materials for the purpose of building temporary structures in the streambed during construction of the bridge. Project activities would cease during high flow events (estimated to be the two-year return interval event) and require removal of mobile equipment from the streambed during the flow event. Upon completion of construction activities, AZER will restore the streambed as close to its original contours as possible given the new permanent bridge support structures. General Best Management Practices (BMP) and the

conditions outlined in the 401 Water Quality Certification will be incorporated into the Project design and construction.

Status of the Species - Southwestern Willow Flycatcher

The rangewide status of the southwestern willow flycatcher was described in detail in our July 17, 2008, biological opinion on right-of-way maintenance within utility corridors on National Forests in Arizona (File number 22410-2007-F-0365), and is incorporated herein via reference. Additional information can be found in the species' Recovery Plan (FWS 2002b).

Southwestern willow flycatcher critical habitat is described in the Final Rule (70 FR 60886: FWS 2005). The primary constituent elements (PCE) of critical habitat include the presence of riparian plant species in a dynamic (successional) riverine environment (for nesting, foraging, migration, dispersal, and shelter), a specific, suitable structure of this vegetation, and the presence of insect populations for food.

Environmental Baseline – Southwestern Willow Flycatcher

The Environmental Baseline describes the status of the southwestern willow flycatcher within the 500-foot by 1,600-foot action area over and adjacent to the Gila River. Southwestern willow flycatchers have not been detected recently within the alignment, though surveys were foregone in 2008. Ellis *et al.* (2008) and Durst *et al.* (2008) include data indicating widespread occupancy of the Gila River in the vicinity of the project area between 1993 and 2007.

The Gila River within the action is critical habitat for the southwestern willow flycatcher, and this aspect of the Environmental Baseline was described in our December 12, 2006, reinitiated biological and conference opinion on the effects of the Safford Resource Management Plan (File numbers 02-21-05-F-0086 and 02-21-88-F-0114). The Environmental Baseline section from this prior consultation is incorporated herein via reference. In brief, the Gila River within the action area is geomorphically active, with near-perennial flow existing in a limited low-flow channel flanked by both vegetated and open cobble bars subject to scour during overbank flows. The depth to the alluvial water table varies spatially and temporally but is sufficient to support xero- and mesoriparian plants such as desert broom (*Baccharis sarothroides*), velvet mesquite (*Prosopis velutina*), tamarisk (*Tamarix* spp.), and Goodding willow (*Salix gooddingii*). This riparian vegetation has the potential to grow to sufficient size and state of structural diversity sufficient to support flycatcher breeding, but it does not do so at this time. High flow events through the somewhat constrained reach have limited growth.

Effects of the Proposed Action - Southwestern Willow Flycatcher

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

The action area is presently unlikely to support nesting southwestern willow flycatcher, and thus, direct effects to the species' breeding activities are not anticipated. Both Ellis *et al.* (2008) and Durst *et al.* (2008) note that southwestern willow flycatchers do nest both up- and downstream from the bridge alignment, indicating that the action area supports the species' immigration, dispersal, and emigration activities. We do not anticipate that construction or operation of the bridge will appreciably affect use of the project site as a migration corridor.

The proposed action will, however, adversely affect southwestern willow flycatcher critical habitat in the project area. This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to this critical habitat. The effects to southwestern willow flycatcher critical habitat are described below.

Construction Impacts

Construction activities will require up to 11 months of disturbance within the Gila and San Simon river's channels. The temporary in-channel effects to southwestern willow flycatcher critical habitat include minor vegetation and sediment disturbances associated with geotechnical investigations, dewatering of limited areas, construction of a temporary road (with culverts to pass stream flows), the clearing of 0.4-acre of riparian vegetation, which includes 0.32 acre of temporary loss and 0.08-acre of permanent loss.

Installation of piers for the Bridge will affect a small area of critical habitat for the flycatcher. The area of critical habitat to be permanently disturbed by construction of the Bridge associated with the Permitted Activities is 1.8 acres (the area of the 100-foot-wide corridor).

Dewatering will not be permanent and is not expected to appreciably diminish the aquatic macroinvertebrate community – a PCE – such that flycatcher foraging is affected. All construction activities capable of introducing contaminants (i.e. sediment and fluids and fuels from construction vehicles) will be minimized by the implementation of Best Management Practices (BMP) guided by a Stormwater Pollution Prevention Plan (SWPPP).

