



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Ecological Services  
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Arlington, Texas 76006

In Reply Refer to:  
02ETAR00-2012-F-0136

March 5, 2013

Ms. Corey Dunn  
Federal Highway Administration  
Texas Division Office  
300 East 8<sup>th</sup> Street, Room 826  
Austin, Texas 78701

Dear Ms. Dunn:

This document transmits the US Fish and Wildlife Service's (Service) biological opinion based on our review of the Texas Department of Transportation's (TxDOT) proposed bridge replacement on U.S. Highway (Hwy) 87 located in Potter County, Texas, and its effects on the threatened Arkansas River shiner (ARS) (*Notropis girardi*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The Federal Highway Administration's (FHWA) January 2, 2013, request for formal consultation was received on January 3, 2013.

This biological opinion is based on information provided in the biological assessment included with your original consultation request letter, field investigations, and other sources of information. A complete administrative record of this consultation is on file.

Currently, there are two federally listed species known to occur in Potter County, Texas; the endangered whooping crane (*Grus americana*) and the threatened ARS. TxDOT has determined that the project would not affect the whooping crane because they only occur in the area during migration and there is minimal stopover habitat in the project area. TxDOT also made a "No Effect" determination for the interior least tern (ILT) (*Sterna antillarum athalassos*). While there are no known occurrences of the ILT in Potter County, areas of marginal habitat that could be used by the ILT occur in the vicinity of the Hwy 87 bridge. TxDOT conducted a presence/absence study during the 2012 breeding season and no ILT were observed.

TxDOT has determined this project "May Affect, and is Likely to Adversely Affect" the ARS. Critical habitat (CH) has been designated for the ARS, but only in Oklahoma and Kansas;

therefore, no CH will be affected.

During an April 2012 site visit, a large colony of cliff swallows (*Petrochelidon pyrrhonota*) was noted nesting on the edge of the existing bridge platform. Cliff swallows are protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703) and it is illegal to disturb occupied nests, eggs, or young, unless authorized by a federal permit. TxDOT has proposed to remove the existing swallow nests prior to February 15, 2013. Swallows will be prevented from creating new nests on the bridge structure until after the existing bridge deck is removed. TxDOT has acknowledged that if their preventative measures are unsuccessful and swallows begin nesting, work on the bridge structure must stop until all nesting is completed.

### **Consultation History**

- February 29, 2012: Telephone conversation between TxDOT's Environmental Division, FHWA, the Service's transportation biologist, and TxDOT's Amarillo District personnel to discuss proposed action and potential endangered species affects. TxDOT was advised of the known population of ARS within the action area and the need for further investigation and an effects evaluation. The initial design had a haul road crossing the river, which would have caused substantial disturbance to the channel for up to 18 months. The District was advised to examine other options which would minimize impacts to the river channel and the ARS.
- April 23, 2012: Site visit and meeting with TxDOT. It was determined at the meeting that concluding the consultation informally would not be practical, since it would involve scheduling critical construction elements during times of extremely low flow in the Canadian River. ILT potential habitat was inspected and it was determined to be of high enough quality to warrant further examination by a TxDOT biologist.
- November 26, 2012: TxDOT submitted a draft biological assessment to the Service for review.
- November 27, 2012: The Service provided comments to TxDOT on the draft biological assessment.
- January 2, 2013: FHWA submitted TxDOT's revised biological assessment along with a request for formal consultation on the proposed action.
- January 4, 2013: The Service provided FHWA a response to the request for formal consultation and acknowledged the receipt of relevant information for the development of the Services' biological opinion.
- February 1, 2013: The Service provided FHWA and TxDOT a copy of the Services' draft biological opinion for review and comment.

February 15, 2013: The Service received comments from TxDOT on the Services' draft biological opinion. FHWA stated they had no comments.

## BIOLOGICAL OPINION

### Description of Proposed Action

The Amarillo District of TxDOT proposes to replace the existing southbound bridge over the Canadian River on Hwy 87 in Potter County, Texas. The northbound Hwy 87 bridge was replaced in 1980. This project would receive funds from FHWA. The project is scheduled to begin construction in the spring of 2013 and is expected to take between 14 to 18 months to complete. Recent inspections of the existing bridge, built in 1969, indicate it is deteriorating and does not meet current design and safety standards for state highways. All work would be conducted within the existing Hwy 87 right-of-way (ROW) and the alignment of the bridge would not change. No new ROW or easements would be required.

