AESO/SE
22410-2005-F-0506R1

March 22, 2010

Mr. Robert E. Hollis, Division Administrator
U. S. Department of Transportation
Federal Highway Administration
4000 North Central Avenue, Suite 1500
Phoenix, Arizona 85012-1906

RE: New Beaver Dam Wash Bridge on Highway 91, Mohave County, Arizona

Dear Mr. Hollis:

Thank you for your request to reinitiate formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your dated request was dated March 1, and received by us on March 2, 2010. At issue are impacts that may result from the proposed construction of the new Beaver Dam Wash Bridge on Mohave County Highway 91 in Mohave County, Arizona. The proposed action would affect the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) in Beaver Dam Wash. Effects to the endangered Virgin River chub (*Gila seminuda*) remain the same as described in our original biological opinion for this project dated December 21, 2006, and are not discussed as part of this reinitiation.

This biological opinion is based on southwestern willow flycatcher survey information provided by Mr. Tom Koronkiewicz on January 28, 2010, information provided by Mr. Justin White of Arizona Department of Transportation (ADOT) on February 23, 2010, and March 2, 2010, including the Clean Water Act section 404 permit and approved mitigation plan for the proposed action, your request for reinitiation dated March 1, 2010, and other sources of information. Literature cited in this biological opinion is not a complete bibliography of all literature available on the species of concern, effects on this species, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

**Consultation History**

December 21, 2006 The FWS provided the Federal Highway Administration (FWHA) with a biological opinion on the effects of the proposed action on Virgin River chub. We also provided a concurrence with "may affect, not likely to adversely affect" for the southwestern willow flycatcher. This

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|---|---|
| | concurrence was based on the potential for effects to migrating southwestern willow flycatchers and the loss of 0.69 acre of potential migration and foraging habitat by the construction of the north training dike. |
| January 29, 2010 | Survey information from Mr. Tom Koronkiewscz of SWCA, Inc. was received by Ms. Lesley Fitzpatrick of my staff. Two southwestern willow flycatcher nest territories were documented upstream of the existing highway bridge in 2009. Two additional southwestern willow flycatchers were documented in the riparian areas downstream of the bridge. Ms. Fitzpatrick immediately advised Mr. Justin White of ADOT of this change in species status near the project area. Mr. White indicated he would contact the project proponent and obtain additional information |
| February 23, 2010 | Mr. White provided Ms. Fitzpatrick with additional information on the project schedule and effects footprint. |
| February 24, 2010 | After discussing the new information with the FWS species lead for the southwestern willow flycatcher, Ms. Fitzpatrick advised Mr. White of the need to reinitiate formal consultation for this project to address effects to the southwestern willow flycatcher. Ms. Fitzpatrick and Mr. White determined that the ongoing vegetation clearing at the site could continue while the biological opinion was being drafted. The permanent loss of a portion of this 0.5 acre of vegetation was necessary for the project and would be evaluated in this biological opinion. Further, the vegetation clearing would be completed prior to any southwestern willow flycatchers moving into the area in 2010, so there would not be disturbance to individual birds during the clearing. |
| March 2, 2010 | FWS received your request to reinitiate consultation on this proposed action. Because of the need to expedite this biological opinion, a standard 30-day letter was not provided; however, Ms. Fitzpatrick did provide acknowledgement of reinitiation via email. In your letter, you designated ADOT as the non-Federal representative for the purposes of coordination with FWS. |
| March 2, 2010 | The FWS asked ADOT if they wanted to review a draft biological opinion. Since there were no additional terms and conditions proposed for the project, ADOT indicated they did not need to review a draft. |

## BIOLOGICAL OPINION

### DESCRIPTION OF THE PROPOSED ACTION

The proposed action is described in detail in the original biological assessment for this project and summarized in the December 21, 2006, biological opinion. This information is incorporated by reference.

**Construction Activities**

The project will be completed in two phases; the first would construct half the new bridge and the second would demolish the old bridge and construct the second half of the new bridge. Construction is anticipated to last about six months. The proposed schedule for the construction was provided by the contractors through ADOT and is provided below. Dates may shift slightly in response to local conditions, and final work on the project may not be completed until July or August. All dates are in 2010.

