

**FINAL ENVIRONMENTAL ASSESSMENT**  
**for the**  
**DESIGNATION OF CRITICAL HABITAT**  
**for the**  
**SOUTHWESTERN WILLOW FLYCATCHER**



Photo credit: Andre Silva, USFS

Prepared by Mangi Environmental Group  
For the  
Department of Interior  
U.S. Fish & Wildlife Service

# FINAL ENVIRONMENTAL ASSESSMENT FOR THE DESIGNATION OF CRITICAL HABITAT FOR THE SOUTHWESTERN WILLOW FLYCATCHER

December 2012

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## **Summary**

The purpose of this environmental assessment (EA) is to identify and disclose the environmental consequences resulting from the Proposed Action of designating critical habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*), proposed on August 15, 2011 under the Endangered Species Act of 1973 (ESA), as amended (76 FR 50542-50629). The need for the Proposed Action is to comply with a settlement agreement reached on July 23, 2010, in which the Service agreed to redesignate critical habitat in response to a 2008 lawsuit by the Center for Biological Diversity challenging the 2005 designation. The settlement left the existing critical habitat designation from 2005 in effect, and required that the Service deliver a proposed rule for new revised critical habitat to the Federal Register by July 31, 2011, and a final rule by July 31, 2012.

Three alternatives were considered: Alternative A –All Designated Areas, No Exclusions; Alternative B – Exclusions, and the No Action Alternative. Alternative A would designate 3,402 km stream kilometers (2,113 stream miles) as critical habitat. These areas are being proposed as stream segments, with the lateral extent including the riparian areas and streams that occur within the 100-year floodplain or flood-prone areas. The proposed critical habitat is located on a combination of Federal, State, tribal, and private lands in Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura Counties in California; Clark, Lincoln, and Nye Counties in southern Nevada; Kane, San Juan, and Washington Counties in southern Utah; Alamosa, Conejos, Costilla, La Plata, and Rio Grande Counties in southern Colorado; Apache, Cochise, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pima, Pinal, Santa Cruz, Yavapai, and Yuma Counties in Arizona; and Catron, Cibola, Dona Ana, Grant, Hidalgo, McKinley, Mora, Rio Arriba, Santa Fe, San Juan, Sierra, Socorro, Taos, and Valencia Counties in New Mexico. Areas controlled and managed by the U.S. Department of Defense (DoD) with an Integrated Natural Resources Management Plan that benefited the flycatcher were exempted.

Alternative B is similar to Alternative A, but it excludes certain areas that are being considered for exclusion because they are managed under Habitat Conservation Plans (HCPs),

Memorandums of Understanding (MOUs), and/or have management plans and active partnerships directly beneficial to the flycatcher and its essential proposed critical habitat. As in Alternative A, with some DoD exempted. The No Action Alternative is required by the National Environmental Policy Act (NEPA) for comparison to the other alternatives analyzed in this EA; it entails continuing the existing designation of critical habitat, finalized in 2005.

The environmental issues identified by Federal agencies and the public during the initial public comment period and during resource analysis were those raised by the types of actions taken by public and private land managers in the region, including the impacts of critical habitat designation on soils, vegetation, wildlife, water resources, wildland fire management, livestock grazing, land management and use, recreation, public health and safety, Tribal Trust resources, environmental justice, and national security.

The designation of critical habitat for the southwestern willow flycatcher would not have direct impacts on the environment; designation is not expected to impose land use restrictions or prohibit land use activities. However, the designation of critical habitat would (1) increase the number of additional section 7 consultations for proposed projects within designated critical habitat; (2) increase the number of re-initiated section 7 consultations for ongoing projects within designated critical habitat; (3) maintain southwestern willow flycatcher primary constituent elements; (4) increase the likelihood of greater expenditures of time and Federal funds of government agencies to develop measures to prevent both adverse effects to the species and adverse modification to critical habitat; and (5) indirectly increase the likelihood of greater expenditure of non-Federal funds by project proponents to complete section 7 consultations and to develop reasonable and prudent alternatives (as a result of adverse modifications) that maintain critical habitat. Such an increase might occur where there is a Federal nexus to actions within areas with no known flycatcher territories, or from the addition of adverse modification analysis to jeopardy consultations in known flycatcher habitat.

# Table of Contents

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<b>Summary</b> .....	2
<b>Table of Contents</b> .....	4
<b>Acronyms &amp; Abbreviations</b> .....	7
<b>Glossary</b> .....	9
<b>CHAPTER 1 PURPOSE OF AND NEED FOR ACTION</b> .....	11
1.1 Introduction .....	11
1.2 Purpose and Need of the Action.....	11
1.3 Proposed Action .....	12
1.4 Background .....	12
1.4.1 Critical Habitat.....	12
1.4.2 Southwestern willow flycatcher.....	15
1.5 Permits Required for Implementation .....	17
1.6 Related Laws, Authorizations, and Plans.....	18
1.7 Public Involvement .....	19
1.8 Topics Analyzed in Detail in this Environmental Assessment .....	20
1.8.1 Topics Dismissed from Further Analysis Because They Would Have No or Negligible Impacts .....	20
<b>CHAPTER 2 ALTERNATIVES, INCLUDING THE NO ACTION ALTERNATIVE</b> .....	25
2.1 Development of Alternatives .....	25
2.1.1 Exemptions .....	27
2.2 No Action Alternative .....	28
2.3 Alternative A—Critical Habitat Designation with no Exclusions .....	29
2.4 Alternative B—Critical Habitat Designation minus Exclusions.....	32
2.5 Comparison of Potential Impacts of Southwestern Willow Flycatcher Proposed Critical Habitat Designation .....	37
<b>CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES</b> 47	
3.1 Introduction .....	47
3.1.1 Methodology .....	47
3.1.2 Economic Analysis .....	51

3.2	Land Use and Management.....	52
3.2.1	Existing Conditions.....	52
3.2.2	Environmental Consequences.....	59
3.3	Vegetation .....	65
3.3.1	Existing Conditions.....	65
3.3.2	Environmental Consequences.....	70
3.4	Wildlife and Fisheries (Including Threatened & Endangered Species).....	73
3.4.1	Existing Conditions.....	73
3.4.2	Environmental Consequences.....	79
3.5	Fire Management.....	82
3.5.1	Existing Conditions.....	82
3.5.2	Environmental Consequences.....	86
3.6	Water Resources.....	88
3.6.1	Existing Conditions.....	88
3.6.2	Environmental Consequences.....	96
3.7	Livestock Grazing .....	103
3.7.1	Existing Conditions.....	103
3.7.2	Environmental Consequences.....	106
3.8	Construction/Development—Roads, Bridges, Dams, Infrastructure, Residential .....	111
3.8.1	Existing Conditions.....	111
3.8.2	Environmental Consequences.....	113
3.9	Tribal Trust Resources .....	118
3.9.1	Existing Conditions.....	118
3.9.2	Environmental Consequences.....	120
3.10	Soil and Mineral Resources .....	127
3.10.1	Existing Conditions.....	127
3.10.2	Environmental Consequences.....	128
3.11	Recreation.....	132
3.11.1	Existing Conditions.....	132
3.11.2	Environmental Consequences.....	138
3.12	Socioeconomic Resources .....	145