The temporary effects to 0.32 acre of riparian vegetation, also a PCE, are offset by the strong likelihood that successional processes will quickly return the site to its pre-project state. This is particularly true for the early successional riparian vegetation located within the active channel. The permanent loss of 0.08 acre of riparian vegetation is minor compared to the ongoing presence of this PCE in adjacent areas.

Geomorphic Impacts

The bridge has been sited in a Gila River reach that is narrower than the reaches up- and downstream from it, yet exhibits a history of lateral channel movements (Wittler *et al.* 2002). The piers will occupy 1.8 acres of critical habitat within the bed of the Gila River, though an indeterminate fraction of this land is within the unvegetated active channel. Further, given the great magnitude of 100-year return interval peak flows in the area (over 140,000 cubic feet per second on the Gila River), neither pier placement nor the San Simon River flow training devices are anticipated to ultimately affect the potential for lateral, within-bank channel movement or recruitment of riparian vegetation at the reach scale. The retention of the aforementioned fluvial

processes also preserved the dynamism of the riparian ecosystem, thus ensuring that the PCEs of critical habitat are not appreciably diminished.

Risk of Environmental Contamination

The BA states that the bridge will handle one round trip by train per day at 20 to 25 carloads per trip, seven days a week. On an annual basis, this would total between 7,300 to 10,950 railcars traveling the bridge. We anticipate that the majority of the cargo will be materials related to mining, potentially including sulphur and/or sulphuric acid. Unintended spills of these cargoes, as well as fuels and fluids associated with the locomotives and cars, pose a risk of environmental contamination. The AZER Hazmat Security Plan (AZER 2008) contains procedures regarding notification and response processes. A spill of sufficient toxicity and magnitude and/or a response to any spill could affect PCEs related to the retention of vegetation and the presence of insects upon which flycatchers forage. While the plan does indicate the intention to minimize the risk to the environment, including critical habitat for the southwestern willow flycatcher, it cannot anticipate all incidents nor minimize their effects *a priori*.

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.

Further economic development of private lands near the Gila and San Simon rivers will, in some cases, occur in the absence of Federal permitting. This increased development would lead to more public use of the rivers and shoreline areas. Increases or changes in cowbird foraging areas (corrals, domestic stock, and bird feeders) and habitat fragmentation may increase the parasitism rate and decrease flycatcher productivity. Continued and future conversion of floodplains and near-shore lands would eliminate opportunities to restore floodplains for southwestern willow flycatcher habitats. Increased recreation, camping, off-road vehicle use, or river trips, may harass and disturb breeding birds or impact nesting habitats. This increased recreation also increases wildfire potential in these areas. As these areas develop, demands will increase for groundwater pumping. The water budget of the Gila Valley is already in deficit; increased pumping would accelerate loss of river flow and increase associated loss of riparian vegetation along those rivers. Fire, often associated with agricultural operations in the middle Gila Valley, continues to degrade southwestern willow flycatcher habitat there. Yearlong livestock grazing on private and State lands in these areas may be negatively affecting regeneration of native species used for nesting.

Proposals are being considered for phreatophyte control in the Safford area of the Gila River, and projects authorized in the 2004 Arizona Water Settlement will likely affect flows in the Gila River through the action area. Although the specifics are not yet known, these projects may affect southwestern willow flycatchers and their habitats, including critical habitat. Proponents of these projects are also unknown, but we believe most will be Federal agencies or will have a Federal nexus, resulting in section 7 consultations. Some projects may not have a Federal nexus; the effects of those projects would be cumulative effects.

Conclusion

After reviewing the current status of the southwestern willow flycatcher, the environmental baseline for the action area, the effects of the proposed AZER bridge construction, and the cumulative effects, it is the FWS's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the southwestern willow flycatcher, and is not likely to destroy or adversely modify designated critical habitat for the species. We present this conclusion for the following reasons:

- Southwestern willow flycatchers are not currently known to nest within the action area, rendering effects to individuals of the species unlikely.
- Pre-project geotechnical investigations and subsequent construction at the site is unlikely to deter southwestern willow flycatchers from migrating through the project area during or following construction.
- The temporary loss of 0.32 acre of riparian vegetation within the critical habitat is likely to be short lived. The permanent loss of 0.08 acre of riparian vegetation –a Primary Constituent Element - within the critical habitat is inconsequential in scale relative to the acreage of critical habitat in the vicinity, the Upper Gila Recovery Unit, and rangewide.
- The fundamental geomorphology of the Gila and San Simon rivers will not be altered to the extent that the function of the critical habitat and its role in the recovery of the species will be appreciably diminished.
- The PCEs of critical habitat will not be diminished to the extent that recovery of the flycatcher is reduced.

