



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ARIZONA ECOLOGICAL SERVICES FIELD OFFICE
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October 13, 1995

In Reply Refer To:
AESO\SE
2-21-94-F-179

Mr. Robert H. Hollis
Division Administrator
Federal Highways Administration
234 North Central Ave., Suite 330
Phoenix, AZ 85004

Dear Mr. Hollis:

The U.S. Fish and Wildlife Service has reviewed the project plans for construction of a new Solomon bridge over the Gila River at the Sanchez Road crossing in Graham County, Arizona. Your July 13, 1995, request for consultation was received on the same date. This document represents the Service's biological opinion on the effects of that action on the endangered southwestern willow flycatcher (*Empidonax traillii extimus*). This document is written in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

This biological opinion is based on information provided in the biological assessment dated February 21, 1995, and in previous versions of that document, meetings with project proponents, and other sources of information.

CONSULTATION HISTORY

Consultants for the project requested a species list for the project area on February 1, 1994. The list was provided on March 1, 1994, and contained three listed species, the razorback sucker (*Xyrauchen texanus*), peregrine falcon (*Falco peregrinus anatum*), and bald eagle (*Haliaeetus leucocephalus*). The list also included the proposed endangered southwestern willow flycatcher. At the time the list was provided, critical habitat for the razorback sucker was only proposed. Notice was given to the contractors on April 15, 1994, of the final rule designating critical habitat for that species.

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The Service received a biological assessment dated September 1, 1994, that concluded there would be no effect to listed or proposed species or designated critical habitat. The Service notified the project consultants (Ecoplan Associates) in a letter dated September 13, 1994, that we did not concur with this finding. Another biological assessment was prepared by the consultants and was discussed at a meeting held January 26, 1995. The Service requested supplemental information, which was received February 21, 1995.

The original request for formal consultation was for the razorback sucker and its designated critical habitat only. Formal consultation was requested for the southwestern willow flycatcher in a letter dated March 3, 1995, received by the Service on March 6, 1995. The original request for consultation only dealt with the construction of the new Solomon bridge. On May 3, 1995, the Service received a letter dated May 1, 1995, from FHWA requesting that the repair work on the old bridge crossing be incorporated into the consultation. The Service issued its biological opinion on the razorback sucker, southwestern willow flycatcher, and proposed endangered cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) on May 18, 1995. This opinion addressed work on the old bridge crossing as requested. The opinion concurred with a finding of not likely to adversely affect the southwestern willow flycatcher and the cactus ferruginous pygmy-owl on the condition that surveys for both species be conducted prior to construction. Consultation was to be re-initiated if either species was detected during surveys.

Surveys for the cactus ferruginous pygmy-owl were conducted on May 12 and 13, 1995. No owls were detected. Surveys for the southwestern willow flycatcher were conducted on May 25 and 26, 1995, and on June 21, 1995. Southwestern willow flycatchers were detected during each survey visit. The Service received a request, dated and received July 13, 1995, from FHWA to re-initiate consultation on the southwestern willow flycatcher.

A meeting was held on July 17, 1995, to obtain additional information on the project and on the southwestern willow flycatcher survey results. That meeting was attended by the Service, FHWA, Arizona Department of Transportation, Ecoplan Associates, and staff from Senator McCain's office. Additional information was provided to the Service by Ecoplan Associates on July 31, 1995. A site visit with the Service, FHWA, Ecoplan Associates, ADOT, and Graham County was made on August 3, 1995. Additional participants at that meeting included staffs from Senator McCain's office, Senator Kyl's office, Congressman Kolbe's office, the Governor's office, and the media.

On October 5, 1995, the Service provided a draft copy of the biological opinion to FHWA at a meeting held to discuss the opinion. Staff from FHWA, EcoPlan Associates, and the Service were present. The draft opinion concluded that the project as proposed was likely to jeopardize the continued existence of the southwestern willow flycatcher. FHWA discussed the draft opinion with Graham County, and a meeting was held on October 12, 1995, with staff from Graham County, FHWA, EcoPlan Associates, and the Service. At that meeting, FHWA decided to amend the proposed action description to include measures that would protect the southwestern willow flycatcher and remove the possibility of jeopardy. A revised project description was provided to the Service by FHWA on October 13, 1995, and incorporated into the final biological opinion.

BIOLOGICAL OPINION

It is the Service's opinion that direct and indirect effects of the proposed action as described below will not jeopardize the continued existence of the southwestern willow flycatcher.

DESCRIPTION OF THE PROPOSED ACTION

The project description provided in this biological opinion is non-discretionary and legally binding. Failure to conduct any portion of the action as described in a manner that could cause an effect to the southwestern willow flycatcher not considered in this opinion would constitute project modification and, as provided in 50 CFR §402.16, would require reinitiation of formal consultation. Should any portion of the project be modified from the description provided below, the Service should be notified immediately.

The proposed action involves construction of a new bridge and removal of the original, existing bridge. The new bridge would span approximately 800 feet over the Gila River at Sanchez Road north of the town of Solomon in Graham County, Arizona. This structure would replace the existing 88-foot long bridge. The approaches to the existing bridge are often rendered unusable by high flows in the Gila River, disrupting vehicle access across Sanchez Road. The new bridge would be designed to accommodate higher flow events than the existing bridge, but extreme high flows could still result in closure of the bridge due to washouts and other damage to the approaches and other portions of the bridge. This consultation does not cover any repairs to the new bridge that may be needed after high water events.

The new bridge would be an approximately 800-foot long concrete span. There would be five sets of piers on 135-foot centers in the river channel to support the bridge deck. The approaches to the bridge would total 820 feet in length with a width of 120 feet. Up to 25 vertical feet of fill would be necessary to create the approaches, which would connect the existing road north and south of the river channel. Rip-rap armored spur dikes would be placed to protect the approaches and the abutments. Fill material would be obtained from sources above the normal high-water line. The consulting engineer hired by Graham County was requested to design the new bridge in such a way as to minimize to the maximum extent possible the amount of right-of-way required in the occupied southwestern willow flycatcher habitat. The design uses 1½:1 side slopes to minimize the footprint of the approaches and related vegetation clearing. To use this design, it was also necessary to add guardrail protection for public safety purposes.