Vegetation clearing at site: February- first week of March
Drilling operations (phase 1): March 1-27
Bridge construction (phase 1): February 8- May 15
South and North Training dikes: February 8- June 15. Approximately 80 percent of work will be completed by May 15, with the remaining 20 percent completed by June 15.
Drilling operations (phase 2): May 31- June 11
Bridge construction (phase 2): May 17- June 30

**Conservation Measures**

For this reinitiation, no new conservation measures are proposed. Appropriate conservation measures are already in place that provide protection for the riparian habitat and southwestern willow flycatchers. The Corps of Engineers determined the proposed action qualified under Nationwide Permit 3 (Maintenance) and implementation must follow the terms and conditions included in the permit, and certain special conditions. Among the special conditions were requirements for the permittee to restrict vehicular traffic in Beaver Dam Wash outside of the permitted construction area and to mark the wetlands areas adjacent to the project site so contractors would not inadvertently impact these areas. The ADOT representative for this project has communicated with the contractor's on-site superintendent on the need to protect the habitat. The contractors are maintaining isolation of the area from their equipment, and have already reported one recreationist to the Sheriff for driving a 4-wheeler through the area. The individual was cited. The project proponents have committed to enforce these restrictions through the construction period.

As the contracts for the work were already in place and work had been initiated on the project, altering the work schedule to avoid work during the 2010 breeding season for the southwestern willow flycatcher is not practical; thus a conservation measure to defer construction to outside of the breeding season is not proposed, nor is such a reasonable and prudent measure included in the incidental take statement for this biological opinion.

Annual monitoring of the southwestern willow flycatchers on Beaver Dam Wash is accomplished by SWCA, Inc. under a contract with U.S. Bureau of Reclamation, and duplicating this effort by the project proponent could cause unnecessary disturbance to the birds. Therefore, additional monitoring of the birds by the project proponent is not required. Monitoring and avoidance of the occupied habitat is included under the 404 permit requirements as discussed above.

Mitigation for 0.29 acres of jurisdictional wetlands lost to the proposed action was required under the Clean Water Act section 404 permit for the proposed action. Mohave County purchased 0.90 acres of wetlands immediately adjacent to the north training dike and will protect these in perpetuity. This mitigation area contains occupied southwestern willow flycatcher habitat that is part of the habitat patch, including one of the 2009 nest sites.

## STATUS OF THE SPECIES AND CRITICAL HABITAT

### *Species Description*

The southwestern willow flycatcher is a small grayish-green passerine bird (Family Tyrannidae) measuring approximately 5.75 inches. The song is a sneezy “fitz-bew” or a “fit-a-bew”, the call is a repeated “whitt”. It is one of four currently recognized willow flycatcher subspecies (Phillips 1948, Unitt 1987, Browning 1993). It is a neotropical migrant that breeds in the southwestern U.S. and migrates to Mexico, Central America, and possibly northern South America during the non-breeding season (Phillips 1948, Stiles and Skutch 1989, Peterson 1990, Ridgely and Tudor 1994, Howell and Webb 1995). The historical breeding range of the 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).

### *Listing and critical habitat*

The southwestern willow flycatcher was listed as endangered, without critical habitat, on February 27, 1995 (U.S. Fish and Wildlife Service 1995). Critical habitat was later designated on July 22, 1997 (U.S. Fish and Wildlife Service 1997). On October 19, 2005, after a series of corrections, the FWS re-designated critical habitat for the southwestern willow flycatcher (U.S. Fish and Wildlife Service 2005). A total of 737 river miles across southern California, Arizona, New Mexico, southern Nevada, and southern Utah were included in the final designation. The lateral extent of critical habitat includes areas within the 100-year floodplain.

A final recovery plan for the flycatcher was signed by the FWS Region 2 Director and released to the public in March, 2003 (U.S. Fish and Wildlife Service 2002). The Plan describes the current status of the flycatcher, and reasons for endangerment, addresses important recovery actions, includes detailed issue papers on management issues, and provides recovery goals. Recovery is based on reaching numerical and habitat-related goals for each specific Management Unit established throughout the subspecies range and establishing long-term conservation plans (U.S. Fish and Wildlife Service 2002).