3.12.1	Existing Conditions.....	145
3.12.2	Environmental Consequences.....	148
3.13	Environmental Justice.....	153
3.13.1	Existing Conditions.....	153
3.13.2	Environmental Consequences.....	153
3.14	Oil and Gas Development.....	154
3.14.1	Existing Conditions.....	154
3.14.2	Environmental Consequences.....	155
	Cumulative Impacts .....	158
	Relationship Between Short-Term and Long-Term Productivity.....	162
	Irreversible and Irretrievable Commitment of Resources.....	162
CHAPTER 4 ANALYSIS of SIGNIFICANCE .....		164
CHAPTER 5 PREPARERS and CONTRIBUTORS .....		167
CHAPTER 6 REFERENCES .....		168

# Acronyms & Abbreviations

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ac	acre
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
AMA	Active Management Area
AMP	Allotment Management Plan
APHIS	Animal Plant Health Inspection Service
AUM	Animal Unit Month
AZGFD	Arizona Game and Fish Department
BLM	U.S. Bureau of Land Management
BMPs	Best Management Practices
BO	Biological Opinion
CADWR	California Department of Water Resources
CAP	Central Arizona Project
CDWR	Colorado Division of Water Resources
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cm	Centimeter
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMP	Fire Management Plan
FONSI	Finding of No Significant Impact
FR	Federal Register
ft	foot
ha	hectare
HCP	Habitat Conservation Plan
in	Inch
ITP	Incidental Take Permit
km	kilometer
LCR	Lower Colorado River
LUP	Land Use Plan
m	meter
MRA	Multiple Resource Area
MSCP	Multispecies Conservation Program
NCA	National Conservation Area
NDOT	Nevada Department of Transportation
NDWR	Nevada State Division of Water Rights
NEPA	National Environmental Policy Act
NMDGF	New Mexico Department of Game and Fish
NMOSE	New Mexico Office of the State Engineer
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge

OHV	Off-highway vehicle
PBFs	Physical or Biological Features
PCEs	Primary Constituent Elements
RMP	Resource Management Plan
RU	Recovery Unit
SHA	Safe Harbor Agreement
TES	Threatened, Endangered, or Sensitive Species
UDWR	Utah Division of Water Rights
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish & Wildlife Service
USDI	U.S. Department of Interior
USGS	United States Geological Survey
USIBC	U.S. International Boundary and Water Commission

# Glossary

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**Animal Unit Month:** Standardized measure of animals used in agricultural purposes. An Animal Unit Month is the amount of forage required by an animal unit for one month.

**Bankfull Stage:** Level of stream discharge reached just before flows spill out onto the adjacent floodplain.

**Boreal Wetland:** Wetlands found in high elevation northern mountain ranges

**Carnivores:** a meat eating animal, such as a mountain lion.

**Channelization:** the ‘straightening out’ of a river or stream that limits its naturally winding course.

**Cienegas:** mid-elevation wetland communities often surrounded by arid environments. Similar to an oasis.

**Deciduous:** trees or communities of trees that lose their leaves seasonally, usually in the winter.

**Effluent:** discharge of water or waste into the water system.

**Emergent vegetation:** plants with roots under water but whose growth is above the water surface.

**Ephemeral streams:** streams that flow only in response to precipitation events.

**Evapotranspiration:** a term describing the transport of water into the atmosphere from surfaces, including soil (soil evaporation), and from vegetation (transpiration)

**Extirpated:** locally extinct

**Groundwater:** water located beneath the earth’s surface and often found in specific rock layers.

**Habitat Conservation Plan (HCP):** a planning document required as part of an application for an incidental take permit from the USFWS. It describes the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated; and how the HCP is to be funded. HCPs can apply to both listed and nonlisted species, including those that are candidates or have been proposed for listing.

**Headcut:** the sudden change in elevation or knickpoint at the leading edge of a gully. Headcuts can range from less than an inch to several feet in height, depending on several factors.

**Industrial water:** water used for such purposes as fabricating, processing, washing, diluting, cooling, transporting a product, or for sanitation needs within the manufacturing facility.

**Intermittent streams:** streams that that flow seasonally or only in certain reaches (usually as a result of channel connection to groundwater).

**Irrigation water:** water that is applied by an irrigation system to sustain plant growth in all agricultural and horticultural practices. It also includes water that is applied for pre-irrigation, frost protection, application of chemicals, weed control, field preparation, crop cooling, harvesting, dust suppression, leaching salts from the root zone, and water lost in conveyance.

**Livestock water:** water associated with livestock watering, feedlots, dairy operations, and other on-farm needs.

**Macrophyte:** an aquatic plant that grows in or near water and is either emergent, submergent, or floating.

**Metapopulation:** a set of local populations that interact via individuals moving between local populations.

**Mining water:** water used for the extraction of minerals that may be in the form of solids, such as coal, iron, sand, and gravel; liquids, such as crude petroleum; and gases such as natural gas.

**Montane:** in or from a mountainous region.

**Perennial stream:** stream that flows year-around.

**Primary Constituent Elements (PCE):** The elements of physical and biological features that, when laid out in the appropriate quantity and spatial arrangement to provide for a species' life-history processes, are essential to the conservation of the species.

**Recharge:** water that filters into the earth and replenishes groundwater supplies.

**Riparian:** at the interface between land and a river or stream.

**Safe Harbor Agreement (SHA):** a voluntary agreement involving private or other non-Federal property owners whose actions contribute to the recovery of species listed as threatened or endangered under the Endangered Species Act (ESA). The agreement is between cooperating non-Federal property owners and the U.S. Fish and Wildlife Service. In exchange for actions that contribute to the recovery of listed species on non-Federal lands, participating property owners receive formal assurances from the Service that if they fulfill the conditions of the SHA, the Service will not require any additional or different management activities by the participants without their consent. In addition, at the end of the agreement period, participants may return the enrolled property to the baseline conditions that existed at the beginning of the SHA.

**Transitory Habitat:** habitat that is not permanent.

**Ungulates:** Hoofed mammals such as deer, cattle, and horses.

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# CHAPTER 1

## PURPOSE OF AND NEED FOR ACTION

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### 1.1 Introduction

The United States Department of the Interior (USDI), Fish and Wildlife Service (Service) is re-designating critical habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*; hereafter referred to as *E. traillii extimus* or flycatcher). The subspecies was listed on February 27, 1995 as endangered under the Endangered Species Act of 1973 (ESA), as amended. Critical habitat designation is required by the ESA for listed species. Critical habitat was initially designated for the flycatcher on July 22, 1997 (62 FR 39129). The Service published a correction notice on August 20, 1997, on the lateral extent of critical habitat (62 FR 44228). As a result of a 1998 lawsuit from the New Mexico Cattlegrower's Association, on October 19, 2005 (70 FR 60886), the Service published a revised final flycatcher critical habitat rule for portions of Arizona, California, New Mexico, Nevada, and Utah, totaling approximately 48,896 ha (120,824 ac) or 1,186 km (737 mi) (70 FR 60886-61009). River segments were designated as critical habitat in 15 of the 32 Management Units described in the Recovery Plan (Service 2002).