Construction of the new bridge would take place in five phases. A pilot channel would be created at the location of the old "low flow" channel under the existing bridge to relocate the river away from the south bank. Placement of the piers and abutments would comprise the second phase, with the approaches and spur dikes comprising the third phase. The fourth phase and last phase during which construction would have to take place in the river channel consists of placement of the concrete horizontal spans on the piers. A temporary

access road would be constructed adjacent to the work site. No equipment would be stored in the channel and all excess materials would be removed at the completion of the project.

Construction of the new bridge would result in the disturbance of approximately 7.4 acres, of which 3.58 acres for the approaches, 3.1 acres for the pilot channel, and 0.69 acres for the spur dikes. Approximately 4.25 acres of floodplain would be permanently eliminated by the footprint of the approaches and spur dikes. Included within that 4.25 acres of floodplain is approximately 0.63 acres of a 3.5-acre riparian patch located on the north side of the channel would be eliminated by the northern approach to the bridge. The elevation of fill will be approximately six to seven vertical feet where the approaches cross the riparian habitat at the north end of the channel.

Once the new alignment and bridge are in place, the existing bridge and approaches will be removed. The existing bridge is 88 feet long by 22 feet wide. The structure is a two span continuous steel girder and floor beam system with grated bridge decking. North and south abutments and two piers are poured concrete with foundations of an undetermined depth. The bank protection is interlocking steel panels. The existing roadway is composed of fill obtained from the river channel. No pavement is present. The approach is about 1500 feet by 24 feet, however, the majority of this (about 1400 feet) is at grade. The steel components of the bridge will be dismantled and reused at appropriate locations or recycled. Concrete portions will be broken into manageable fragments and disposed of in an approved location for disposal of waste construction material. The fill from the existing approaches will be removed from the river channel and disposed of at an approved location for disposal of waste construction material.

To offset potentially adverse effects of the proposed action, FHWA has included within their proposed project description the commitment to facilitate development of habitat suitable in extent, structure, and species composition for the flycatcher. Specifically, FHWA will grade an area on the south bank of the Gila River upstream of the new bridge and plant cottonwood and willows in this area, as well as along the south bank of the Gila River immediately downstream of the new bridge. Upstream of the new bridge, an area two hundred feet wide by 2,000 feet long will be graded down to allow planted willows and cottonwoods to reach the water table. The number, spacing, and arrangement of plantings throughout the entire 200 by 2,000-foot area will conform to standards recommended by the Natural Resources Conservation Service. To provide for establishment of suitable flycatcher habitat, a 3:1 ratio of Goodding willow (*Salix gooddingii*) to Fremont cottonwood (*Populus fremontii*) will be used. The project will be considered successful if three three-acre areas of dense willow and cottonwood tree stands develop and are maintained for a period of 20 years.

Should the Service determine that inadequate soil moisture is present at this site, a shallow water collection pond would be excavated, not to exceed three acres in size, to collect water and foster insect propagation for the flycatcher to feed on. This pond would collect water from seepage and agricultural return flows. No water would be diverted from the Gila River for this purpose. FHWA will contact the Service prior to construction of such a pond.

In order to more fully understand the impacts of bridge construction on the flycatcher within occupied flycatcher habitat, FHWA has also committed to completing a study to determine pre- and post-construction population abundance, distribution, reproductive success, habitat use, dispersal rates, and dispersal distances at the Sanchez Road site and in contiguous portions of the Gila River. FHWA, or a designated consultant, will begin conducting these studies in May 1996, 1997, and 1998, and continue the study effort through the breeding season (i.e., until breeding efforts have ceased) in each year. The studies will document at the Sanchez Road site the number of territorial males, the number of paired males, the number of nesting attempts, clutch sizes, and hatching and fledgling success; the number of nests parasitized by cowbirds, the number of cowbird eggs laid in each nest, and the number of cowbirds raised; the nest success rate and causes of nest failure; the mapped distribution of territories and nests within the habitat patch. The pairing status and return rates of adults will also be documented by banding adult males and females and recording subsequent observations. Similarly, the return rates of juveniles will be documented by banding nestlings and recording subsequent observations. The study will also document the distribution of flycatchers within three miles upstream and downstream of the Sanchez Road site during each year of the study. During the first year, presence/absence surveys will be conducted for all appropriate riparian habitat within three miles upstream and downstream of the Sanchez Road site. During the two subsequent years, presence/absence surveys will be conducted at the same locations to determine dispersal and recruitment patterns of adults and juveniles dispersing from the Sanchez Road site. FHWA will submit a report summarizing the results of the studies outlined above to the Service annually by September 15 for each of the three years. These studies will be conducted by biologists that have completed the southwestern willow flycatcher training program.

In the event that the flycatchers do not return to the Sanchez Road site, FHWA will conduct presence/absence surveys in adjacent portions of the Gila River contiguous to the site and detailed demographic and habitat use studies as specified in the above paragraph will be conducted at the nearest breeding location, if found, on the Gila River.

Because little information is available on potential southwestern willow flycatcher habitat along the Gila River, FHWA will complete a one-time study of 1993 aerial photographs as well as limited field verification to determine if and where potential habitat for flycatchers exists along the Gila River. The study will include a 35-mile portion of the Gila River from Bonita Creek downstream to the boundary of the San Carlos Apache Reservation.

In addition, Graham County will provide, through FHWA, a written request that the Service participate in the Gila River Multi-Agency Management Zone study, which is in its preliminary stages. The study team, for which Graham County is the lead agency, consists of staff from several agencies, members of special interest groups, and local citizens, and will focus on efforts to reduce soil erosion and associated impacts to agriculture, related water quality issues, and the need to maintain and restore riparian areas for bank protection of adjacent agricultural fields and for use by various wildlife species of public concern including the southwestern willow flycatcher.

The project area borders agricultural fields on both sides of the river. The Gila River in the project vicinity occupies a channel approximately 1600 feet wide. There are several agricultural diversions upstream of the bridge site. Flows in the river vary seasonally from very low to very high. Flows can be quite substantial, even during periods of significant irrigation diversion, if there are sufficient rains in the upper watershed. The river may fill the existing channel during high water events and areas of erosion and aggradation along banks and within the river channel are easily recognized. When flows recede the river often stabilizes in a different location within the channel. Availability of specific aquatic habitats (i.e., pools, runs, riffles) varies in the project area based on present flows and changes to channel configuration due to past flow events. There are areas where various types of bank stabilization have been attempted. Rip-rap, car bodies/railroad cars, and Kellner jacks with and without riparian plantings have been used in the area to try and prevent bank erosion during high flow events. Within the channel are extensive areas of sand and gravel bars with scattered patches of vegetation.