These conclusions are based on full implementation of the project as described in the Description of the Proposed Action section of this document, including any Conservation Measures that were incorporated into the project design. Additional information can be found in the revisions to the species' Recovery Plan (FWS 2002a).

Status of the Species – Razorback Sucker

The rangewide status of the razorback sucker, including a description of the species' critical habitat, was described in detail in our June 26, 2008, biological opinion on the renovation of the Cibola High School levee pond (File number 22410-F-2008-0348), and is incorporated herein via reference.

The Gila River in the reach containing the action area is critical habitat for the species. This critical habitat contains three categories of PCEs: water, physical habitat, and the biological environment (FWS 1994). The water element refers to water quality and quantity. Water quality is defined by parameters such as temperature, dissolved oxygen, environmental contaminants, nutrients, turbidity, and others. Water quantity refers to the amount of water that must reach specific locations at a given time of year to maintain biological processes and to support the

various life stages of the species. The physical habitat element includes areas of the Colorado River system that are or could be suitable habitat for spawning, nursery, rearing, and feeding, as well as corridors between such areas. Habitat types include bottomland, main and side channels, secondary channels, oxbows, backwaters, and other areas in the 100-year floodplain, which when inundated may provide habitat or corridors to habitat necessary for the feeding and nursery needs of the razorback sucker. The biological environment element includes living components of the food supply and interspecific interactions. Food supply is a function of nutrient supply, productivity, and availability to each life stage. Negative interactions include predation and competition with introduced nonnative fishes.

Environmental Baseline – Razorback Sucker

The Environmental Baseline describes the status of the razorback sucker within the 500-foot by 1,600-foot action area over and adjacent to the Gila River. Historically, the razorback sucker was found in the Gila River upstream to the New Mexico border (Bestgen 1990), but was likely extirpated by the late 1970s. Razorback suckers were transplanted into the Gila River and its tributaries between 1981 and 1989; however, there is no evidence that the transplanted fish have established self-sustaining populations. These transplants were not formally monitored until 2001, when a baseline fisheries inventory was conducted in the Gila Box portion of the Gila River. The inventory found no razorback suckers. No razorback suckers were found during depletion surveys of a plunge pool below the Eagle Creek diversion dam in 1996 (SWCA 1997). The Bureau of Land Management (BLM) reported a large razorback sucker found in Bonita Creek in 1991, though they were not detected during a fish renovation project in October 2008. Small numbers of released razorback suckers may survive in the Gila River and Bonita and Eagle creeks. Fish may have also moved upstream into the San Francisco River. Razorback suckers are, however, immeasurably unlikely to be present within the action area.

The Gila River within the action area is critical habitat for the species, and this aspect of the Environmental Baseline was further described in our December 12, 2006, reinitiated biological and conference opinion on the effects of the Safford Resource Management Plan (File numbers 02-21-05-F-0086 and 02-21-88-F-0114). In brief, the Gila River within the action area is geomorphically active, with near-perennial flow existing in a limited low-flow channel flanked by both vegetated and open cobble bars subject to scour during overbank flows. The depth to the alluvial water table varies spatially and temporally but is sufficient to support xero- and mesoriparian plants such as desert broom, velvet mesquite, tamarisk, and Goodding willow. The reach within which the bridge is proposed to be constructed is somewhat constrained. This characteristic, along with the limited size and state of structural diversity of riparian vegetation, limits the formation of complex aquatic habitats (pools, backwaters, oxbows, fluvial marshes, floodplain rearing areas, etc.). The action area thus primarily exhibits PCEs related to the presence of water.

Effects of the Proposed Action - Razorback Sucker

Effects of the action area refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and

are later in time, but are still reasonably certain to occur.

Razorback suckers are likely immeasurably rare in the Gila River and lower reaches of the San Simon River. Individuals of the species are unlikely to be affected by the proposed action. The proposed action will, however, adversely affect razorback sucker critical habitat in the action area. This biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to this critical habitat. The effects to razorback sucker critical habitat are described below.

Construction Impacts

Construction activities will require up to 11 months of disturbance within the Gila and San Simon river’s channels. The temporary in-channel channel effects to razorback sucker critical habitat include minor vegetation and sediment disturbances associated with geotechnical exploration, dewatering of limited areas, construction of a temporary road (with culverts to pass stream flows), and the clearing of 0.4-acre of riparian vegetation, which includes 0.32 acre of temporary loss and 0.08-acre of permanent loss.