### *Habitat*

The southwestern willow flycatcher breeds in dense riparian habitats from sea level in California to approximately 8,500 feet in Arizona and southwestern Colorado. Historical egg/nest collections and species' descriptions throughout its range describe the flycatcher's widespread use of willow (*Salix* spp.) for nesting (Phillips 1948, Phillips *et al.* 1964, Hubbard 1987, Unitt 1987, San Diego Natural History Museum 1995). Currently, flycatchers primarily use Geyer willow

(*Salix geyeriana*), coyote willow (*Salix exigua*), Goodding's willow (*Salix gooddingii*), boxelder (*Acer negundo*), saltcedar (*Tamarix* sp.), Russian olive (*Elaeagnus angustifolio*), and live oak (*Quercus agrifolia*) for nesting. Other plant species less commonly used for nesting include: buttonbush (*Cephalanthus* sp.), black twinberry (*Lonicera involucrata*), cottonwood (*Populus* spp.), white alder (*Alnus rhombifolia*), blackberry (*Rubus ursinus*), and stinging nettle (*Urtica* spp.). Based on the diversity of plant species composition and complexity of habitat structure, four basic habitat types can be described for the flycatcher: monotypic willow, monotypic exotic, native broadleaf dominated, and mixed native/exotic (Sogge *et al.* 1997).

Southwestern willow flycatchers are strongly territorial. Flycatcher territories are often clumped together, rather than evenly spread throughout a habitat patch. Territory size varies greatly, probably due to differences in population density, habitat quality, and nesting stage. Estimated breeding territory sizes generally range from about 0.25 to 5.7 acres, with most in the range of about 0.5 to 1.2 acres (Sogge 1995, Whitfield and Enos 1996, Skaggs 1996, Sogge et al. 1997).

Tamarisk is an important component of the southwestern willow flycatcher's nesting and foraging habitat in Arizona and other parts of the bird's range. In 2001 in Arizona, 323 of the 404 (80 percent) known flycatcher nests (in 346 territories) were built in a tamarisk tree (Smith *et al.* 2002). Tamarisk had been believed by some to be a habitat type of lesser quality for the flycatcher, however comparisons of reproductive performance (U.S. Fish and Wildlife Service 2002), prey populations (Durst 2004), and physiological conditions (Owen and Sogge 2002) of flycatchers breeding in native and exotic vegetation has revealed no difference (Sogge *et al.* 2005).

The southwestern willow flycatcher's habitat is dynamic and can change rapidly: nesting habitat can grow out of suitability; saltcedar habitat can develop from seeds to suitability in five years; heavy runoff can remove/reduce habitat suitability in a day; or river channels, floodplain width, location, and vegetation density may change over time. The flycatcher's use of habitat in different successional stages may also be dynamic. For example, over-mature or young habitat not suitable for nest placement can be occupied and used for foraging and shelter by migrating, breeding, dispersing, or non-territorial flycatchers (McLeod *et al.* 2005, Cardinal and Paxton 2005). Flycatcher habitat can quickly change and vary in suitability, location, use, and occupancy over time (Finch and Stoleson 2000).

Table 1. Estimated rangewide population for the southwestern willow flycatcher based on 1993 to 2007 survey data for Arizona, California, Colorado, New Mexico, Nevada, Utah, and Texas[1].

| State | Number of sites with WIFL territories 1993-2007[2] | Percentage of sites with WIFL territories 1993-2007 | Number of territories[3] | Percentage of total territories |
|---|---|---|---|---|
| Arizona | 124 | 43.1 % | 459 | 35.3 % |
| California | 96 | 33.3 % | 172 | 13.2 % |
| Colorado | 11 | 3.8 % | 66 | 5.1 % |
| Nevada | 13 | 4.5 % | 76 | 5.9 % |

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|---|---|---|---|---|
| New Mexico | 41 | 14.2 % | 519 | 40.0 % |
| Utah | 3 | 1.0 % | 7 | 0.5% |
| Texas | ? | ? | ? | ? |
| Total | 288 | 100 % | 1,299 | 100 % |

[1]Durst *et al.* 2008.
[2]Site boundaries are not defined uniformly throughout the bird's range.
[3] Total territory numbers recorded are based upon the most recent years survey information from that site between 1993 and 2007.