Riparian habitats vary in size, shape, and species composition within and adjacent to the project area. Narrow (15-25 foot), linear patches of tamarisk (*Tamarix* sp.) are commonly found lining the banks of the Gila River. These patches occur as contiguous habitat 1/4 to 1/2 mile in extent and as shorter stretches bisected by other habitat and land cover types (e.g. native broadleaf-dominated patches, bare ground, mesquite-dominated areas, agricultural fields). Small patches of native broadleaf-dominated habitat also occur. These habitats are composed of Fremont cottonwood (*Populus fremontii*), Goodding willow (*Salix goodingii*), coyote willow (*Salix exigua*), desert willow (*Chilopsis linearis*), and seep willow (*Baccharis salicifolia*), among other species. A relatively large, tear-drop-shaped patch of this habitat (approximately 3.5 acres) occurs at the north end of the proposed bridge.

STATUS OF THE SPECIES

Species Description

The southwestern willow flycatcher (flycatcher) is a small passerine bird (Order Passeriformes; Family Tyrannidae) approximately 5.75 inches long. It has a grayish-green back and wings, whitish throat, light grey-olive breast, and pale yellowish belly. Two whitish or buff wingbars are visible, the eye ring is faint or absent. The upper mandible is dark, the lower is light grading to dark at the tip. The southwestern willow flycatcher is a riparian obligate, nesting in riparian thickets associated with rivers, streams, and other wetlands where dense growth of willow (*Salix* sp.), *Baccharis*, buttonbush (*Cephalanthus* sp.), boxelder (*Acer negundo*), tamarisk (*Tamarix* sp.) or other plants are present, often with a scattered overstory of cottonwood (*Populus* sp.).

Surface water or saturated soils are usually present or nearby, especially early in the breeding season. At some nest sites surface water may be present early in the breeding season with only damp soil present by late June or early July (Muiznieks *et al.* 1994, Sferra *et al.* 1995). The species composition and structure of nesting habitat varies across the range from homogeneous patches of only one or several shrub or tree species that form a single

cover layer up to approximately 6 meters (20 feet), to structurally heterogeneous patches of many tree and shrub species with distinct overstory and sub-canopy levels (Brown 1988, Whitfield 1990, Sedgewick and Knopf 1992, Muiznieks *et al.* 1994, Tibbitts *et al.* 1994, Sferra *et al.* 1995).

The flycatcher is a neotropical migratory species that breeds in the southwestern U.S. and migrates to Mexico, Central America, and possibly northern South America during the non-breeding season. The historical range of the southwestern willow flycatcher included southern California, Arizona, New Mexico, western Texas, southwestern Colorado, southern Utah, extreme southern Nevada, and extreme northwestern Mexico (Sonora and Baja) (Unitt 1987).

The Service included the flycatcher on its Animal Notice of Review as a category 2 candidate species on January 6, 1989 (USFWS 1989). The southwestern willow flycatcher was proposed for listing as endangered, with critical habitat, on July 23, 1993 (USFWS 1993). A final rule listing the southwestern willow flycatcher as endangered was published on February 27, 1995 (USFWS 1995). The listing became effective on March 29, 1995. The States of Arizona, California, and New Mexico also list the southwestern willow flycatcher as endangered (Arizona Game and Fish Department 1988, California Department of Fish and Game 1992, New Mexico Department of Game and Fish 1988). Following the review of comments received during the public comment period, the Service deferred the designation of critical habitat, invoking an extension on this decision until July 23, 1995. A moratorium on listing actions under the Act passed by Congress in April 1995 required the Service to cease work on the designation of critical habitat until the moratorium is lifted.

Recent surveys have documented breeding populations of southwestern willow flycatchers in three states (California, Arizona, and New Mexico) of the original seven-state range. Statewide surveys in Arizona during 1994 documented southwestern willow flycatchers at 21 of 322 sites surveyed (Sferra *et al.* 1995). Sferra *et al.* (1995) estimated a total of 119 territorial males at the 21 extant locations.

Life History

The southwestern willow flycatcher is an insectivore, foraging within and above dense riparian vegetation, taking insects on the wing or gleaning them from foliage (Wheelock 1912, Bent 1960). No information is available on specific prey species.

The flycatcher begins arriving on breeding grounds in late April and May (Sogge and Tibbitts 1992, Sogge *et al.* 1993, Sogge and Tibbitts 1994, Muiznieks *et al.* 1994, Maynard 1995, Sferra *et al.* 1995). Migration routes are not completely known. However, flycatchers, probably including sub-species *E.t. brewsteri* and *E.t. adastus*, have been documented migrating through drainages in Arizona that do not currently support breeding populations, including upper San Pedro River (BLM, unpubl. data), Colorado River through Grand Canyon National Park (Sogge and Tibbitts 1992, Sogge *et al.* 1993, Sogge and Tibbitts 1994), lower Colorado River (Muiznieks *et al.* 1994, Sferra *et al.* in prep.), and Verde River

tributaries (Muiznieks *et al.* 1994).

Flycatchers of the genus *Empidonax* rarely sing during fall migration, so that a means of distinguishing subspecies without a specimen is not feasible (Blake 1953, Peterson and Chalif 1973). However, willow flycatchers have been reported to sing and defend winter territories in Mexico and Central America (Gorski 1969, McCabe 1991). Willow flycatchers winter in Mexico, Central America, and perhaps northern South America (Phillips 1948, Stiles and Skutch 1989, Peterson 1990, Ridgely and Tudor 1994).