The southbound bridge is 580 feet long and is 42 feet 3 inches wide. It is a pre-stressed concrete girder bridge with seven spans. The bents and bridge decking are proposed to be removed. The new bridge would be 580 feet long, with a deck width of 40 feet and a roadway width of 38 feet. The existing foundations would be used to support new bents and bridge decking. The new bridge would consist of two 12-foot travel lanes, with a 10-foot shoulder on one side and a 4-foot shoulder on the other side.

The existing bridge foundations are all outside the ordinary high water marks, or bankfull width, of the Canadian River, but one set of piles and foundation is immediately adjacent to the bank and ordinary high water mark of the northern shore of the river. The existing foundations would require excavations around each structure 10 to 15 feet deep, in order to strengthen them for the new bridge. Temporary shoring would be placed around each bent to dewater the excavated area. The project would include a work pad on the north (high bank) side of the river. Sandbags would be placed along the edge of the water for erosion control purposes and to help prevent flooding of the haul road and foundation excavation area (**Figure 1**).

The proposed construction would be accomplished in phases in order to avoid creating a temporary detour by using the existing northbound bridge to maintain traffic across the river. Interior supports, which currently consist of piers, would be replaced with columns, each pier needing three 36-inch diameter columns. The bridge deck would be broken into pieces and lifted off of the piers. The process of removing the existing bridge deck would take a total of about one month, with removal of the section directly above the river channel taking approximately seven days. The placement of equipment in the river channel to facilitate deck removal is not anticipated.

Construction of the new bridge deck would involve placing beams and pre-stressed panels in the existing location. The remainder of the construction is wood formed with reinforcing steel and concrete to complete the structure. Upon completion of construction, final slope stabilization at

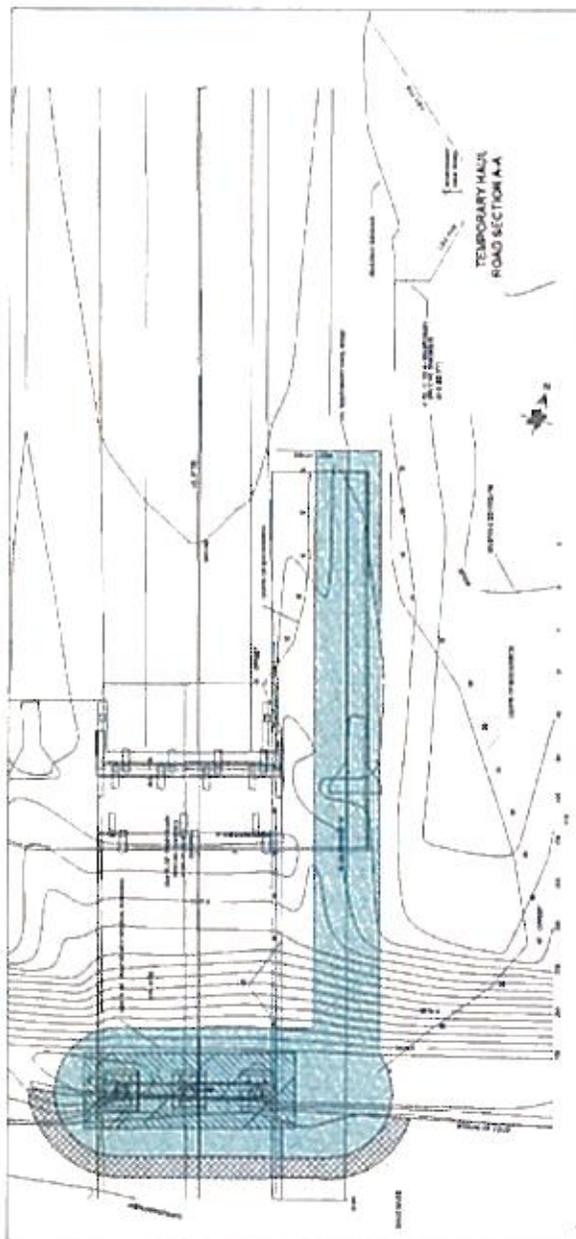


Figure 1  
Temporary Haul Road  
Proposed US 87 Bridge Replacement  
over the Canadian River  
Potter County, Texas  
(CSJ: 0041-05-047)

Figure 1. Construction impact area adjacent to the Canadian River for the US 87 southbound bridge replacement.

the location of the haul road would be accomplished utilizing stone riprap. The sequence of events of the phased construction would be: 1) diversion of traffic from the existing bridge to the northbound bridge, 2) construction of the haul road on the northeast side of the existing southbound bridge, 3) removal of the existing bridge, and 4) completion of the new bridge.