*Rangewide distribution and abundance*

There are currently 288 known southwestern willow flycatcher breeding sites in California, Nevada, Arizona, Utah, New Mexico, and Colorado (all sites from 1993 to 2007 where a territorial flycatcher has been detected) holding an estimated 1,299 territories (Durst *et al.* 2008). It is difficult to arrive at a grand total of flycatcher territories since not all sites are surveyed annually. Numbers have increased since the bird was listed and some habitat remains unsurveyed; however, after nearly a decade of intense surveys, the existing numbers are just past the upper end of Unitt's (1987) estimate of 20 years ago (500-1000 pairs). About 50 percent of the 1,299 estimated territories (Table 1) throughout the subspecies range are located at four general locations (Cliff/Gila Valley – New Mexico, Roosevelt Lake - Arizona, San Pedro River/Gila River confluence – Arizona, Middle Rio Grande, New Mexico).

*Arizona distribution and abundance*

While numbers have significantly increased in Arizona (145 to 459 territories from 1996 to 2007) (English *et al.* 2006, Durst *et al.* 2008), overall distribution of flycatchers throughout the state has not changed much. Currently, population stability in Arizona is believed to be largely dependent on the presence of two large populations (Roosevelt Lake and San Pedro/Gila River confluence). Therefore, the result of catastrophic events or losses of significant populations either in size or location could greatly change the status and survival of the bird. Conversely, expansion into new habitats or discovery of other populations would improve the known stability and status of the flycatcher.

*Critical habitat*

Because there is no designated critical habitat in the action area, a description of critical habitat is not relevant to the effects analysis. Further information about critical habitat can be found in the Federal Register notice (U.S. Fish and Wildlife Service 2005).

*Past Consultations*

Since listing in 1995, at least 182 Federal agency actions have undergone (or are currently under) formal section 7 consultation throughout the flycatcher's range. This list of consultations can be found in the administrative record for this consultation.

Actions continue to adversely affect the distribution and extent of all stages of flycatcher habitat throughout its range (development, urbanization, grazing, recreation, native and non-native habitat removal, dam operations, river crossings, ground and surface water extraction, etc.). Introduced tamarisk-eating leaf beetles were first detected within the breeding habitat of the flycatcher in 2008 along the Virgin River near the Town of St. George, Utah. Stochastic events also continue to change the distribution, quality, and extent of flycatcher habitat.

Conservation measures associated with some consultations and Habitat Conservation Plans have helped to acquire lands specifically for flycatchers on the San Pedro, Verde, and Gila rivers in AZ and the Kern River in CA. Additionally, along the lower Colorado River, the U.S. Bureau of Reclamation is currently attempting to establish riparian vegetation to expand and improve the distribution and abundance of nesting flycatchers. A variety of tribal Management Plans in CA, AZ, and NM have been established to guide conservation of the flycatchers. Additionally, during the development of the recent critical habitat rule, management plans were developed for some private lands along the Owens River in CA and Gila River in NM. These are a portion of the conservation actions that have been established across the subspecies' range.

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 action area is all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For the proposed project the action area is Beaver Dam Wash and its floodplain from one mile upstream of the existing Highway 91 Bridge to its confluence with the Virgin River. This was determined based on the lateral extent of riparian and floodplain-associated vegetation that may be used by southwestern willow flycatchers, and the distance up/and downstream from the bridge that sound associated with construction activities may be perceived by southwestern willow flycatchers.