Southwestern willow flycatchers begin nesting in late May and early June and fledge young from late June through mid-August (Willard 1912, Ligon 1961, Brown 1988, Whitfield 1990, Sogge and Tibbitts 1992, Sogge *et al.* 1993, Muiznieks *et al.* 1994, Whitfield 1994, Maynard 1995). Southwestern willow flycatchers typically lay 3 to 4 eggs in a clutch (range = 2-5). The breeding cycle, from laying of the first egg to fledgling, is approximately 28 days. Eggs are laid at one day intervals (Bent 1960, Walkinshaw 1966, McCabe 1991); they are incubated by the female for approximately 12 days; and young fledge approximately 12 to 13 days after hatching (King 1955, Harrison 1979). Southwestern willow flycatchers typically raise one brood per year but have been documented raising two broods during one season (Whitfield 1990). Southwestern willow flycatchers have also been documented reneating after nest failure (Whitfield 1990, Sogge and Tibbitts 1992, Sogge *et al.* 1993, Sogge and Tibbitts 1994, Muiznieks *et al.* 1994).

Data on survival rates and longevity of *E.t. extimus* adults and young are not yet available. Walkinshaw (1966), who studied *E.t. traillii* in Michigan, estimated that 40.9 percent of the males at his study site returned to breed for two years, 22.7 percent returned for three years, 13.6 percent returned for four years, and 4.5 percent returned during their fifth year. Females return rates were substantially lower. Only 22.6 percent returned to breed for one year. These data are consistent with survival rates for other passerines (Gill 1990, chap. 21) and suggest that the lifespan of most *E.t. extimus* probably is two to three years.

The southwestern willow flycatcher is a frequent host of the brown-headed cowbird (*Molothrus ater*; Muiznieks *et al.* 1994, Whitfield 1994, Sferra *et al.* 1995, Sogge 1995b). Cowbirds lay their eggs in the nests of other species directly affecting their hosts by reducing nest success. Cowbird parasitism reduces host nest success in several ways. Cowbirds may remove some of the host's eggs, reducing overall fecundity. Hosts may abandon parasitized nests and attempt to reneat, which can result in reduced clutch sizes, delayed fledgling, and reduced overall nesting and success and fledgling survivorship (Whitfield 1994). Cowbird eggs, which require a shorter incubation period than those of many passerine hosts, hatch earlier giving cowbird nestlings a competitive advantage over the host's young for parental care (Bent 1960, McGeen 1972, Mayfield 1977, Brittingham and Temple 1983). Where studied, high rates of cowbird parasitism have coincided with southwestern willow flycatcher population declines, or, at a minimum, resulted in reduced or complete elimination of nesting success (Muiznieks *et al.* 1994, Whitfield 1994, Sferra *et al.* 1995, Sogge 1995b).

Population Dynamics

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Population Dynamics

Population size: Current estimates for total numbers of remaining southwestern willow flycatchers are 500 or fewer nesting pairs rangewide (Unitt 1987, USFWS 1995). Approximately 100 territorial males are estimated to occur in southern California, with most nesting groups occurring in three drainages (Whitfield 1993, Griffith and Griffith 1994). Approximately 119 territorial males were located during statewide surveys in Arizona in 1994 (Sferra *et al.* 1995). Approximately 120 territorial males were located in New Mexico during statewide surveys in 1994 (Parker and Hull 1994, Maynard 1995). A small number of territorial males (≤ 5) has been documented in both southern Utah and southwestern Colorado during 1993 and 1994 surveys. However, breeding has not been confirmed in those states (Sogge 1995a). Rangewide, most nesting groups are comprised of five or fewer pairs.

Population stability: Southwestern willow flycatcher breeding populations are small and unstable. The Service believes that at current population levels, and with continuing threats, extinction of this species is foreseeable. Southwestern willow flycatchers are absent from many areas previously occupied or are present in reduced numbers (Hubbard 1987, Unitt 1987, Sogge *et al.* 1993, Sogge and Tibbitts 1994, Muiznieks *et al.* 1994, Sferra *et al.* 1995). Former populations in Arizona on the lower Salt River, Santa Cruz River, and lower Colorado River near Yuma have been extirpated. Small groups of one to seven willow flycatcher territories have been detected on the Santa Maria River, lower San Pedro River, Verde River, upper Tonto Creek, upper Salt River, upper Gila River, Little Colorado River, and the Colorado River in Marble Canyon (Sogge *et al.* 1993, Sogge and Tibbitts 1994, Muiznieks *et al.* 1994, Sferra *et al.* 1995).

Nesting groups monitored on the Colorado River in the Grand Canyon have declined since monitoring began in 1984 (Sogge 1995b). In 1992, when comprehensive nest monitoring was initiated, two pairs were present, with only one establishing a nest. That nest successfully fledged three flycatchers (Sogge and Tibbitts 1992). In 1993, one breeding pair, one male with two females, and six unpaired males were detected. Three nests were found, all of which were parasitized by the brown-headed cowbird. None were successful in rearing flycatchers (Sogge *et al.* 1993). Four pairs and one unpaired male occupied the Grand Canyon in 1994. Nine nests were attempted, at least four of which were parasitized by cowbirds. All nesting attempts failed (Sogge and Tibbitts 1994). In summary, since 1992, 9 pairs of willow flycatchers have made 13 nesting attempts in the Grand Canyon, one of which successfully fledged three flycatchers.

A similar trend has been observed in the Verde Valley at Clarkdale where four pairs of southwestern willow flycatchers were first observed in 1992. In 1993, two pairs were present, one nest was documented and contained a single cowbird nestling (Muiznieks *et al.* 1994). In 1994, two pairs and one unpaired male were present. Two nests were found, one of which successfully fledged two flycatchers, the other fledged a single cowbird (Sferra *et al.* 1995). Data from 1995 indicates that two unpaired males occupied the Clarkdale site (Sogge 1995c).

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In California along the Kern River, Whitfield (1993) documented a precipitous decline in the total flycatcher population (44 to 27 pairs) from 1989 to 1993. During that same period cowbird parasitism rates between 50 and 80 percent were also documented (Whitfield 1993). A cowbird trapping program initiated in 1992 has reduced cowbird parasitism rates to ≤ 10 percent and appears to have stabilized population numbers at Kern River.

Status and Distribution

Reasons for listing: The southwestern willow flycatcher was listed as endangered in response to documented declines in population size and extent of historic range occupied as a result of loss, modification, and fragmentation of riparian habitat and parasitism by the brown-headed cowbird (USFWS 1993, USFWS 1995). Critical habitat was proposed to provide additional protection for areas (occupied and unoccupied) necessary for the survival and recovery of this species.