Access to the construction site would be from Hwy 87. Except for the haul road on the north side of the river, no new access roads would be constructed. Staging areas for equipment and materials would be located more than 300 feet from the Canadian River to reduce the amount of riparian clearing and soil disturbance. No additional areas with native woody vegetation would be cleared for the project.

Once the bridge replacement is complete, the bridge and roadway would be maintained using the current maintenance schedule and maintenance practices (e.g., pothole repair, spot overlay, sign maintenance, shoulder maintenance and striping), as needed. All operations and maintenance activities would comply with the terms and conditions of this biological opinion.

### *Conservation Measures*

Impacts to ARS and its habitat would be minimized by restricting construction to the existing Hwy 87 ROW. In addition, the following conservation measures have been developed to minimize or avoid impacts to federally listed species:

#### Project design phase:

- Avoid impacts to native vegetation communities to the extent practical.
- Design the bridge replacement in a manner that avoids active work areas in the wetted channel to the maximum extent practical.

#### Project construction phase:

- Minimize construction during the peak spawning period of the ARS (May-July).
- Locate temporary storage and staging areas for equipment and materials more than 300 feet from the river to reduce the amount of riparian clearing and soil disturbance.
- Restrict vehicle or other motorized equipment to outside of the wetted channel, and do not extend haul roads into the river. Due to the natural fluctuation of the river channel, variance in flow rates, and saturation of channel substrate, maintain a minimum 10-foot buffer zone from the wetted channel and do not allow equipment and motorized vehicles within the buffer zone, except as needed to excavate around the existing piles.
- In addition to TxDOT's normal best management practices for sedimentation and erosion control, install additional silt fencing along the river banks upstream and downstream of the bridge within the ROW to reduce sediment loading. TxDOT also proposes to use compost berms to trap sediment from construction, and maintain the berms until 70 percent of the preconstruction vegetative cover is achieved.
- TxDOT will remove sediment produced from the drilling of new shafts and dispose of it in an upland area outside of the river's riparian zone.

- TxDOT will revegetate disturbed areas with a native seed mix immediately following project completion and manage the revegetated areas to ensure that 70 percent of the pre-construction cover is achieved.

Post construction and maintenance phase:

- TxDOT will comply with Executive Order 13112 on Invasive Species and Executive Memorandum on Beneficial Landscaping. In accordance with these orders, landscaping would be limited to seeding and replanting the ROW with native species of plants where possible. Disturbed areas would be re-vegetated with a mix of native grasses and native forbs.

### **Action Area**

The Service considers the action area to be the area potentially directly and indirectly affected by the proposed project activities, including but not limited to, the proposed project site. This is a bridge replacement project that would not increase the capacity of the roadway. Therefore, the action area for consultation on the proposed project is the Canadian River and surrounding floodplain 300 feet upstream and downstream of the existing bridge, and the river channel extending for 6.2 miles downstream of the US 87 crossing (**Figure 2**), for reasons that will be discussed in the "Effects of the Proposed Action" section of this consultation. The action area also extends outward on each side of the main river channel to all areas directly affected by construction activities.

### **Status of the Species/Critical Habitat**

#### Species/critical habitat description

The ARS is a small fish, with a maximum length of approximately two inches found in the Canadian River in New Mexico, Oklahoma and Texas. It occurs in turbid waters of shallow channels that meander and shift frequently (Gilbert 1980). Bonner (2000) reported that ARS can be found in pools and backwater habitats, or in tributaries of large rivers.