The Service was sued by the Center for Biological Diversity over the 2005 critical habitat rule and, on July 13, 2010, agreed to redesignate critical habitat. The resulting settlement left the existing critical habitat designation from 2005 in effect, and required that the Service deliver a proposed rule for new revised critical habitat to the Federal Register by July 31, 2011, and a final rule by July 31, 2012.

### 1.2 Purpose and Need of the Action

Preservation of the habitat of an endangered species is a crucial element for the conservation of that species. A primary purpose of the ESA is to "provide a means whereby the ecosystems upon which endangered species and threatened species may be conserved" (section 2[b]). The purpose of critical habitat designation as specified in the ESA is to provide protection of habitat that is essential to the conservation of listed species.

The purpose of this Proposed Action is to re-designate critical habitat for the flycatcher, a subspecies listed as endangered under the ESA. Critical habitat designation identifies geographic areas that are essential for conservation of the flycatcher and that may also require special management. The designation also describes the physical and biological features that constitute the primary constituent elements (PCEs) of critical habitat

The need for the action is to fulfill the settlement reached in a legal action challenging the critical habitat designation that was finalized in 2005. In that settlement, signed in 2009, the Service agreed to deliver a proposed rule for new revised critical habitat to the Federal Register by July 31, 2011, and a final rule by July 31, 2012.

## **1.3 Proposed Action**

The Service is proposing as critical habitat stream segments within the geographical area occupied by the species at the time it was listed in accordance with the Act, on which are found those physical or biological features (1) essential to the conservation of the species and (2) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it was listed upon a determination that such areas are essential for the conservation of the species. Overall, these proposed stream segments represent flycatcher habitat known to be occupied at the time of listing, and essential areas where flycatcher territories have not been found but that have high value for recovery. The proposed areas support stable and growing breeding populations, provide migration stopover areas, protect against simultaneous catastrophic loss, maintain gene flow, prevent isolation and extirpation, and encourage colonizers to use new areas. All proposed stream segments provide habitat for a wide distribution of breeding flycatchers, including areas for population growth to meet numerical and habitat-related recovery goals. The proposed areas also support other important flycatcher needs such as foraging and shelter to reach the geographic distribution and habitat-related recovery goals established within the Recovery Plan's 29 Management Units with recovery goals (Service 2002).

The Proposed Action (Alternative A) would designate 3,402 stream kilometers (2,113 stream miles) as critical habitat. The lateral extent of proposed stream segments includes the riparian areas and streams that occur within the 100-year floodplain or flood-prone areas. The proposed critical habitat designation includes lands under Federal (32%), state (8%), private (33%), tribal (13%), and unclassified (14%) land ownership (76 FR 50561). The proposed critical habitat includes lands in Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura Counties in California; Clark, Lincoln, and Nye Counties in southern Nevada; Kane, San Juan, and Washington Counties in southern Utah; Alamosa, Conejos, Costilla, La Plata, and Rio Grande Counties in southern Colorado; Apache, Cochise, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Pima, Pinal, Santa Cruz, Yavapai, and Yuma Counties in Arizona; and Catron, Cibola, Dona Ana, Grant, Hidalgo, McKinley, Mora, Rio Arriba, Santa Fe, San Juan, Sierra, Socorro, Taos, and Valencia Counties in New Mexico. The proposed areas are described and mapped fully in the proposed rule (76 FR 50542-50629), and incorporated herein by reference.

## **1.4 Background**

### **1.4.1 Critical Habitat**

#### **1.4.1.1 Provisions of the ESA**

Section 4(a)(3) of the ESA states that critical habitat shall be designated to the maximum extent prudent and determinable and that such designation may be revised periodically as appropriate. Section 4(b)(2) of the ESA requires that critical habitat designation be based on the best scientific information available and that economic, national security, and other relevant impacts be considered. In section 3(5)(A) of the ESA, critical habitat is defined as:

- (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the provisions of section 4 of the ESA, on which are found those physical or biological features (1) essential to the conservation of the species and (2) which may require special management considerations or protection; and
- (ii) specific areas outside the geographical area occupied by a species at the time it is listed in accordance with the provisions of section 4 of the Act, upon the determination by the Secretary of the Interior that such areas are essential for the conservation of the species. Section 3(5)(C) also states that critical habitat “shall not include the entire geographic area which can be occupied by the threatened or endangered species,” except when the Secretary of the Interior determines that the areas are essential for the conservation of the species.

#### **1.4.1.2 Section 4(b)(2) Exclusion Process**

Section 4(b)(2) of the ESA allows the Secretary of the Interior to exclude any area from the critical habitat designation after considering the economic, national security, or other relevant impacts of designating the area or if the Secretary determines that the benefit of excluding the area exceeds the benefit of designating it as critical habitat, unless the exclusion would result in the extinction of the species. After reviewing public comment on the critical habitat proposal, this draft EA, the draft economic analysis the Secretary could determine to exclude areas other than those addressed in this EA. This is as provided for in ESA section 4(b)(2) and in implementing regulations at 50 CFR Part 424.19.

#### **1.4.1.3 Section 7 Consultation Process**

Section 7(a)(2) of the ESA requires Federal agencies to consult with the Service to “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical.” Each agency is required to use the best scientific and commercial data available. This consultation process is typically referred to as *section 7 consultation*. Section 7 of the ESA does not apply to state, local, or private land unless there is a Federal nexus (i.e., unless the action involves Federal funding, authorization, or permitting). Designation of critical habitat can help focus conservation efforts by identifying areas that are essential for the conservation of the species. Designation of critical habitat also serves to alert the public and land management agencies to the importance of an area for conservation of a listed species. As described above, critical habitat receives protection from destruction or adverse modification through required consultation under section 7 of the ESA. Aside from outcomes of consultation with the Service under section 7, the ESA does not automatically impose any restrictions on lands designated as critical habitat.

The section 7 consultation process begins with a determination of the effects on a listed species and designated critical habitat by a Federal action agency. If the Federal action agency determines that there would be no effect on listed species or designated critical habitat, then the section 7 process concludes at that point. If the Federal action agency determines that listed species or designated critical habitat may be affected, then consultation with the Service is

initiated, and the agency and the Service may enter into informal section 7 consultation. Informal consultation is an optional process for identifying affected species and critical habitat, determining potential effects, and exploring ways to modify the action to remove or reduce adverse effects on listed species or critical habitat (50 CFR Part 402.13). During this process the Service may make suggestions concerning project modifications, which then can be adopted by the action agency. If the action agency decides to further modify the project as suggested by the Service, the Service would then concur in writing or recommend formal consultation.