Surveys for southwestern willow flycatchers near the confluence of Beaver Dam Wash and the Virgin River were accomplished from 2003 to 2006 (McLeod et al. 2008); however surveys upstream on Beaver Dam Wash were not initiated until 2007 when a southwestern willow flycatcher was documented immediately upstream of the Highway 91 bridge in a developing 2.5 acre habitat patch (McLeod et al. 2008). In 2008, the developing downstream habitat area was added to the survey. One male southwestern willow flycatcher was documented in the survey area on July 22, 2008, during the second of five survey efforts at this site (McLeod and Koronkiewscz 2009). In 2009, surveys documented two nests in the habitat area upstream of the bridge and two lone males in the downstream habitat area (Tom Koronkiewscz, personal communication, January 29, 2010). Both nests failed and the lone males were only detected at one survey period in late June. The two nests were approximately 300 feet and 600 feet upstream of the bridge while the lone males were recorded over 700 feet downstream. It is likely

that both the nesting birds and the lone males were using the entire area of available habitats. Southwestern willow flycatchers nesting or migrating through the action area are part of the metapopulation using the Virgin River from Lake Mead in Nevada up through St. George, Utah.

The upstream habitat area (estimated at about 2.75 acres of nesting habitat, with likely use of the surrounding area for foraging) has a scattered overstory of cottonwoods with a mid-story of smaller cottonwoods and Gooddings willow and a lower story of coyote willow, salt cedar, and some Russian olive. The wetland area where the springs emerge is adjacent to this habitat. The downstream habitat area (about nine acres) is dominated by stringers of young Goodding and coyote willow with some larger trees along the edge of the golf course and a dense patch at the upstream end near the bridge. Any of the riparian vegetation in the action area can be used by southwestern willow flycatchers for migration, foraging, or dispersing. Use of the various portions of the habitat areas is likely to change over time as vegetation conditions become more or less suitable for southwestern willow flycatchers.

The area immediately surrounding the action area is a residential area that also contains some small businesses, agricultural and grazing lands, and a golf course, and is part of the community of Littlefield, Arizona. Land-use in undeveloped portions of the action area includes livestock grazing, agriculture, and dispersed recreation.

The salt cedar component of southwestern willow flycatcher habitat in the action area may be adversely affected by the salt cedar leaf beetles that have moved into the Virgin River in Arizona from Utah (Jamison 2009). These beetles defoliate salt cedar trees during the southwestern willow flycatcher breeding season and loss of nests in defoliated habitats has been documented (Paxton et al. 2010). Because the project area is dominated by native vegetation, the effects of the beetle on the habitat and successful nesting may be less than at other sites along the Virgin River.

In addition to the original formal consultation for this project, two additional formal consultations and two informal consultations for projects in Beaver Dam Wash exist. These are listed in Table 2.

Table 2: Past consultations involving Beaver Dam Wash

| Consultation Number | Project description | Species | Conclusion |
|---|---|---|---|
| 22410-1994-F-0388 | Emergency Watershed Protection: placement of Kellner jacks along Beaver Dam Resort and Golf Course | Woundfin<br>Virgin River chub<br>Virgin spinedace | No jeopardy |
| 22410-1995-F-0415 | Emergency Watershed Protection: placement of Kellner jacks at Beaver Dam Estates and Beaver Dam Resort and Golf Course | Woundfin<br>Virgin River chub | No jeopardy |
| 22410-2004-I-0175 | Emergency Watershed Protection: riprap and post | Woundfin<br>Virgin River chub | Withdrawn |

| | | | |
|---|---|---|---|
| | and wire revetment at Beaver Dam Estates | Southwestern willow flycatcher<br>Relict leopard frog<br>Virgin spinedace | |
| 22410-2008-I-0276 | Environmental Quality Incentive Program: Rock Barb Stream Protection Project | Woundfin<br>Virgin River chub | Concurrence with not likely to adversely affect |

**EFFECTS OF THE ACTION**

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

*Direct and indirect effects*

Vegetation clearing of the construction site was completed in March, 2010. Approximately 0.5 acre of vegetation, including at least 0.29 acre of jurisdictional emergent wetland vegetation was cleared for the construction of the north training dike. The clearing avoided jurisdictional forested wetlands, but did remove riparian plant species from the area adjacent to the wetlands upslope from the wash proper but in the 100-year floodplain. Based on comparison of maps showing the boundaries of the upstream southwestern willow flycatcher habitat and the location of the north training dike vegetation clearing area, a small area (estimated at less than 0.2 acre) at the edge of the patch of habitat where nesting has occurred, would be cleared for construction. The remainder of the cleared area contained migration and foraging habitat for southwestern willow flycatcher. Approximately half of the total cleared area would be permanently lost to the training structure.