The ARS was listed as threatened in November 1998 (63 FR 64772). Critical habitat was originally designated for the ARS in April 2001 (66 FR 18002) and was revised in 2005, based on legal challenges to the original designation. The 2001 CH designation included the Canadian River in Texas, from the Texas/New Mexico State Line to its confluence with Coetas Creek, but this area was excluded from the 2005 revision. Critical habitat was also designated in the Arkansas, Cimarron, and Canadian Rivers, as well as 300 feet on either side of the river at bankfull width, in Oklahoma and Kansas. Primary constituent elements identified in the CH designation include adequate spawning flows, habitat for food organisms, appropriate water quality, a natural flow regime, rearing and juvenile habitat appropriate for growth and development to adulthood, and flows sufficient to allow ARS to recolonize upstream habitats. A recovery plan for the ARS has not yet been developed, but a cooperative management agreement, between 23 Federal, State, and other partners, has been implemented to protect the ARS in Texas and New Mexico (CWRMA 2005).

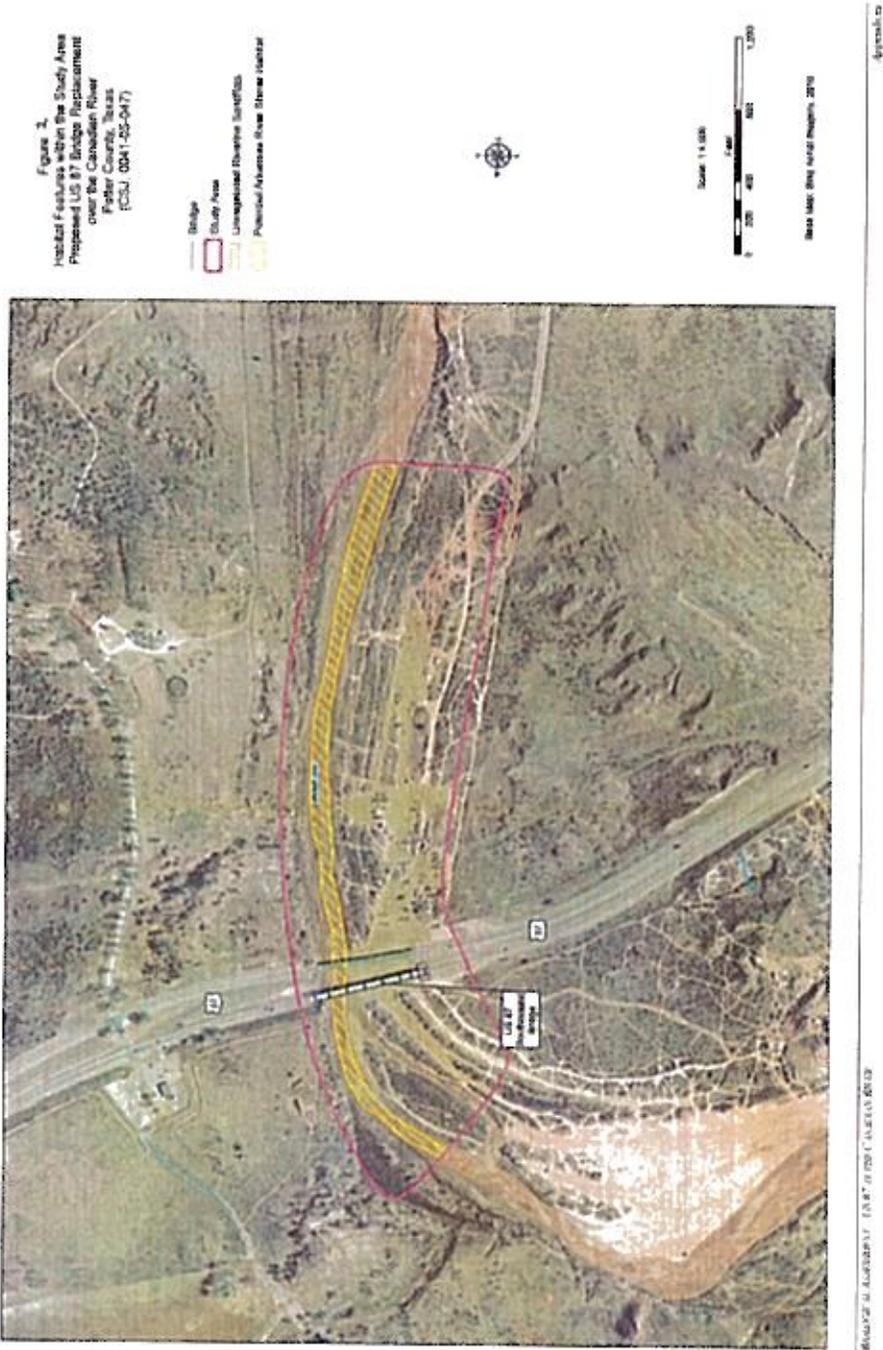


Figure 2. Action Area for the US 87 bridge replacement.