The informal section 7 consultation process concludes in one of two ways: (1) the Service concurs in writing that the proposed action is not likely to adversely affect listed species or critical habitat or (2) the Service determines that adverse effects are likely to occur. If the Service determines that adverse effects on species or critical habitat are likely to occur, formal consultation is initiated (50 CFR Part 402.14). Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or to destroy or adversely modify critical habitat (50 CFR Part 402.14[h]).

In making a determination on whether an action will result in jeopardy, the Service begins by looking at the current status of the species, or "baseline." Added to the baseline are the various effects – direct, indirect, interrelated, and interdependent – of the proposed Federal action. The Service also examines the cumulative effects of other non-Federal actions that may occur in the action area, including state, tribal, local, or private activities that are reasonably certain to occur in the project area. The Service's analysis is then measured against the definition of jeopardy. Under the ESA, jeopardy occurs when an action is reasonably expected, directly or indirectly, to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced.

Separate analyses are made under both the jeopardy and the adverse modification standards. While the jeopardy analysis evaluates potential impacts on the species as described above, the adverse modifications analysis specifically evaluates potential impacts on designated critical habitat.

The Ninth Circuit Court recently determined that there is an additional difference between the two standards. In *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir. 2004), the court held that while the jeopardy standard concerns the survival of a species or its risk of extinction, the adverse modification standard concerns the value of critical habitat for the recovery, or eventual delisting, of a species. As pointed out in the Ninth Circuit decision, survival of a species and recovery (or conservation) of a species are distinct concepts in the ESA. Implementation of the two standards, therefore, involves separate and distinct analyses based on these concepts. In light of the Gifford Pinchot decision, the Service no longer relies on the regulatory definition of "destruction of adverse modification" of critical habitat at 50 CFR 402.02. Instead, the Service relies on the statutory provisions of the ESA to complete the analysis with respect to critical habitat. The potential for destruction or adverse modification of critical habitat by a Federal action is assessed by determining the effects of the proposed Federal action on PBFs and PCEs of habitat qualities that are essential to the conservation of the species. These anticipated effects are then analyzed to determine how they will influence the function and conservation role of the affected critical habitat. This analysis provides the basis for determining the significance of anticipated effects of the proposed Federal

action on critical habitat. The threshold for destruction or adverse modification is evaluated in the context of whether the critical habitat would remain functional to serve the intended conservation role for the species.

An activity adversely affecting critical habitat must be of a severity or intensity that the physical and biological features of critical habitat are compromised to the extent that the critical habitat can no longer meet its intended conservation function before a destruction or adverse modification determination is reached.

A “non-jeopardy” or “no adverse modification” opinion concludes consultation, and the proposed action may proceed under the ESA. The Service may prepare an incidental take statement with reasonable and prudent measures to minimize take and associated, mandatory terms and conditions that describe the methods for accomplishing the reasonable and prudent measures alternatives. Discretionary conservation recommendations may be included in a biological opinion based on the effects on the species. Conservation recommendations, whether they relate to the jeopardy or adverse modification standard, are discretionary actions recommended by the Service. These recommendations may address minimizing adverse effects on listed species or critical habitat, identifying studies or monitoring, or suggesting how action agencies can assist species under their own authorities and section 7(a)(1) of the ESA.

There are no ESA section 9 prohibitions for critical habitat. Therefore, a Biological Opinion that concludes “no destruction or adverse modification of critical habitat” may contain conservation recommendations but would not include an incidental take statement (since only species can be “taken”), reasonable and prudent measures, or other terms and conditions for designated critical habitat. In a Biological Opinion that results in a jeopardy or adverse modification conclusion, the Service develops mandatory reasonable and prudent alternatives to the proposed action. Reasonable and prudent alternatives are actions that the Federal agency can take to avoid jeopardizing the continued existence of the species or adversely modifying the critical habitat. Reasonable and prudent alternatives may vary from minimal project changes to extensive redesign or relocation of the project, depending on the situations involved. Reasonable and prudent alternatives must be consistent with the intended purpose of the proposed action, and they also must be consistent with the scope of the Federal agency’s legal authority. Furthermore, the reasonable and prudent alternatives must be economically and technically feasible.

#### **1.4.2 Southwestern willow flycatcher**

The following briefly summarizes key information about the Southwestern willow flycatcher (*Empidonax trailii extimus*) (Figure 1.1) and the physical and biological features that are essential to the conservation of the species. For more detail, and for a description of the species and its life history, habitat, and distribution, refer to the final listing rule (60 FR 10694) and the proposed critical habitat rule (76 FR 50542-50629), which are herein incorporated by reference.



**Figure 1.1. Southwestern willow flycatcher**

#### **1.4.2.1 Physical and Biological Features for the Southwestern willow flycatcher**

Under the Act and its implementing regulations (50 CFR §424.12), the Service is required to identify the physical and biological features essential to the conservation of the southwestern willow flycatcher in areas occupied at the time of listing, focusing on the features' primary constituent elements (PCEs). In general, the physical or biological features of critical habitat for nesting flycatchers are found in the riparian areas within the 100-year floodplain or flood-prone area. Flycatcher habitat is ephemeral in its presence, and its distribution is dynamic in nature because riparian vegetation is prone to periodic disturbance (such as flooding) (Service 2002). The PBFs are described in detail in the proposed rule (76 FR 50546). These PBFs include, but are not limited to:

1. Space for individual and population growth and for normal behavior;
2. Food, water, air, light, minerals, or other nutritional or physiological requirements;
3. Cover or shelter;
4. Sites for breeding, reproduction, or rearing (or development) of offspring; and
5. Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

#### **1.4.2.2 Primary Constituent Elements for Southwestern willow flycatcher Critical Habitat**

The Service considers primary constituent elements to be the elements of physical and biological features that, when laid out in the appropriate quantity and spatial arrangement to provide for a species' life-history processes, are essential to the conservation of the species.

The Service has determined that the PCEs essential to the conservation of the southwestern willow flycatcher are:

1. Riparian vegetation in a dynamic river or lakeside, natural or manmade successional environment that is comprised of trees and shrubs (that can include Gooddings willow, coyote willow, Geyers willow, arroyo willow, red willow, yewleaf willow, pacific willow, boxelder, tamarisk (also known as saltcedar), Russian olive, buttonbush,

cottonwood, stinging nettle, alder, velvet ash, poison hemlock, blackberry, seep willow, oak, rose, sycamore, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut) and some combination of:

- a) Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 2 m to 30 m (about 6 to 98 ft). Lower-stature thickets (2 to 4 m or 6 to 13 ft tall) are found at higher elevation riparian forests and tall-stature thickets are found at middle- and lower-elevation riparian forests; and/or
  - b) Areas of dense riparian foliage at least from the ground level up to approximately 4 m (13 ft) above ground or dense foliage only at the shrub or tree level as a low, dense canopy; and/or
  - c) Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground); and/or
  - d) Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.1 ha (0.25 ac) or as large as 70 ha (175 ac).
2. A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (*Hymenoptera*); dragonflies (*Odonata*); flies (*Diptera*); true bugs (*Hemiptera*); beetles (*Coleoptera*); butterflies, moths, and caterpillars (*Lepidoptera*); and spittlebugs (*Homoptera*).