Clearing along the downsteam side of the construction area may have removed a small (undetermined) amount of habitat from the uppermost end of the downstream habitat area. This area would not be permanently lost and is able to naturally regenerate.

Construction of the new bridge and training dikes and the demolition of the old bridge will involve heavy equipment operations in the work zone through the spring migration period and at least the early breeding period in June. This will result in noise and dust affecting any southwestern willow flycatchers using the occupied southwestern willow flycatcher habitat upstream and downstream of the bridge. Construction, noise, and dust during the time southwestern willow flycatchers are migrating through the action area or returning to the action area to nest, may affect how individuals choose to use the area for migrating, foraging, or nesting in 2010.

*Effect of removal of occupied southwestern willow flycatcher habitat*

Riparian habitat in the Southwest is naturally rare and patchy, occurring as widely separated ribbons of forest in a primarily arid landscape. In Arizona, for example, riparian habitat comprises less than 0.5 percent of the landscape (Strong and Bock 1990). However, the permanent loss of approximately 0.1 acres of nesting habitat and 0.2 acres of southwestern willow flycatcher migration and foraging habitat is expected to have a minor effect on the overall recovery and survival of the species.

Wide-ranging or highly mobile species that rely on naturally patchy habitats, such as the southwestern willow flycatcher, persist at regional scales as meta-populations, or local breeding groups that are linked together and maintained over time through immigration and emigration (Pulliam and Dunning 1994, U.S. Fish and Wildlife Service 2002). Southwestern willow flycatchers, as neo-tropical migrants, have very high site fidelity to the location of breeding patches, returning to the same location to breed annually (U.S. Fish and Wildlife Service 2002). It is expected that the individuals that established nest territories last year would return in 2010. 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.

The removal of riparian vegetation at the Beaver Dam Wash bridge site will alter areas used by nesting, migrating and foraging southwestern willow flycatchers through the temporary and permanent removal of a small amount of riparian habitat. Loss of habitat over the short or long term potentially results in reduced productivity if the lost habitat was a part of the area supporting a nesting territory. 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, U.S. Fish and Wildlife Service 2002). Habitat loss and fragmentation ultimately reduces the viability of a metapopulation as a whole.

The amount of nesting habitat lost is not anticipated to have impacts to future nesting success in the area due to the small amount being removed and its location. The lost habitat is at the edge of the habitat patch and is narrow in width; therefore, it is less likely to be used for nest placement (compared to the wider and more interior locations where nests were found in 2009). Additionally, the habitat loss does not fragment the patch or decrease it in size sufficiently to reasonably believe it will alter its nesting quality or suitability. Because of these factors, we do not anticipate a measurable reduction to productivity of southwestern willow flycatchers nesting in this habitat.

The loss of migration and foraging habitat is not sufficient to measurably affect the overall value of the riparian corridor on Beaver Dam Wash southwestern willow flycatchers. Permanent loss of habitat is minimal compared to the amount of habitat available. The cleared areas not permanently lost are on the upslope side of the north training dike, with the dike maintaining an open area between any regeneration and the un-cleared riparian habitat.

Fragmentation and degradation of habitat in and around southwestern willow flycatcher nesting areas increases the likelihood of cowbird parasitism and nest predation (U.S. Fish and Wildlife

Service 2002). The loss of riparian habitat at the Beaver Dam Wash bridge site will slightly reduce the amount and density of riparian habitat in and around nesting southwestern willow flycatchers. The location of the habitat loss at the narrow end of the habitat area that was already vulnerable to cowbird penetration does not alter conditions in the wider habitat areas upstream. The small amount of habitat removed at the edge of the habitat patch is not anticipated to cause nesting and foraging southwestern willow flycatchers to be more exposed to predators or brood parasites by creating more open spaces, habitat fragmentation, and edges.