### Life history

The ARS is a broadcast spawner, producing semibouyant eggs which remain suspended by high flows until hatching (Moore 1944). Spawning begins in May and continues through July and may be associated with seasonal flooding that increases the flow within its habitat (Bestgen et al. 1989), although they are capable of spawning multiple times throughout the season under a variety of flow regimes (Bonner 2000). Hatching occurs within 48 hours and larvae utilize backwater pools and areas at the mouths of tributaries where food is plentiful. The ARS's life span is thought to be less than three years in the wild (Moore 1944). The ARS forages in sediments in the water column for invertebrates, detritus and plant material. Their diet includes mostly small insects and crustaceans.

### Status and distribution

Historically, the ARS occurred throughout the western portion of the Arkansas River Basin in Kansas, New Mexico, Oklahoma, and Texas. Currently, the ARS is thought to exist only within approximately 508 miles of the Canadian River in Oklahoma, Texas, and New Mexico. The ARS is common in the Canadian River between the Ute Reservoir in New Mexico and Lake Meredith in Texas, where it is often the most abundant fish captured.

The ARS has declined over 80 percent across its historic range. The primary reasons for the decline includes inundation and modification of stream discharge by impoundments, channel desiccation from water diversion and groundwater pumping, stream channelization, and introduction of non-native species (63 FR 64722). Pigg et al. (1999) reported a general decline in the total population and relative abundance of the ARS in Oklahoma, with the exception of the south Canadian River population, which was reported to be large and stable.

### **Environmental Baseline**

#### Status of the species within the action area

Under section 7(a)(2) of the Act, when considering the effects of the proposed action on federally listed species, the Service is required to take into consideration the environmental baseline. The environmental baseline includes past and present impacts of all Federal, State, or private actions and other activities in the action area (50 CFR 402.02), including Federal actions in the area that have already undergone section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in progress.

The area that could be affected by the proposed action includes the approximately 11.6 acres of suitable habitat for the ARS, including about 6.2 miles of the Canadian River. This area is known to support a population of the ARS. The best available information indicates the ARS is common within the river where the action area occurs (Larson et al. 1991, Giggelman et al. 2001) and the population remains stable (Bonner and Wilde 2000). Seine hauls conducted in the Canadian River at US 385 in 1990 produced 133 ARSs representing 38 percent of the fish collected, and from seine hauls in adjacent Potter County, Texas, the ARS represented 61 percent

of the sample (Larson et al. 1991). Bonner and Wilde (2000) consistently collected ARSs at the same site on multiple sampling dates between 1996 and 1998. Samples taken at this site during high flow conditions in 2001 produced six ARS representing 12 percent of the sample; however, ARS were absent from an additional sample taken during low flow conditions the same year (Giggleman et al. 2001). In 2007, 491 ARS were collected from the Canadian River at U.S. 87 (USFWS unpublished).

#### Factors affecting the species within the action area

The Canadian River in the action area has an average depth of less than two feet. The normal channel is about 50 feet wide, but can vary greatly. The floodplain is wide and flat, with small pockets of vegetation and sand dunes scattered throughout. The bankfull width of the river at the bridge location is about 200 feet. Occasional flooding results in frequent changes to the river channel location, including the creation of intermittent braided channels.

Although reservoir construction is a significant threat to the ARS, the population remains stable on the portions of the Canadian River in Texas between the major reservoirs. However, these stretches of the river are subject to low flows and drought which limits habitat availability. Low flow conditions may be exacerbated by the threat of excessive groundwater pumping in the general area.

Another factor affecting the ARS at the Hwy 87 location is recreational use. The wide, flat sandy Canadian River floodplain provides local residents a place to camp and picnic, while enjoying the river. Many also use the area to ride off-road vehicles (ORV). The impacts of ORVs to the Canadian River and adjacent upland habitat is unknown; however, at a minimum turbidity is likely increased downstream of the bridge area where a majority of the ORV usage occurs.