Dewatering activities will change the spatial extent of water, not the volume, and will be temporary in nature. PCEs related to the presence of water will thus be minimally affected. Riparian vegetation, and the interactions between it and the hydrologic system, supports several PCEs, including those associated with rearing and feeding, fluvial function, and water quality. We anticipate that successional projects will return the 0.32-acre of cleared riparian vegetation to it’s pre-project seral state relatively rapidly. The permanent loss of 0.08 acre of riparian vegetation is minimal in comparison to the extent of vegetation-based PCEs in the vicinity of the action area and in the middle reaches of the Gila River.

Installation of piers for the Bridge will affect up to 1.8 acres of critical habitat for the razorback sucker. An additional 7.3 acres of critical habitat within the action area may be temporarily disturbed during construction. There are 517 river miles of critical habitat designated for the razorback sucker in Arizona. The maximum stream length of impact to razorback sucker critical habitat is 500 linear feet or 0.095-mile. The entire 1.8 acres to be lost to bridge pier placement are unlikely to contain the full suite of PCEs; the loss is likely to be inconsequential at the site and reach scales.

All activities capable of introducing contaminants (i.e. sediment and fluids and fuels from construction vehicles) will be minimized by the implementation of Best Management Practices (BMP) guided by a Stormwater Pollution Prevention Plan (SWPPP). Implementation of the SWPPP will help ensure that the water quality aspects of the razorback sucker’s PCEs are not appreciably affected.

Geomorphic Impacts

The bridge has been sited in a Gila River reach that is narrower than the reaches up- and downstream from it, yet still exhibits a history of lateral channel movements. The piers will occupy up to 1.8 acre of razorback sucker critical habitat but, given the great magnitude of 100-year return interval peak flows in the area (over 140,000 cubic feet per second on the Gila River), neither they nor the San Simon River flow training devices are anticipated to ultimately

affect the potential for lateral, within-bank channel movement or recruitment of riparian vegetation at the reach scale. The retention of the aforementioned fluvial processes also preserved the dynamism of the riparian ecosystem, thus ensuring that the PCEs of critical habitat are not appreciably diminished.

Risk of Environmental Contamination

The BA states that the bridge will handle one round trip by train per day at 20 to 25 carloads per trip, seven days a week. On an annual basis, this would total between 7,300 to 10,950 railcars traveling the bridge. We anticipate that the majority of the cargo will be materials related to mining, potentially including sulphur and/or sulphuric acid. Unintended spills of these cargoes, as well as fuels and fluids associated with the locomotives and cars, pose a risk of environmental contamination. The AZER Hazmat Security Plan contains procedures regarding notification and response processes. A spill of sufficient toxicity and magnitude and/or a response to any spill could affect PCEs related to the retention of vegetation and the aquatic ecosystems that are habitat for insects upon which flycatchers forage. While the plan does indicate the intention to minimize the risk to the environment, including critical habitat for the razorback sucker, it cannot anticipate all incidents nor minimize their effects *a priori*.

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.

Many activities outside of the Federal nexus occur and are expected to continue in razorback sucker habitat, including critical habitat. Critical habitat through the middle Gila Valley downstream of the Gila Box Riparian National Conservation Area is mostly non-Federal land. Cumulative effects in this area are described for the southwestern willow flycatcher above. Human development or recreational site encroachment and changes in land-use pattern around occupied reaches and designated critical habitat that further fragment, modify, or destroy upland or riparian vegetation negatively affect water quality and quantity and the primary constituent elements of critical habitat. Increased development, agriculture, and livestock grazing practices may result in the drainage, development, or diversions of wetland and aquatic habitats that reduce water quantity and quality, and destroy spawning and critical habitats. Non-native fish introduction resulting from fishing and recreation in occupied reaches and critical habitat would increase resource competition and direct mortality from predation.

Conclusion

After reviewing the current status of the razorback sucker, the environmental baseline for the action area, the effects of the proposed AZER bridge construction, and the cumulative effects, it is the FWS's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the razorback sucker, and is not likely to destroy or adversely modify designated critical habitat for the species. We present this conclusion for the following reasons:

- Razorback sucker are immeasurably unlikely to occur within the action area, rendering effects to individuals of the species unlikely.
- Pre-project geotechnical investigations and subsequent construction at the site is unlikely to deter razorback suckers from utilizing the aquatic ecosystems within the project area during or following construction.
- The temporary disturbance of up to 7.3 acres of critical habitat is likely to be short lived, and not all areas contain Primary Constituent Elements. The permanent loss of 1.8 acres (0.095 river miles) of critical habitat displaced by the bridge piers is inconsequential in scale relative to the acreage of critical habitat in the vicinity and rangewide.
- The fundamental geomorphology of the Gila and San Simon rivers will not be altered to the extent that the function of the critical habitat and its role in the recovery of the species will be appreciably diminished.
- The PCEs of critical habitat will not be diminished to the extent that recovery of the razorback sucker is reduced.