All river segments proposed as flycatcher critical habitat are either: (1) within the known range of the subspecies, representing areas known to be occupied at the time of listing; or (2) essential areas for the conservation of the species not known to be occupied by the flycatcher at the time of listing, but which now may or may not be known to have flycatchers present. These areas contain at least one of the primary constituent elements essential for the conservation of the subspecies.

For this wide-ranging flycatcher, it is difficult to precisely determine known occupied areas due to the following considerations: (1) the flycatcher's neotropical migratory habits of occupying stopover areas along streams upstream of, downstream of, and between breeding sites; and (2) the season-to-season variation in habitat quality and subsequent lack of specific nest-site fidelity. As a result, for the purpose of this proposed critical habitat designation, the Service believes it is most conservative and reasonable to conclude that any stream segment along a stream where flycatchers were found nesting from 1991 to 1994 also be considered occupied at the time of listing. Those proposed stream segments considered occupied at the time of listing and those considered not occupied at the time of listing are organized by Recovery and Management Units and listed in the proposed rule (76 FR 50560).

## 1.5 Permits Required for Implementation

No permits are required for critical habitat designation. Designation of critical habitat occurs through a rulemaking process under the Administrative Procedures Act (5 U.S.C. §551–59, 701–06, 1305, 3105, 3344, 5372, 7521) and the ESA.

## 1.6 Related Laws, Authorizations, and Plans

As mentioned, section 7 of the ESA requires Federal agencies to consult with the Service when there are potential effects to endangered or threatened species, independent of critical habitat. The ESA also prohibits any person from “taking” the species without a permit from the Service. Other Federal laws address various aspects of conservations of fish and wildlife and their habitat, which apply to the flycatcher:

1. Migratory Bird Treaty Act. The Migratory Bird Treaty Act (16 U.S.C. 701-711) establishes provisions regulating take, possession, transport, and import of migratory birds, including nests and eggs.
2. Federal Land Policy and Management Act. The Federal Land Policy and Management Act of 1976 requires that “. . . the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that . . . will preserve and protect certain public lands in their natural condition; (and ) that will provide food and habitat for fish and wildlife . . .”.
3. National Forest Management Act. The National Forest Management Act of 1976 directs that the National Forest System “...where appropriate and to the extent practicable, will preserve and enhance the diversity of plant and animal communities.” Additionally, sec. 219.12(g) requires the maintenance of viable populations of native vertebrates in National Forests.
4. Clean Water Act (CWA). The CWA implements a variety of programs, including: Federal effluent limitations and state water quality standards, permits for the discharge of pollutants and dredged and fill materials into navigable waters, and enforcement mechanisms. Section 404 of the CWA is the principal Federal program that regulates activities affecting the integrity of wetlands. Section 404 prohibits the discharge of dredged or fill material in jurisdictional waters of the United States, unless permitted by COE under § 404 (a) (individual permits), 404 (e) (general permits), or unless the discharge is exempt from regulation as designated in § 404 (f).
5. The Lacey Act (16 USC §3371 et seq.), as amended in 1982. The Act prohibits the import, export, sale, receipt, acquisition, purchase, and engagement in interstate or foreign commerce of any species taken, possessed, or sold in violation of any law, treaty, or regulation of the United States, and Tribal law, or any law or regulation of any state.
6. Comprehensive Conservation Plans (CCP). The Service prepares a plan for each Wildlife Refuge which contains proposed critical habitat. These plans define the conservation goals and strategies and resulting land uses and activities within each National Wildlife Refuge to best achieve those goals.

In addition, state wildlife laws within those states containing designated critical habitat provide varying degrees of protection for the flycatcher. These state protections are described in more detail in the Service’s Incremental Effects Memo, which is included as an appendix to the Economic Analysis.

## 1.7 Public Involvement

There have been several periods of public comment throughout the history of critical habitat designation for the flycatcher. Most recently before this proposed revision, there were two public comment periods for the 2005 designation currently in effect, including a public comment period on the Environmental Assessment prepared in 2005 for that designation. The newly proposed designation was open for public comment from August 15, 2011 through October 14, 2011. On July 12, 2012, the Service announced revisions to the proposed designation and a reopening of the comment period, and sought comment on the drafts of the Environmental Assessment and the Economic Analysis (77 FR 41147-41162). The Final Environmental Assessment addresses the issues and concerns submitted on the proposed rule as well as this draft of the Environmental Assessment.

In addition to the periods of public comment, the Service has conducted outreach to Tribes and Pueblos potentially impacted by the designation of critical habitat. Specifically:

- Prior to publication of the August 2011 proposed designation, Tribes and Pueblos were contacted and provided information about the Service's intention to re-propose flycatcher critical habitat, our exclusion policies under section 4(b)(2) of the Act, offered government-to-government consultation, and other relevant information. We also spoke at Tribal Wildlife conferences in Arizona and New Mexico about the upcoming critical habitat proposal and our policies.
- Following publication of the August 2011 proposal, the Service provided each Tribe and Pueblo a copy of the proposal, offered government-to-government consultation, and contacted each Tribe and Pueblo informally via telephone and electronic mail. The Service later provided Tribes and Pueblos opportunities for submitting Management Plans, technical assistance on Management Plans, and information about seeking 4(b)(2) exclusions.
- The Service contacted each Tribe and Pueblo when the draft Economic Analysis and draft Environmental Assessment were made available, offered government-to-government consultation, and informed them of the dates and locations of the public hearing and open house meeting.
- Representatives from local Service field offices in Arizona, California, Colorado, and New Mexico contacted Tribes and Pueblos in person, by electronic mail, telephone calls, and/or during meetings to inform them about this rule and offered help with development of management plans. BIA representatives also coordinated with the Service to provide their guidance and assistance.

On August 16, 2012 the Service conducted two public meetings at the Apache Gold Convention Center in Globe, Arizona, on the proposed critical habitat designation: in the afternoon an informational meeting was conducted, attended by approximately 12 participants. This meeting included posters, a PowerPoint presentation by a Service representative, followed by questions and answers. In the evening, a formal public hearing was held, which included shorter version of the PowerPoint presentation and formal hearing script (attached as Appendix E). Approximately eight participants attended. No written or oral comments were recorded at either hearing regarding the Environmental Assessment; some of the participants submitted written comments to the formal docket through the Regulations.gov website.

Public comments and responses regarding the Draft Environmental Assessment are detailed in Appendix D, and the responses are reflected in this Final Environmental Assessment.

## **1.8 Topics Analyzed in Detail in this Environmental Assessment**

Based on comments received in preparing the previous designation in 2005, internal scoping within the Service, a review of the previous consultation history of the species, and a review of public comments received on the proposed rule, the Service analyzed the potential impacts of critical habitat designation on the following resources:

- Land Use and Management;
- Fish, Wildlife, and Plants (including Threatened & Endangered species);
- Fire Management;
- Water Resources (including water management projects and groundwater pumping);
- Livestock Grazing;
- Construction/Development;
- Tribal Trust Resources;
- Soils & Mineral Resources;
- Recreation;
- Socioeconomics; and
- Environmental Justice.