The Canadian River varies in turbidity, with increases occurring during high flow and significant precipitation. The affects to the aquatic biota of streams resulting from highway construction has been well documented (Barton 1977, Wellman et al. 2000, Barrett et al. 1995). Native fish within the river, including the ARS, are adapted to survival in the shallow turbid water typical of prairie streams (Bonner and Wilde 2002, Robison and Buchanan 1988). The ARS can effectively locate food in turbid conditions, in fact, intermediate turbidity may enhance prey detection (Boehlert and Morgan 1985), however; food consumption decreases under high turbidity (Bonner and Wilde 2002). Adverse effects to aquatic macroinvertebrates resulting from increased sediment load would also be expected to reduce food availability for the ARS (Henley et al. 2000, Hynes 1976). However, these effects may be negligible (Wellman et al. 2000) and only short-term due to the expected recolonization of invertebrates to the affected area (Barton 1977). Additionally, recent studies have found that terrestrial and semiaquatic invertebrates make up a significant portion of the ARS diet (Jimenez 1999).

#### **Effects of the Action**

##### Factors to be considered

*Proximity of the action*

The proposed bridge replacement would occur within the occupied range of the ARS. However, only a tiny portion of the range, about 11.6 acres of habitat, including 6.2 miles of river channel, may be affected during demolition of the existing bridge and construction of the new bridge. This is considered the action area where direct and indirect adverse effects to the species could occur due to the project. The work footprint adjacent to the channel on the north side of the river will be limited to about 12,280 square feet. No impacts are proposed in the wetted river channel.

*Distribution*

The effects would be localized to the area surrounding the Hwy 87 southbound bridge and indirect effects could occur for a few miles downstream.

*Timing*

Construction adjacent to the river channel, which would result in increases to water turbidity, would be minimized during the ARS spawning season (May-July) in order to minimize effects the ARS reproductive cycle.

*Nature of the effect*

The effects associated with bridge construction activities would have minimal effect on the ARS' lifecycle, population size or variability, or distribution. The project has been designed to avoid impacts to the ARS and effects would only occur if the river floods or bridge elements are accidentally dropped into the river channel during removal of the existing bridge deck or installation of the new deck. All work is proposed to be outside of the wetted river channel.

*Duration*

Work is proposed to begin in late spring of 2013 and would last between 14 and 18 months. The direct effects to the ARS would be infrequent and short-term, lasting only a day or two at a time. Indirect effects, such as increased turbidity would potentially last throughout the length of the project and possibly for a short time beyond project completion until vegetation is reestablished in the work areas adjacent to the river.

*Disturbance frequency, intensity, severity*

The proposed project would be a single event. The northbound Hwy 87 bridge was previously replaced, in 1980, and widened from 24 to 38 feet. The removal and replacement of the southbound bridge would occur in phases. Removal of the existing bridge span would occur first, lasting about two months. Once the existing bridge deck is removed, the existing footings would be reinforced for the new bridge structure. This process should take about three months. Finally, the new bents and bridge decking would be installed, which would take about six months. The remainder of the construction timeframe would be related to road detours and final

preparations for the new bridge to be reopened. TxDOT does not propose working in the river channel, so the effects would be minimal and would occur only if the river floods into the work zone on the north side of the channel. The intensity and severity of the effects would also be minimal, resulting in no long-term effects to the species distribution or ability to recover.

#### Analysis for effects of the action

##### *Direct Effects*

The Hwy 87 bridge project was designed to avoid impacts to the ARS under normal working conditions. However, because the river irregularly floods in this area, it is unlikely the project can be completed without some take occurring. It is anticipated that ARS occupying the portion of the Canadian River within the action area would be harmed by becoming accidentally trapped within the work area after a high water event. ARS would also be harassed by construction activity, and by increased turbidity in the river. However, since sources of turbidity related to construction would not occur during the ARS peak spawning season, adverse effects from increased turbidity are anticipated to be relevant to sediment plumes from intense construction activity, food availability and feeding.

On the north shore, a temporary haul road would be constructed to access the bridge bent located adjacent to the river channel on the north side of the river. The existing bridge foundations would require excavation around each structure 10 to 15 feet deep to in order to strengthen them. This work would occur outside of the wetted river channel, but within the bankfull width of the channel. The total size of the disturbance adjacent to the channel would be about 12,280 square feet (0.28 acre). A sandbag berm or cofferdam would be placed about ten feet north of the wet channel to divert water away from the haul road and bent foundation. If a high water event happens during construction, which is extremely likely, ARS could become trapped behind the sandbag berm or in the excavated area around the foundation.