Rangewide trend: Southwestern willow flycatcher populations are small and unstable. Rangewide monitoring continues to document declines in some locations. Some populations apparently have been stabilized as a result of cowbird trapping programs.

New threats: Additional habitat losses will likely include both small- and large-scale losses and be of the same types as known to date (i.e. habitat loss, fragmentation, and modification). The Service expects incidences of cowbird parasitism will vary spatially and temporally as a function of local cowbird population dynamics and local changes in the extent of riparian habitats.

Sensitivity to impacts: The southwestern willow flycatcher's sensitivity to changes in habitat is high as a result of the small sizes of nesting groups, the small sizes of riparian habitats occupied, and the highly fragmented distribution of habitats. The extent of riparian habitat, its distribution, continuity, and species composition have been substantially altered in the Southwest (Phillips *et al.* 1964, Carothers *et al.* 1974, Rea 1983, Johnson and Haight 1984, Katibah 1984, Johnson *et al.* 1987, Franzreb 1987, Unitt 1987, General Accounting Office 1988, Szaro 1989, Dahl 1990, State of Arizona 1990). Changes in the extent and composition of riparian habitat decreases suitability and carrying capacity, thereby depressing numbers of flycatchers that can occupy an area. These effects have resulted in a contraction of the range occupied by the southwestern willow flycatcher, a reduction in the number of flycatcher populations rangewide, and in isolation of flycatcher populations, potentially changing historical emigration/immigration patterns and severing genetic exchange among populations.

Resilience: The resilience of the southwestern willow flycatcher and its habitat are both relevant aspects of a species' survival. The southwestern willow flycatcher has declined in extent of range occupied and population size as a result of habitat loss, modification, and fragmentation. Riparian habitats by nature are dynamic, with their distribution in time and space governed mostly by flood events and flow patterns. Current conditions along

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southwestern rivers and streams are such that normal flow patterns have been greatly modified, catastrophic flood events occur with greater frequency as a result of degraded watershed conditions, stream channels are highly degraded, floodplains and riparian communities are reduced in extent, and the species composition of riparian communities modified with exotic species dominant. These conditions have significantly diminished the potential for southwestern rivers and streams to develop suitable habitat for the southwestern willow flycatcher. These factors, combined with the small size of flycatcher populations indicate that this species' resilience to disturbance is low.

Recovery rate: The recovery rate of breeding populations will be a function of local population dynamics (i.e. total population size, annual reproductive success and mortality rates, and rates of dispersal from other breeding locations) and habitat suitability. Because local populations are widely separated and small in size (Muiznieks *et al.* 1994, Sferra *et al.* 1995), recovery rates are anticipated to be very slow.

ENVIRONMENTAL BASELINE

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

The Gila River basin comprises approximately 58,200 square miles of the southern half of Arizona and southwestern New Mexico (Lilburn and Associates 1984). Above San Carlos Reservoir, the river basin comprises approximately 12,000 square miles (Olmstead 1919). In the Safford area, the valley widens considerably with the floodplain extending several miles on either side of the river in some locations. The elevation of the river at Safford is 2900 feet.

Streamflow in the Gila River consists of winter discharge (November through April) and summer discharge (July through October)(Burkham 1970). Winter discharge results from snowmelt, storms, and outflow of groundwater and is characterized by constant flows for periods of several days and gradual changes in volume (Lilburn and Associates 1984). Local, convective activity is the primary factor in summer discharge, which is characterized by high unit rates and high flow volumes discharged from small parts of the overall watershed.

There are no major facilities that regulate flows upstream of the San Carlos Reservoir. However, there are many canals and diversions used primarily for agricultural irrigation, mining, and municipal uses. When surface flow is inadequate to meet irrigation needs, groundwater sources are used. Groundwater is the primary water source for domestic and industrial uses (Lilburn and Associates 1984).

The Gila River in the Safford Valley has undergone significant change over the last 100 years. Increasing human activities have resulted in the lowering of groundwater levels, decreases in surface flows, changes to the river's floodplain and channel dynamics, and changes in the extent and composition of riparian vegetation. The river channel has changed from a narrow, deep meandering channel to one that is wide, shallow and braided. Burkham (1972) reported that the average channel width in the 1880s was 150 to 300 feet. Olmstead (1919) reported that a United States township survey in Graham County showed the average width of the river channel in 1875 to be 138 feet, whereas in 1919 the channel width averaged 1,935 feet. More recently, Graf *et al.* (1983) noted that the channel in the Safford Valley appeared to be in transition from a braided to a meandering stream. Changes to channel morphology have been and continue to be a function of watershed conditions, flood events, clearing of lands within the floodplain for agricultural and other uses, direct modification of the stream channel, and the extent and stability of floodplain vegetation.

Increases in human population and agricultural activity have resulted in increased groundwater pumping and reduced surface flows in the Gila Valley during the last 60 years (Lilburn and Associates 1984). In the Safford Valley, groundwater use increased from 20,000 acre-feet/year in the last half of the 1930s to 116,000 acre-feet/year during the last half of the 1960s resulting in a lowering of the water table of up to 25 feet (Lilburn and Associates 1984). Surface water flows have also declined steadily since 1925 as a result of diversions for agriculture (Graf *et al.* 1983). These activities have restricted floodplain development and the maintenance of native riparian vegetation communities.

The areal extent of riparian habitat and species composition have changed substantially over the last 100 years. Flooding events, clearing for agricultural and other land uses, modifications to the floodplain for flood control, and the invasion of the exotic tamarisk have reduced the functional capacity of riparian habitats to dampen flood damage and provide wildlife habitat. Between 1881 and 1905 the Gila River in the Safford Valley was a meandering stream lined by cottonwood, willow, and mesquite (Graf *et al.* 1983). Ground photos of the Gila River in the Safford Valley in the 1880s indicate the riverbottom was dominated by "fairly dense cover of cottonwoods and willows," with "undergrowth beneath these trees ... very dense and ... almost impenetrable in places (Graf *et al.* 1983). Tamarisk was not present in the photos. Tamarisk was documented on the Gila River in the Phoenix area in the 1890s and was first observed in the Safford Valley sometime between 1910 and 1920 (Graf *et al.* 1983). Graf *et al.* (1983) noted that by 1930 tamarisk had become the dominant bottomland vegetation on the upper Gila River. Riparian vegetation reached its maximum areal extent during this century between 1944 and 1945 and has fluctuated considerably since that time within the dynamic of flooding events, agricultural clearing and phreatophyte control. One factor that has remained constant, however, is the predominance of tamarisk within existing riparian habitats.