### **1.8.1 Topics Dismissed from Further Analysis Because They Would Have No or Negligible Impacts**

Federal regulations (40 CFR §1500 et seq.) require that certain topics be addressed as part of a NEPA analysis. The Service reviewed the mandatory topics listed below and determined that the action alternatives have no or negligible potential to affect them. These topics have been dismissed from detailed analysis in this document because the designation of critical habitat for the southwestern willow flycatcher is likely to have no or, at most, negligible effect on them.

- *Energy requirements and conservation potential (1502.16)*. Additional section 7 consultations resulting from critical habitat designation of the flycatcher would not require any increase in energy consumption in the form of fuel for vehicles or from other conservation actions.

- *Urban quality and design of the built environment (1502.16)*. The proposed critical habitat segments are not located in urban or other built environments and would not affect the quality of such environments.
- *Important scientific, archeological, and other cultural resources, including historic properties listed in or eligible for the National Register of Historic Places (NRHP) (1508.27)*. The proposed designation would not result in any ground-disturbing activities that have the potential to affect archeological or other cultural resources. There are a total of 15 sites listed on the NRHP that lie within proposed critical habitat. Of these, seven are within existing critical habitat areas, meaning those previously designated in 2005. These remaining listed sites are in areas newly proposed as critical habitat in 2011:
  1. Percha Diversion Dam (Lower Rio Grande Management Unit)--Percha Diversion Dam is an integral feature of the widespread Rio Grande Project, a Bureau of Reclamation irrigation project authorized in 1905. Located two miles downstream from Caballo Dam on the Rio Grande River, Percha Dam is a concrete ogee weir structure with embankment wings, constructed between 1916 and 1918. The dam diverts water into the Rincon Valley Main Canal, which provides water to over 16,000 acres of land in the Rincon Valley. Percha Dam is individually listed in the National Register and is also included as a contributing feature of the Elephant Butte Irrigation District National Register District. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.
  2. Halona (Zuni) Pueblo (Little Colorado Management Unit)—This pueblo lies in the Zuni Indian Reservation, in McKinley County, NM. It has archeological, ethnic, and religious significance. The area is being considered for exclusion under Alternative B. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.
  3. Old Mission Dam (San Diego Management Unit)--Old Mission Dam was one of the first major irrigation engineering projects on the Pacific coast of the United States. It impounded water from the San Diego River, which was released as needed for agricultural and domestic purposes. The dam was probably started in 1803, and by 1817, it had assumed its final form (NPS 2011a). The area is being considered for exclusion under Alternative B. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.
  4. Old Trails Bridge (Hoover-Parker Management Unit)—This structure is significant as an example of steel arch construction. It consists of a single 600-ft span that supports the 800-ft bridge, located several hundred feet south of Interstate 40 where it crosses the Colorado River at Topock, AZ. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.
  5. Costilla Crossing Bridge (San Luis Valley Management Unit)—This is a two-span Thacher through wrought iron truss bridge over the Rio Grande in Conejos, CO. It was built in 1892. It is on land covered by the San Luis Valley HCP, which is proposed for exclusion under Alternative B. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.

6. Pike's Stockade (San Luis Valley Management Unit)—This is a stockade where Zebulon Pike raised the American flag over Spanish soil after leading the second official U.S. expedition into the Louisiana Territory in 1807. It is on land covered by the San Luis Valley HCP, which is proposed for exclusion under Alternative B. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.
7. Wheeler Bridge (San Luis Valley Management Unit)—This is a pony truss bridge spanning the Rio Grande Canal near Del Norte, CO, built in 1924. It is on land covered by the San Luis Valley HCP, which is proposed for exclusion under Alternative B. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.
8. Sutherland Bridge (San Luis Valley Management Unit)-- This is a pony truss bridge spanning the Rio Grande Canal near Del Norte, CO, built in 1924. It is on land covered by the San Luis Valley HCP, which is proposed for exclusion under Alternative B. The proposed designation would not result in any ground-disturbing activities that have the potential to adversely affect this structure.

There have been no consultations on listed historic structures since the 2005 designation, and none would be anticipated, based on the likelihood that no ground-disturbing activities would be conducted as a result of the proposed action that would cause adverse impacts to these structures. For this reason, the topic of impacts to historic cultural resources is not analyzed further in this document.

- *Ecologically critical areas, Wild and Scenic Rivers, or other unique natural resources (1508.27).* Five designated Wild and Scenic River segments are part of the proposed critical habitat designation. These are:
  1. Piru Creek River (Santa Clara Management Unit CA): Los Padres National Forest;
  2. Amargosa River—Willow Creek (Amargosa Management Unit CA): BLM CA land;
  3. Amargosa River—Amargosa River (Amargosa Management Unit CA): BLM CA land;
  4. Bautista Creek (Santa Ana Management Unit CA): San Bernardino National Forest; and
  5. Verde River (Verde Management Unit AZ): Coconino, Prescott, and Tonto National Forests.

In addition, a portion of the Paria River in Utah is under consideration for designation as a Wild and Scenic River, but this portion is approximately 1.8km (3 mi.) south of the segment proposed as critical habitat, with no overlap.

Activities proposed by the Federal land managers in these areas would be expected to maintain or improve the health of these riparian ecosystems, and thus they would be anticipated to help recover or sustain the PCEs along these segments. Therefore no consultations would be expected, and any adverse impacts to critical habitat would be negligible at most.

- *Public health and safety (1508.27)*. One foreseeable set of activities with potential risks to public health and safety relates to fire management, particularly in the Wildlife Urban Interface (WUI) areas and areas where vegetation fuel loading has created conditions for catastrophic fire. These issues, along with fire management and fire-related health and safety risk reduction, are discussed in Section 3.5, Fire Management. To the extent that a construction project has a public safety benefit (road or bridge construction or repairs, for example), delays resulting from consultations could lead to public safety risks, which would need to be addressed on an individual project basis. Any risks remaining after avoidance or mitigation would be expected to be negligible.

The Service also considered potential effects to public health and safety regarding potential modifications to Department of Homeland Security (DHS), Customs and Border Patrol operations along the U.S.-Mexico border. Only one of the proposed segments, in the occupied Parker to Southerly International Boundary Management Unit, reaches within a quarter-mile of the U.S.-Mexico border near Yuma, AZ, where the Colorado River forms the border. The Service considered whether border control activities could be impacted by the designation. No previous consultations have involved the area close to the border within this unit, and the immediate area that could potentially be impacted by nearby border control activities does not contain essential habitat. Therefore, any proposed border control actions close to designated habitat would be expected to have limited effects on the habitat of the species and, if section 7 consultation occurred, it would most likely result in a "not likely to adversely affect" the species or critical habitat.