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

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. An 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 FWS does not anticipate the proposed action will incidentally take any southwestern willow flycatchers for the following reasons:

- Habitat capable of supporting the nesting and breeding of southwestern willow flycatchers does not exist in the action area. Construction activities are not likely to

significantly affect the use of the project area for migration and dispersal, and permanent effects to habitat, including critical habitat, are inconsequentially minor relative to the amount available in the vicinity, Recovery Unit, and range of the species.

The FWS does not anticipate the proposed action will incidentally take any razorback suckers for the following reasons:

- Razorback suckers are not likely to measurably occur in the action area. Construction activities are not likely to significantly affect the use of the project area for migration and dispersal, and permanent effects to habitat, including critical habitat, and inconsequentially minor relative to the amount available in the vicinity, Recovery Unit, and range of the species.

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 your agency participate in the implementation of recovery projects for the southwestern willow flycatcher and razorback sucker.

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

REINITIATION NOTICE

This concludes formal consultation on the action outlined in the request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please also note that the release of toxic substances to the Gila River may require reinitiation of consultation under item 2, above, as the nature, magnitude, and impact of spills cannot be accurately evaluated at this time.

The FWS appreciates the Surface Transportation Board's efforts to identify and minimize effects to listed species from this project. For further information please contact Jason Douglas at (520) 670-6150, (x226), or Sherry Barrett at extension (x223). Please refer to the consultation number, 22410-F-2008-0474 in future correspondence concerning this project.

Sincerely,

/ s / Sherry Barrett for
Steven L. Spangle
Field Supervisor

cc (hard copy):

Assistant Field Supervisor, U.S. Fish and Wildlife Service, Tucson, Arizona
U.S. Army Corps of Engineers (Attn: Robert Dummer), Phoenix, Arizona

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, Arizona
Regional Supervisor, Region V, Arizona Game and Fish Department Tucson, Arizona

cc (electronic copy):

Kimberly Otero, WestLand Resources, Inc., Tucson, Arizona
Mark Cochran, CH2M Hill, Tucson, Arizona

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LITERATURE CITED

- Bestgen, K.R. 1990. Status review of the razorback sucker, *Xyrauchen texanus*. Report to U.S. Fish and Wildlife Service, Salt Lake City, Utah. Contribution 44, Larval Fish Laboratory, Colorado State University, Fort Collins, Colorado.
- Durst, S.L., Sogge, M.K., Stump, S.D., Walker, H.A., Kus, B.E., and Sferra, S.J. 2008. Southwestern willow flycatcher breeding sites and territory summary - 2007. U.S. Geological Survey Open File Report 2008-1303. 31 pp.
- Ellis, L. A., D. M. Weddle, S. D. Stump, H. C. English, and A. E. Graber. 2008. Southwestern willow flycatcher final survey and monitoring report. Arizona Game and Fish Department, Research Technical Guidance Bulletin #10, Phoenix, Arizona, USA.
- SWCA, Inc. 1997. Eagle Creek fish salvage field work report. Technical memorandum from Jim Tess, SWCA, Inc to Rick Mohr, Phelps Dodge Corporation, Morenci, Arizona.
- U.S. Fish and Wildlife Service (FWS). 2005. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Southwestern Willow Flycatcher (*Empidonax traillii extimus*); Final Rule. Federal Register 70(201): 60886-61009.
- U.S. Fish and Wildlife Service (FWS). 2002a. Razorback Sucker (*Xyrauchen texanus*) Recovery Goals – Amendment and Supplement to the Razorback Sucker Recovery Plan. Mountain-Prairie Region (6), Denver, CO.
- U.S. Fish and Wildlife Service (FWS). 2002b. Southwestern Willow Flycatcher Recovery Plan, Region 2, Albuquerque, NM.
- U.S. Fish and Wildlife Service (FWS). 1994. Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback Sucker, Colorado Pikeminnow, Humpback Chub, and Bonytail Chub. Federal Register 59(54): 13374-13400
- Wittler, R.J., M.R. Delcau, and J.E. Clawson. 2002. Revisions to 2001 Upper Gila River Fluvial Study – Stable Channel Analysis. Technical Service Center. U.S. Department of the Interior, Bureau of Reclamation. Denver, CO.