ARS within the action area would also be affected by the activity related to the removal and construction of the bridge, including the use of equipment, foot and vehicle traffic, installation of erosion and sedimentation controls, and incidental fallback of debris into the river. These actions could result in harming, harassing or killing individuals. Noise associated with the demolition and construction could also harass the ARS.

##### *Indirect effects*

Indirect effects anticipated from the proposed action are erosion, increased sedimentation, and increased turbidity within the river following the completion of the segment of road. Increased sediment loads may inhibit fish from using the area immediately downstream of the bridge (Barton 1977). These effects may be most detrimental to early life stages (eggs, fry) that may be present in the action area. The increased activity related to construction is expected to harass the ARS occurring within the action area and potentially harming them by limiting access to habitat and disrupting migration and/or seasonal movements within the river. Additionally, some indirect effects may occur from the maintenance and removal of erosion and sedimentation

controls utilized at the construction 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.

The identified cumulative effects reasonably certain to occur within the action area are flow depletion due to excessive groundwater pumping, ORV use within the river channel and riparian area, and introduction of bait fish from anglers. Groundwater withdrawals within the Canadian River Basin affect the rate of flow within the Canadian River; however, it is the Service's opinion (noted in the ARS listing final rule) that these effects are relatively minor upstream of Lake Meredith, which includes the action area. The threat to ARS from the introduced Red River shiner (*Notropis bairdi*) from anglers and commercial bait harvesters within the ARS's range has been documented (Cross et al. 1983, Felley and Cothran 1981), although this species has not been reported from the Canadian River in Texas. Because the road provides public access to the river, the potential for anglers to use the river for recreation and introduce non-native species exists; however, this potential effect is difficult to predict or quantify. The public access to the river provided by the road crossing also exacerbates the effect of ORV use within the river channel.

### **Conclusion**

The ARS is known to occur in most portions of the Canadian River in Texas and populations are thought to be stable. The proposed action would not impose a physical barrier to ARS occupying the river within the action area, but individuals may be deterred by activity related to project implementation. Take related to the immediate area affected by construction is likely only to temporarily affect the local population.

The immediate disturbance caused by construction would only affect 0.28 acre on the north side of the river channel at the bridge location, which is not ARS habitat under normal circumstances. Direct effects would only occur in this area if flooding occurs during construction. Up to 11.6 acres of ARS habitat within the Canadian River, extending downstream for about 6.2 miles, would potentially be directly or indirectly affected due to accidental debris deposits into the river and increased sediment loading and turbidity.

After reviewing the current status of the ARS, the environmental baseline for the action area, the effects of the proposed Hwy 87 bridge replacement, and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the ARS. No ARS CH is designated within the action area of the project.

## 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 further defined by the Service 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 by the Service 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 FHWA so that they become binding conditions of any grant or permit issued to TxDOT, as appropriate, for the exemption in section 7(o)(2) to apply. FHWA has a continuing duty to regulate the activity covered by this incidental take statement. If FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require TxDOT 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, FHWA or TxDOT must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

### **Amount or Extent of Take Anticipated**

The Service anticipates all individuals of the local population of ARS within the 11.2 acre action area of the Hwy 87 bridge would be taken as a result of the proposed action. However, determining a specific number would be impossible to accurately predict due the nature of the take and biology of the species. Therefore, take will be assessed based on the temporal description of activities expected to affect the species as noted in the biological assessment and using habitat area as a surrogate for the species. Lethal incidental take in the form of harm, via mortality, is limited to the 0.28 acre work area on the north side of the river and within the river channel directly under the existing bridge structure. Non-lethal incidental take in the form of harm and/or harassment related to construction activities is anticipated to occur during construction activity and through changes in river sedimentation and turbidity within the entire 11.6 acre action area. The Service believes harm and harassment related to intense construction activity is reasonably certain to occur for those activities involving significant ground disturbance in close proximity to the river channel.

### **Effect of the Take**

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species.