- *Climate Change*. The proposed critical habitat rule includes a discussion of how climate change could impact flycatcher habitat (76 FR 50547-50548). It concludes, "In summary, we [the Service] expect that climate change will result in a warmer, drier climate, and reduced surface water across the flycatcher's range....As a result, we expect long-term climate trends associated with a drier climate to have an overall negative effect on the available rangewide habitat for flycatchers."

The Council on Environmental Quality (CEQ) released draft guidance in 2010 that explains climate change impact analysis from proposed actions that create greenhouse gases (CEQ 2010). A threshold of 25,000 metric tons of carbon dioxide equivalent emissions from an action was proposed as the trigger to further quantitative analysis. A designation of critical habitat does not create or develop projects that produce emissions, and therefore would not be subject to quantitative analysis.

The US Department of the Interior (USDOI) released Secretarial Order 3289 in 2010 which details two additional departmental actions to mitigate climate change: (1) DOI Carbon Storage and (2) DOI Carbon Footprint (DOI 2010). The DOI Carbon Storage project was created to develop methodologies for geologic and biologic carbon sequestration. The US Geological Survey (USGS) is the lead agency for research while additional agencies within the department are cooperating agencies. The DOI Carbon Footprint project has the goal of developing a unified greenhouse gas emission reduction program to mitigate climate change activities. DOI has created Climate Change Response Centers to conduct impact analysis and data collection for the program.

Specific Landscape Conservation Cooperatives would work with the Centers by supplying the on-the-ground data derived from each specific locale.

In addition to these two projects, Secretarial Order 3289 also states that avoidance of climate change and mitigation of its effects should also be addressed by prioritizing the development of renewable energy (DOI 2010). BLM has separately published programmatic EISs for solar and wind energy development on its managed lands (BLM 2005; BLM 2011a). While currently there are no plans for solar or wind energy development that overlap with proposed critical habitat units, future projects could spur section 7 consultations if they had the potential to adversely affect critical habitat.

The Forest Service issued a document titled “Climate Change Considerations in Project Level NEPA Analysis” in 2009, to guide the analysis of climate change for future projects (USFS 2009). It discusses the two types of effects of climate change: (1) the effect of the proposed action on climate change. As stated above, the designation of critical habitat units would not impact climate change as it would not initiate or implement projects that produce greenhouse gas emissions; (2) the effect of climate change on the proposed action. Expected shifts in rainfall patterns are an example of such an effect, and would have the potential to affect flycatcher critical habitat units. The Forest Service would conduct its own NEPA climate change analysis of its proposed actions, as appropriate.

Therefore, while the Service expects long-term climate trends associated with a drier climate to have an overall negative effect on the available rangewide habitat for flycatchers through alteration of rainfall cycles and increased frequency and duration of drought, the designation of critical habitat itself will neither create impacts to climate change (since it does not initiate or implement projects that create emissions) nor contribute to the expected adverse impacts of climate change on critical habitat (since it would not contribute to the changes in temperature or hydrologic cycles). To the extent that designation of habitat contributes to the maintenance of PCEs, it may produce beneficial impacts by improving the resilience of PCEs to the adverse impacts of climate change.

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## CHAPTER 2

# ALTERNATIVES, INCLUDING THE NO ACTION ALTERNATIVE

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This section describes the alternatives for critical habitat designation for the southwestern willow flycatcher. For the purposes of this EA, alternatives provide a clear basis for choice by the decision-maker and the public for critical habitat designation, as described in Chapter 1, which can be summarized as determining which areas meet the definition of critical habitat for the southwestern willow flycatcher. In addition, the analysis of alternatives can provide information in an evaluation if any of the proposed critical habitat units should be excluded from the final designation.

### 2.1 Development of Alternatives

In developing the action alternatives, the Service based decisions on the best scientific and commercial data available in determining areas within the geographical area occupied at the time of listing that contain the features essential to the conservation of the southwestern willow flycatcher, and areas outside of the geographical area occupied at the time of listing that are essential for the conservation of the species.

The initial steps and approach in proposing areas for flycatcher critical habitat were to identify areas: (1) known to be within the specific geographic area occupied by the flycatcher at the time of listing (from surveys occurring from 1991 to 1994) that contain the essential physical or biological features which may require special management; and (2) that are essential to the conservation of the flycatcher based on the Recovery Plan goals.

Following the evaluation of the two factors above, the Service incorporated the conservation strategies described in the Recovery Plan. These strategies describe the importance of flycatcher habitat to support stable and growing breeding populations, to provide migration stopover areas, to protect against simultaneous catastrophic loss, to maintain gene flow, to prevent isolation and extirpation, and to provide colonizers to use new areas. Also, the Recovery Plan describes the importance of habitat that supports large breeding populations of flycatchers and small populations that, when in proximity, equal a large population. To achieve these Recovery Plan goals, the Recovery Plan describes a recovery strategy of distributing flycatcher habitat that could hold a specific minimum number of breeding territories across 29 different Management Units in portions of California, Nevada, Utah, Colorado, Arizona, and New Mexico.

The Service therefore created criteria and a methodology to identify areas surrounding large populations and small populations, in proximity, that equalled a large population. A 35-km (22-mi) distance was used as a radius to identify areas around large flycatcher populations (those with at least 10 territories) and small populations in high connectivity that together equal a large population.

Critical habitat was then generated in “river segments” to account for the dynamic aspects of flycatcher riparian habitat, the changing locations of flycatcher habitat due to these dynamic conditions, population growth, and the variety of other life-history needs such as nest placement,

foraging, dispersing, cover, shelter, and migration habitat. Once these broad areas were established, stream segments with flycatcher habitat were identified to support the numerical territory and habitat-related recovery goals for the 29 Management Units described in the Recovery Plan. After this was done, there were areas where recovery goals needed to occur that were not identified by our methodology of using known large populations as our guide. In these instances, the Service relied heavily upon the Recovery Plan guidance (recovery strategy, stream identification, and habitat descriptions), flycatcher detections, and local expertise in habitat quality to identify river segments considered essential for the conservation of the species.

Changes from the 2005 designation to the 2011 proposed revision are summarized below. For more detail on the differences from 2005 and other elements of the methodology, refer to the proposed rule (76 FR 50542-50629).

1. In this proposal, the Service defines the critical habitat that is not occupied at the time of listing, but that is essential for the conservation of the species, as areas needed to support the distribution and abundance of territories and habitat-related recovery goals described in the Recovery Plan. In contrast, in its proposal for 2005 (the “2005 proposal” was actually published in 2004, finalized in 2005), the Service determined essential habitat was based on only those areas that supported large flycatcher populations (69 FR 60715–60716).
2. For this 2011 proposal, stream segments are proposed in all 29 Management Units where there are flycatcher territory and habitat-related Recovery Goals. In contrast, in 2004, the Service proposed segments in 21 Management Units. Many segments that were proposed in 2004, but excluded from the final designation, have been proposed in the 2011 revision. As mentioned above, in this proposed rule, 35 km (22 mi) has been used as the radius to guide critical habitat areas surrounding large populations (equal or greater than 10 territories) and proximity of sites with smaller numbers that could equal a large population. This is the average distance between breeding sites that USGS described (30 to 40 km, 18 to 25 mi) as being highly connected. In the 2005 proposal, 30 km (18 mi) was used as the radius. Because USGS did not describe a value within this range that is more or less beneficial for the flycatcher, the Service believes using the average accurately reflects the range of distance between highly connected breeding sites.
3. To assist in generating critical habitat in Management Units where there are recovery goals but there are no known large flycatcher population or collections of small populations in proximity that equalled a large population, the Service used Recovery Plan guidance in this proposed rule to propose stream segments with substantial recovery value (Service 2002), known breeding sites (Durst et al. 2008; Sogge and Durst 2008), and other literature, reports, and local knowledge about flycatcher population dynamics and habitat. In contrast, in 2004, there was no attempt to propose critical habitat in these areas because the definition of essential habitat was focused on the presence of large populations (69 FR 60715–60716).