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Status of the Species in the Project Area

The population of southwestern willow flycatchers in and immediately adjacent to the project area is small. Three territorial male flycatchers were estimated to inhabit the 3.5-acre riparian patch on the north bank of the proposed project area during surveys conducted on May 25 and 26, and June 21, 1995 (Ecoplan Associates, *in litt.*). This habitat patch is unique in the area, for it is dominated by native woody species, mostly cottonwood and willow, in each stratum. Non-native tamarisk is present as a minor component of the understory. The patch is uniformly dense with well-developed canopy and sub-canopy levels. Its depth exceeds 200 feet and width exceeds 700 feet (Ecoplan Associates, *in litt.*).

The mapped distribution of singing and non-singing flycatchers indicates that birds were using the entire patch. In addition, one southwestern willow flycatcher nest was found on June 21, 1995 in the western one-third of the riparian patch approximately 250 feet upstream of the present alignment of Sanchez Road and approximately 150 feet from the north edge of the patch where the riparian habitat abuts agricultural fields (Ecoplan Associates, *in litt.*). The contents of the nest were not inspected and the outcome of the nest is unknown. The breeding status of the other territorial males was not determined. The closest location known to have southwestern willow flycatchers is downstream at Fort Thomas where one territorial male was documented in 1994 (Sferra *et al.* 1995).

The proposed action area is not within proposed critical habitat for willow flycatchers.

EFFECTS OF THE ACTION

Proximity of the Action

The proposed action would occur directly in the western, downstream portion of the riparian habitat where nesting southwestern willow flycatchers have been documented. The proposed action would result in the loss of approximately 20 percent of the habitat occupied by southwestern willow flycatchers in 1995, and the site of a documented flycatcher nest.

While the proposed construction action would take place within a defined area, effects to river flows and channel morphology can be expected in both upstream and downstream areas. Due to the constriction of the floodplain by approximately 50 percent, it is likely that increased velocities will result during flood events, causing changes to the channel morphology and distribution and extent of riparian vegetation.

Timing

The construction is scheduled to begin in April 1996 and be completed by December 1996. Southwestern willow flycatchers begin establishing territories in late April and early May, and young are fledged from early July through mid-August. Construction would therefore take place within the nesting season for this species.

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Nature of the Effect

The nature of effects include direct habitat loss of approximately 0.63 acres, habitat fragmentation, a decrease in the carrying capacity of the affected habitat and concomitant loss of reproduction through reduction in space for breeding, feeding, and sheltering, and potential modification of remaining habitat by altering surface and subsurface flows from the placement of approaches and spur dikes.

Duration

The proposed project would have both a short-term and a permanent effect. The short-term effect would result from construction-related disturbance to breeding flycatchers (e.g., construction work in occupied habitat, noise associated with construction activities). Long-term, permanent impacts would result from the loss of riparian habitat at the north end of the project area that is currently occupied by southwestern willow flycatchers. Because the southwestern willow flycatcher is a short-lived species, annual reproductive success and mortality are primary factors in population stability. Short-term effects, such as construction-related disturbance to breeding birds, could also have a sustained effect by reducing reproductive success and limiting recruitment back to the project area in subsequent years.

Disturbance Frequency

The initial, short-term effects of disturbance would occur during the course of one breeding season. However, the effect of reducing reproductive success during a single season is expected to have a sustained effect (as described above) over subsequent breeding seasons. Additional long-term effects will result from reduction in the actual area of suitable habitat.

Disturbance Intensity

Disturbance intensity cannot be estimated.

Disturbance Severity

Disturbance severity is expected to be high because the proposed action will result in the permanent loss of occupied habitat, thereby reducing the carrying capacity and the viability of that location for southwestern willow flycatchers. Reduction in site carrying capacity or viability is inconsistent with the need to protect occupied and potential willow flycatcher habitat to ensure the survival and recovery of this species.

Direct and Indirect Effects

The direct and indirect effects of the action would include destruction of currently-occupied habitat, disturbance to nesting southwestern willow flycatchers from noise associated with the use of heavy equipment and general construction activities, narrowing of the floodplain and potential changes in channel morphology and the distribution and extent of riparian vegetation, and a decrease in the suitability of remaining habitat from the operation of the bridge.

Construction of the proposed bridge would result in the loss of 0.63 acres (20 percent) from a 3.5 acre patch of native riparian habitat that is currently occupied by breeding southwestern willow flycatchers. Riparian patches dominated by native vegetation are limited along the Gila River, which is dominated in most stretches by tamarisk. Southwestern willow flycatchers are riparian obligates dependent on riparian areas for carrying out their life cycle. Destruction of riparian vegetation directly reduces the capacity of this area to support flycatchers. Habitat loss, modification, and fragmentation are the primary factors involved in the decline of the southwestern willow flycatcher (USFWS 1995). Continued losses of riparian habitat are expected to further reduce population numbers and destabilize regional population dynamics through the processes described below.

Habitat loss and habitat fragmentation are interrelated processes that affect patterns of species' abundance and distribution at local and regional scales (Pulliam and Dunning 1994). Habitat loss is the reduction of the total amount of a particular habitat type in a landscape. Fragmentation is the apportionment of the remaining habitat into smaller, more isolated patches (Harris 1984, Wilcove *et al.* 1986, Saunders *et al.* 1991). Habitat loss is often manifested as the conversion of one habitat type to another (e.g., conversion of a forested tract to agricultural fields). By reducing the amount of space that can be occupied, habitat loss reduces the total number of individuals that can occur at a particular location or throughout a region.

Riparian habitat in the Southwest is naturally rare and patchy, occurring as widely-separated ribbons of forest amongst a primarily arid landscape. In Arizona, for example, riparian habitat comprises less than 0.5 percent of the landscape (Strong and Bock 1990). The actual extent of habitat suitable for the southwestern willow flycatchers is much more restricted. Wide-ranging or highly mobile species that rely on naturally patchy habitats, such as the willow flycatcher, persist at regional scales as metapopulations, or local breeding groups that are linked together and maintained over time by immigration and emigration (Pulliam and Dunning 1994). Persistence of local breeding groups is a function of the group's size (numbers of individuals) and the ability of individuals to disperse from one breeding location to another. Fragmentation reduces the chance of an individual successfully finding suitable habitat by isolating habitat patches. Searching for increasingly isolated patches leaves individuals vulnerable to mortality from starvation or predation and can result in loss of breeding opportunities.