The removal of riparian habitat associated with construction of the Highway 91 bridge over Beaver Dam Wash will remove a small amount of southwestern willow flycatcher habitat. However, due to the small amount of habitat and location, we are not reasonably certain that this loss will cause immediate or long-term reduced survivorship and productivity of breeding southwestern willow flycatchers, or increased exposure to predation or brood parasitism. Because southwestern willow flycatcher habitat is dynamic, the habitat is still developing following the 2005 flood, and we anticipate continued development from the 2009 to 2010 breeding season. Future flood events are likely and will cause recycling of habitat and therefore alter the structure, location, abundance, and quality of southwestern willow flycatcher nesting habitat over time in Beaver Dam Wash.

*Effect of roads adjacent to flycatcher habitat*

Southwestern willow flycatchers have only recently begun to use the habitats adjacent to the bridge, and as has been documented in other locations, there is a risk of collision from vehicles using roads and bridges. 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 bisected forest habitat. Sogge (1995) noted that the population decline and changes in distribution of flycatcher territories at Tuzigoot on the Verde River in Arizona were consistent with other studies documenting adverse effects of roads that bisect habitat. Tuzigoot has gone unoccupied since 1996 (Paradzick *et al.* 2001). Additionally, a willow flycatcher was killed by an automobile on a rural road that bisects southwestern willow flycatcher habitat in the White Mountains of Arizona (Sferra *et al.* 1995, U.S. Fish and Wildlife Service 2002). The new bridge over Beaver Dam will be somewhat wider than the existing bridge; however, these improvements are not likely to result in an increase in speed traveled by vehicles using the road or an increase in the number of vehicles using the road. For this reason, we do not believe it is likely to increase the risk of collision to foraging, perching, dispersing, or migrating southwestern willow flycatchers.

*Effect of the timing of project construction at Beaver Dam Wash*

We do anticipate that the close proximity of construction activities to nesting southwestern willow flycatchers during the 2010 breeding season and the corresponding noise, dust, and overall change in activity will displace southwestern willow flycatchers and reduce survivorship and productivity of breeding southwestern willow flycatchers.

*Long-term effects of habitat removal and degradation at Beaver Dam Wash*

The long-term effects to southwestern willow flycatchers from the permanent loss of an estimated 0.3 acre of nesting, migration, and foraging habitat removal at Beaver Dam Wash are likely to be minor. The amount of habitat lost compared to the extent of existing and developing habitat along Beaver Dam Wash is small and does not increase fragmentation of patches or increase the risks to nesting flycatchers of predators or brood parasites. Regrowth of vegetation adjacent to the new bridge and training structures is anticipated, with no measurable short-term effects of that temporary loss identified. The protection of 0.9 acres of the occupied nesting habitat and adjacent wetland will contribute to the status of the southwestern willow flycatcher in the area.

**Summary**

The removal of riparian habitat associated with construction of the Highway 91 bridge over Beaver Dam Wash will remove southwestern willow flycatcher habitat, reduce survivorship and productivity of breeding southwestern willow flycatchers, and reduce productivity of southwestern willow flycatchers from predation and brood parasitism for one year. The habitat being used by the southwestern willow flycatchers on Beaver Dam Wash is dynamic and is still developing after the 2005 floods. Future flooding events may alter structure and specific location of the habitats, but based on past history of the site, the habitat will regrow. Construction activities during one breeding season will displace nesting southwestern willow flycatchers and reduce survivorship and productivity of breeding southwestern willow flycatchers. The new bridge is not likely to increase the risk of collision hazards to foraging, perching, dispersing, and migrating southwestern willow flycatchers and these effects are minor.