### **Reasonable and Prudent Measures**

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of ARS:

- 1) TxDOT must implement all Conservation Measures proposed in the BA. TxDOT's proposed Conservation Measures are incorporated as reasonable and prudent measures by reference for this consultation.
- 2) TxDOT must provide information and training to all employees and contractors working on the project of the measures proposed to avoid take of the ARS.
- 3) After high water events, TxDOT must inspect work areas adjacent to the river in order to determine if any ARS have been trapped outside of the river channel or if work areas adjacent to the channel have been disturbed. In addition, BMPs must be inspected and repaired prior to the continuation of construction activities.
- 4) Vehicle or other motorized equipment use is restricted to outside of the river channel. Vehicle use is also prohibited in areas of standing water occurring after river flooding.
- 5) TxDOT must monitor potential take of the ARS and provide periodic monitoring reports to the Service. TxDOT must inspect and maintain all erosion and sedimentation control devices during and post-construction, until disturbed areas have become stabilized. The contractor would make repairs to damaged or ineffective controls as soon as possible.

### **Terms and Conditions**

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

- 1) TxDOT has proposed a number of Conservation Measures, listed in the BA and the "Description of the Proposed Action" section of this document. These conservation measures must be implemented, as proposed, in conjunction with this project.
- 2) All TxDOT workers and contractors employed for the proposed work must attend a pre-construction meeting which will include specific instruction on the implementation of TxDOT's proposed conservation measures and the Service's reasonable and prudent

measures included in this incidental take statement. Instructions specific to the contractor(s) related to implementation of the conservation measures and reasonable and prudent measures must be incorporated through written documentation within the project plans.

- 3) TxDOT must record and report instances of river flooding to the Service. Basic information about the flood event (i.e., date, duration, depth, flow) should be recorded for each flood event. If the haul road, sandbag berm, or BMPs located adjacent to the river channel are disturbed due to river flooding, they must be restored to pre-flooding conditions. This includes removal of any construction related debris from the river channel. If the river changes course so that the work area becomes permanently inundated, TxDOT must contact the Service for further coordination prior to the continuation of construction.
- 4) The existing unpaved road adjacent to the bridge will be used as a haul road during construction. A haul road will be installed on the north river bank in order to access the foundation adjacent to the river. Haul roads will not be extended into the river and vehicles are prohibited from entering the river channel or other flooded areas. Due to the natural fluctuation of the channel, variance in flow rates, and saturation of channel substrate, a minimum 10-ft buffer zone from the wetted channel will be maintained within the action area. Equipment and motorized vehicles will not be allowed within the buffer zone, with the exception of activity occurring within the bermed areas.
- 5) FHWA and/or TxDOT will monitor the extent of take through sufficient on-site inspections scheduled for activities anticipated to result in take through the duration of the action. TxDOT will provide the Service with a monitoring report each July and January during construction and continuing for six months post construction. The monitoring report must include a summary of construction actions implemented during the previous six month period, any unanticipated actions or delays in project completion, and any known incidental take that has occurred and the reasons for that take. Monitoring will include the following:
  - a) any impacts within the wetted river channel,
  - b) a pre-construction erosion and sedimentation controls inspection and monthly erosion control inspections. Erosion control inspections must also be conducted following precipitation of ½ inch or more (within a 24 hour timeframe) or any localized river flooding event,
  - c) description and duration of intense construction activity (i.e., removal and construction of piers and columns),
  - d) maintenance and effectiveness of erosion and sediment controls post-construction until disturbed areas have become stabilized,

- e) information on the approximate area of ground disturbance and impact to the Canadian River riparian area.
- f) a summary of all work activities accomplished in the previous six months and any proposed changes to the project timeline.
- g) pre-development photo documentation showing the bridge structure is free of migratory bird nests and a description of the deterrence methods implemented to prevent nesting on the structure during construction.

The Service believes that all individuals of the local population of the ARS within the 11.2 acre action would be incidentally taken as a result of the proposed Hwy 87 southbound bridge replacement. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of the incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. FHWA 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.

### **Conservation Recommendations**

Section 7(a)(1) of the Act directs the FHWA, as well as other 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.

The Service has no conservation recommendations for the ARS at this time. In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations by FHWA.

### **Reinitiation Notice**

This concludes the Service's formal consultation on the action outlined in FHWA's formal consultation 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.

Sincerely,

A handwritten signature in black ink, appearing to read 'Erik Orsak', written in a cursive style.

Erik Orsak  
Acting Field Supervisor

CC: Carlos Swonke, TxDOT ENV, Austin, TX  
Clay Churchill, TxDOT Childress District, Childress, TX

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