Habitat loss and fragmentation combine to isolate and reduce in number and size the spaces necessary for breeding, feeding, sheltering, and migrating. Loss and reduction of space to carry out a species' life cycle increases the probability of extinction of local breeding groups, particularly those that consist of few individuals (Pulliam and Dunning 1994). Habitat loss and fragmentation, ultimately, reduce the viability of a metapopulation or the species as a whole. Ehrlich *et al.* (1992) document the species or subspecies in North America (excluding Hawaii) that have been extirpated since 1776 as a result of habitat loss, fragmentation, or modification. They include the San Clemente Bewick's wren (*Thryomanes bewickii leucophrys*), Texas Henslow's sparrow (*Ammodramus henslowii houstonensis*), dusky seaside sparrow (*Ammodramus maritimus nigrescens*), Santa Barbara song sparrow (*Melospiza melodia graminea*), Bachman's warbler (*Vermivora bachmanii*), and ivory-billed woodpecker (*Campephilus principalis*).

In addition to the effects described above, the Service anticipates that noise from construction activities at the north end of the project area will result in disturbance to breeding willow flycatchers. The willow flycatcher is a sound-oriented bird relying on vocalizations to establish and defend territories, attract mates, and detect and deter predators and brood parasites (i.e., brown-headed cowbird). Because construction would occur during the nesting season for this species, construction noise, construction traffic, and dispersal of dust may adversely affect courtship, mating and territorial behavior, prey location, and predator detection (R. Ohmart, *in litt.*).

The Service also anticipates that operation of the bridge will have the long-term effect of reducing overall habitat suitability for the willow flycatcher. Foppen and Reijnen (1994) and Reijnen and Foppen (1994) documented reduced breeding success, lower breeding densities, and higher dispersal rates of willow warblers (*Phylloscopus trochilus*) breeding next to roads that bisect forested habitat. Sogge (1995c) noted that the population decline and changes in the distribution of willow flycatcher territories on the Verde River in Arizona were consistent with other studies documenting adverse effects of roads that bisect habitat. In addition, a willow flycatcher was killed by an automobile on a rural road that bisects willow flycatcher habitat in the White Mountains of Arizona (Sferra *et al.* 1995). These effects, documented in Arizona and elsewhere, indicate that in addition to destabilizing local and regional population dynamics, habitat fragmentation can have direct effects including mortality and overall changes to habitat suitability that can further reduce the carrying capacity of a particular habitat patch.

The constriction of the channel at the bridge is also likely to lead to changes in channel morphology and riparian vegetation. The exact effect of the constriction during a flood event is not known. However any erosion and bank loss caused by the constriction may result in additional losses of potential habitat due to elimination of riparian vegetation. This loss may be offset to a certain degree by plantings that are part of the proposed project. However, until planted vegetation reaches a growth stage and density similar to that of currently existing vegetation, the net result of the proposed action would be a loss of riparian habitat.

Habitat alteration caused by bridge construction is comparable to repeated channel disturbances resulting from repair work and replacement of approaches. While both existing bridge repairs and new bridge construction would result in impacts to the channel, the new bridge would require the destruction of riparian vegetation for the northern approach to the bridge. It is likely that effects to the channel itself will be lessened as repairs would not be required after every high water event. However, the new bridge may require repairs whenever a flood event exceeds design specifications. Repairs will require work in the floodplain that could result in additional loss of habitat and disturbances to breeding flycatchers after the proposed project is completed.

In order to minimize or offset adverse effects to the flycatcher caused by habitat modification and loss, FHWA has committed to several actions within the project description. The bridge approaches were designed in such a way as to minimize the overall footprint and related vegetation clearing; however, a total of 0.63 acres of vegetation within the occupied habitat patch will still need to be cleared. FHWA believes that the combination of the new bridge, approach embankments, and the spur dikes will serve to better protect the remainder of the occupied habitat patch from scouring by future floods. This patch of vegetation became established following 1986 flooding and has remained in its current condition for approximately ten years. Neither FHWA nor Graham County are aware of any plans on the part of the landowner to modify this area.

To off-set the loss of 0.63 acres of this patch, FHWA will grade and revegetate a approximately 9.18 acres on the south bank of the Gila River, upstream of the new bridge, with Goodding willow and Fremont cottonwood to provide for future habitat needs of the flycatcher. An additional area from the new bridge and downstream for approximately 600 feet will also be graded and revegetated. Grading will decrease the distance to the water table and, it is anticipated that, coupled with seepage, agricultural return flows, and occasional overflow from the Gila River, sufficient water will exist at the site to allow establishment of potential flycatcher habitat.

Two additional components of the proposed action will facilitate protection and development of potentially existing and future habitat. In completing a review of existing aerial photography, potential flycatcher habitat will be identified. This information could be used to determine if other areas could be protected through cooperative agreements with willing parties for future use by southwestern willow flycatcher. Similarly, by requesting that the Service participate on the Gila River Multi-Agency Management Zone study, Graham County, through FHWA, has allowed the Service the opportunity to develop, in a cooperative setting with federal, state, and local interests, measures for riparian vegetation re-establishment and protection in association with channel and bank stabilization immediately upstream of the currently occupied site. Re-establishment of riparian vegetation and channel and bank stabilization efforts would benefit the southwestern willow flycatcher by recreating habitat in historically occupied areas and stabilizing the river system in the vicinity of the currently occupied habitat.

Interrelated Actions

Interrelated actions are those that are part of a larger action and depend upon the larger actions for their justification. No interrelated actions have been associated with this project.

Interdependent Actions

Interdependent actions are those having no independent utility apart from the proposed action. No interdependent actions have been associated with this project.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, 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 Service anticipates that the ongoing private actions described in the environmental baseline will continue in the action area.