**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.

Lands adjacent to this project are mostly privately owned. Non-federal activities that may impact southwestern willow flycatchers and are reasonably certain to occur in the project area include: agricultural activities, livestock grazing, recreation, transportation and utility projects, and land clearing associated with development. These activities may reduce the quality and quantity of southwestern willow flycatcher nesting, foraging, and migration habitat; and result in disturbance to breeding southwestern willow flycatchers. Continued cattle grazing in the riparian areas in and adjacent to the action area is expected to limit the development of suitable southwestern willow flycatcher habitat (U.S. Fish and Wildlife Service 2002) and provide a source of brood parasites.

## CONCLUSION

After reviewing the current status of the southwestern willow flycatcher, the environmental baseline for the action area, the effects of the proposed reconstruction of the Beaver Dam Wash bridge, and the cumulative effects, it is the FWS's biological opinion that this action, as proposed, is not likely to jeopardize the continued existence of the southwestern willow flycatcher. No critical habitat has been designated for this species in the action area; therefore, none will be affected. An estimated 0.3 acre of occupied flycatcher habitat will be permanently lost. The mitigation required under the Clean Water Act section 404 permit provides protection for 0.9 acre of occupied southwestern willow flycatcher habitat adjacent to the proposed action.

The conclusions of this biological opinion are based on full implementation of the project as described in the **DESCRIPTION OF THE PROPOSED ACTION** section of this document, including any Conservation Measures that were incorporated into the project design.

## INCIDENTAL TAKE STATEMENT

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

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

### AMOUNT OR EXTENT OF TAKE

The FWS anticipates take of southwestern willow flycatchers as a result of this proposed action. Although flycatchers are migratory and spend only part of the year at the construction site, the

area is still considered occupied because of their high site fidelity that causes them to return to the same areas to nest (U.S. Fish and Wildlife Service 2002). The incidental take is expected to be in the form of:

1) Harassment, causing displacement, reduced productivity, and reduced survivorship as a result of noise and increased activity from construction activities occurring adjacent to nesting southwestern willow flycatchers for one breeding season. Based on the existence of two territories upstream of the bridge, we estimate that four individuals will be taken from disturbance associated with construction activities.

Take will be considered to be exceeded if any portion of the occupied habitat outside of the construction zone is physically damaged by equipment or operations to construct the project.

The Fish and Wildlife Service will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

**EFFECT OF THE TAKE**

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

**REASONABLE AND PRUDENT MEASURES**

We have not identified any reasonable and prudent measures to minimize the amount of take of southwestern willow flycatcher. Conservation measures already in place provide for minimization of the take to the maximum extent practicable.

**TERMS AND CONDITIONS**

There are no reasonable and prudent measures for this incidental take statement, so no terms and conditions were developed.

**Disposition of Dead or Injured Listed Species**

Upon locating a dead, injured, or sick listed species initial notification must be made to the FWS's Law Enforcement Office, 2450 W. Broadway Rd, Suite 113, Mesa, Arizona, 85202, telephone: 480/967-7900) within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state.

## CONSERVATION RECOMMENDATIONS

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

1. We recommend FWHA join in initiating and implementing a program with other Federal, tribal, state, and private groups to seek out, acquire, manage, and bank southwestern willow flycatcher habitat to help offset the effects of future actions.

2. We recommend funding and implementing various southwestern willow flycatcher conservation activities (e.g., surveys to determine presence, absence, distribution, abundance, reproductive performance, parasitism and predation rates; land management actions that would improve the amount and suitability of flycatcher habitat; cowbird trapping programs if deemed appropriate) on any land that might be acquired or put into a conservation easement.

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

## REINITIATION NOTICE

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

The FWS appreciates the FWHA's and ADOT's cooperation in accomplishing this reinitiation on such short notice. For further information please contact Lesley Fitzpatrick at (602) 242-0210 (x236) or me (x244).

Please refer to consultation number 22410-2005-F-0506R1 in future correspondence concerning this project.

Sincerely,

/s/ by Jean Calhoun
Steven L. Spangle
Field Supervisor

cc: Biologist, Arizona Department of Transportation, Flagstaff, AZ
Assistant Field Supervisor, Fish and Wildlife Service, Flagstaff, AZ
Chairperson, Kaibab-Paiute Tribe
Chairman, Chemehuevi Tribe
Chairman, Hopi Tribe
Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Kingman, AZ

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