CONCLUSION

After reviewing the current status of the southwestern willow flycatcher, the environmental baseline for the action area, the effects of the proposed bridge and the cumulative effects, it is the Service's biological opinion that the construction of this bridge, as proposed, is not likely to jeopardize the continued existence of the southwestern willow flycatcher. Because the proposed project is located outside of proposed critical habitat, there would be no adverse modification of proposed critical habitat.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, would, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

AMOUNT OR EXTENT OF TAKE

The Service believes that the project, implemented as described in the project description, will result in the temporary loss of reproduction from two southwestern willow flycatcher territories.

REASONABLE AND PRUDENT MEASURES

The measures described below are non-discretionary, and must be implemented by FHWA so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order 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 the FHWA (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the southwestern willow flycatcher.

1. Perform all construction related to the northern approach and northern spur dike during the non-breeding season (September 1 - April 15).
2. Complete all construction, mitigation, revegetation work, and removal of the existing, original bridge by April 1997.
3. Facilitate revegetation of the south bank of the Gila River upstream and downstream of the new bridge.
4. Complete a study to determine pre- and post-construction population abundance, distribution, reproductive success, habitat use, dispersal rates, and dispersal distances at the Sanchez Road site and in contiguous portions of the Gila River.
5. Complete a one-time study to identify potential southwestern willow flycatcher habitat along the Gila River.
6. Ensure Service participation in the Gila River Multi-Agency Management Zone study.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, FHWA is responsible for compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The following terms and conditions will implement reasonable and prudent measure one.
 - 1.1 Perform all construction related to the northern approach and northern spur dike during the non-breeding season (September 1 - April 15).
2. The following terms and conditions will implement reasonable and prudent measure two.
 - 2.1 Complete all construction, mitigation, revegetation work, and removal of the existing, original bridge by April 1997.
3. The following terms and conditions will implement reasonable and prudent measure three.
 - 3.1 Grade a 200 foot wide by 2,000 foot long area on the south bank of the Gila River upstream of the new bridge to the appropriate elevation to allow planted vegetation to reach the groundwater.
 - 3.2 Upstream of the bridge, plant Goodding willow and Fremont cottonwood in a 3:1 ratio within the graded area such that the numbers, spacing, and arrangement of the plantings are in conformance with standards recommended by the Natural Resources Conservation Service.
 - 3.3 Maintain this area such that three three-acre parcels within the 9.18 acre area provide cottonwoods and willows in densities similar to those in the currently occupied habitat for 20 years.
 - 3.4 At the request of the Service, construct a shallow water collection pond, not to exceed three acres in size, for water collection and insect propagation.
4. The following terms and conditions will implement reasonable and prudent measure four.
 - 4.1 Ensure that biologists who will conduct the study have completed the southwestern willow flycatcher training offered annually by the Service and the Arizona Game and Fish Department.
 - 4.2 Begin conducting studies in May 1996, 1997, and 1998, and continue the study effort through the breeding season (i.e., until breeding efforts have ceased) in each year.

- 4.3 Document annually at the Sanchez Road site the number of territorial males, the number of paired males, the number of nesting attempts, clutch sizes, and hatching and fledging success; the number of nests parasitized by cowbirds, the number of cowbird eggs laid in each nest, and the number of cowbirds raised; the nest success rate and causes of nest failure; and the mapped distribution of territories and nests within the habitat patch.
 - 4.4 Document the pairing status and return rates of adults by banding adult males and females and recording subsequent observations. Similarly, document the return rates of juveniles by banding nestlings and recording subsequent observations.
 - 4.5 Document the distribution of flycatchers within three miles upstream and downstream of the Sanchez Road site during each year of the study. During the first year, conduct presence/absence surveys for all appropriate riparian habitat within three miles upstream and downstream of the Sanchez Road site. During the two subsequent years, conduct presence/absence surveys at the same locations to determine dispersal and recruitment patterns of adults and juveniles dispersing from the Sanchez Road site.
 - 4.6 Submit an annual report summarizing the results of the studies outlined above to the Service annually by September 15 for each of the three years.
 - 4.7 In the event that the flycatchers do not return to the Sanchez Road site, conduct presence/absence surveys in adjacent portions of the Gila River as specified above, and conduct demographic and habitat use studies outlined in 4.3 and 4.4 above at the nearest breeding location on the Gila River.
5. The following terms and conditions will implement reasonable and prudent measure five.
 - 5.1 During the summer of 1996, review existing 1993 aerial photographs of the Gila River from Bonita Creek downstream to the San Carlos Apache Reservation boundary to identify potential patches of vegetation suitable for southwestern willow flycatcher habitat.
 - 5.2 Conduct limited field verification of patches identified in 5.1 to determine their suitability for flycatchers.
 - 5.3 Submit a written report detailing the findings of the aerial photograph review and field verification to the Service by December 1996.
 6. The following terms and conditions will implement reasonable and prudent measure six.
 - 6.1 As the consulting agency, ensure that Graham County, lead agency for the study, provide a written request that the Service participate in the Gila River Multi-Agency Management Zone study.

Reporting Requirements

Upon locating a dead, injured, or sick endangered or threatened species specimen, initial notification must be made to the Service's Law Enforcement Office in Mesa, Arizona (602-379-6443). Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

Notice: While the incidental take statement provided in this consultation satisfies the requirements of the Act, as amended, it does not constitute an exemption from the prohibitions of take of listed migratory birds under the more restrictive provisions of the Migratory Bird Treaty Act.

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.

The Service recommends the following actions:

1. In cooperation with the Arizona Game and Fish Department and Service, initiate and maintain a cowbird trapping program in the project area to reduce brood parasitism of southwestern willow flycatcher nests and other avian species.
2. Participate in the Arizona Partners In Flight program by conducting presence/absence surveys, in accordance with the southwestern willow flycatcher survey protocol, in suitable flycatcher habitat along the Gila River for a distance of 10 miles upstream and downstream of the Sanchez Road breeding site.

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.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the proposed construction of a new Solomon bridge over the Gila River at the Sanchez Road crossing in Graham County, Arizona. As required by 50 CFR 402.16, reinitiation of formal consultation is required if: (1) the amount or extent of incidental take is reached; (2) new information reveals effects of the agency action that may impact 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 that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

If we can be of further assistance, please contact Rob Marshall, or Bruce Palmer.

Sincerely,



Sam F. Spiller
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (GM:GSV/LCR)
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