Based on the differences in approach summarized above and explained more fully in the proposed rule, additional stream segments are now being proposed as flycatcher critical habitat. These are specifically identified in section 2.3.

Overall, there are 12 river segments proposed as critical habitat where flycatcher territories have not been detected since surveys began in 1991. These river segments occur across seven

different Management Units (totaling about 86 river miles) (76 FR 50560-50561). These streams are listed below in Table 2.1. While six of the seven management units contain flycatcher territories in their other river segments, the Paria River segment occurs in the only management unit in which no territories have been confirmed since 1991-- Powell Management Unit.

**Table 2.1 Designated Critical Habitat in Segments where Flycatcher Territories Have Not Been Detected**

<i>State</i>	<i>River Segment with unoccupied territories</i>
California	<ul style="list-style-type: none"> <li>• Mono, Temescal, Deep, Castaic and Willow Creeks</li> <li>• Big and Little Tujunga Canyons</li> <li>• Ventura River</li> <li>• West Fork Mohave River</li> </ul>
Arizona	<ul style="list-style-type: none"> <li>• West Fork Little Colorado River</li> <li>• Santa Cruz River</li> </ul>
Utah	<ul style="list-style-type: none"> <li>• Paria River</li> </ul>

Under section 4(b)(2) of the Act, the Service considered relevant impacts--including economic impacts, impacts on national security, and other factors--in weighing the costs and benefits of excluding areas from critical habitat designation. The factors considered by the Service include whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, the Service looked at tribal management in recognition of their capability to appropriately manage their own resources, and considered the government-to-government relationship of the United States with tribal entities. The Service also considered potential social impacts that might occur because of the designation.

For this EA, the Service constructed an alternative in which all potential exclusions are combined within a single action alternative—Alternative B. In developing its final designation, the Service will continue to evaluate individual exclusions according to the criteria mentioned above.

### **2.1.1 Exemptions**

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L.108-136) amended the Endangered Species Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: “The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.”

The Service analyzed INRMPs developed by military installations located within the range of the proposed critical habitat designation for the flycatcher to determine if they are exempt under

section 4(a)(3) of the Act. The following areas in Southern California (Table 2.2) are Department of Defense lands with completed, Service-approved INRMPs within the proposed critical habitat designation, and are therefore exempted from any proposed designation.

**Table 2.2 Areas exempted from critical habitat under section 4(b)(3) of the Act, by Management Unit**

<i>Management Unit</i>	<i>Specific Area</i>	<i>Areas Meeting the Definition of Critical Habitat in km (mi)</i>	<i>Areas Exempted in km (mi)</i>
Santa Ynez	Vandenberg AFB INRMP	14.7 km (9.1 mi)	14.7 km (9.1 mi)
San Diego	Camp Pendleton INRMP	76.1 km (47.3 mi)	76.1 km (47.3 mi)
San Diego	Camp Pendleton INRMP/Fallbrook Naval Base INRMP shared boundary	7.5 km (4.7 mi)	7.5 km (4.7 mi)
San Diego	Fallbrook Naval Base INRMP	3.2 km (2.0 mi)	3.2 km (2.0 mi)

Further discussion of the INRMPs for each facility can be found in the proposed rule designating critical habitat (76 FR 50542-50629).

## 2.2 No Action Alternative

The No Action Alternative is defined here as no change in the existing designation of flycatcher critical habitat for the southwestern willow flycatcher; that is, the 2005 critical habitat designation would remain in effect. An analysis of a No Action Alternative is required by NEPA and provides a baseline for analyzing effects of the action alternatives. Analysis of this alternative describes the existing environment and consequences that are anticipated as a result of continuing with the final designation put into effect in 2005 (70 FR 60886). This alternative would not meet the terms of the settlement agreement of July 23, 2010, according to which the Service agreed to redesignate critical habitat. It is included for the purpose of comparison of potential impacts of alternative designations.

## 2.3 Alternative A—Critical Habitat Designation with no Exclusions

Alternative A includes stream segments in 29 Management Units found in six Recovery Units as critical habitat for the flycatcher. These stream segments occur in California, Nevada, Utah, Colorado, Arizona and New Mexico and include a total of approximately 3,402 km (2,113 mi) of streams. Table 1 of the proposed rule (76 FR 50560) lists the streams proposed, whether they were considered occupied at the time of listing, and whether they are currently considered occupied. Maps in GIS format and full descriptions of the areas being proposed for designation can also be found in the proposed rule and in supplementary materials associated with the proposed rule at <http://www.regulations.gov>.

Table 2.3 presents the hectares (acres) of proposed units.

**Table 2.3 Approximate Proposed Critical Habitat in Hectares (Acres) by Land Ownership and State**

<i>State</i>	<i>Total Area ha (ac)</i>									
	<b>Federal</b>	<b>%</b>	<b>State</b>	<b>%</b>	<b>Tribal</b>	<b>%</b>	<b>Private</b>	<b>%</b>	<b>Other*</b>	<b>%</b>
<b>Arizona</b>	42,126 (104,096)		4,530 (11,195)		14,257 (35,231)		21,549 (53,249)		417 (1,031)	
<b>California</b>	13,070 (32,296)		428 (1,058)		7,062 (17,449)		361 (893)		30,994 (76,464)	
<b>Colorado</b>	3,546 (8,762)		26 (64)		1,064 (2,629)		29,221 (72,206)		575 (1,421)	
<b>Nevada</b>	2,330 (5,757)		1,061 (2,622)		2 (6)		1,496 (3,696)		1 (2)	
<b>New Mexico</b>	6,457 (15,957)		10,512 (25,975)		5,036 (12,445)		17,719 (43,785)		0 (0)	
<b>Utah</b>	1,564 (3,864)		32 (80)		2,063 (5,098)		1,226 (3,030)		0 (0)	
<b>Total</b>	<b>69,093</b> <b>(170,731)</b>		<b>16,590</b> <b>(40,995)</b>		<b>29,484</b> <b>(72,857)</b>		<b>71,572</b> <b>(176,859)</b>		<b>31,937</b> <b>(78,917)</b>	

\*Other/Unclassified includes some local government ownership and unclassified segments (where land ownership was not available).

### *Newly Proposed Segments*

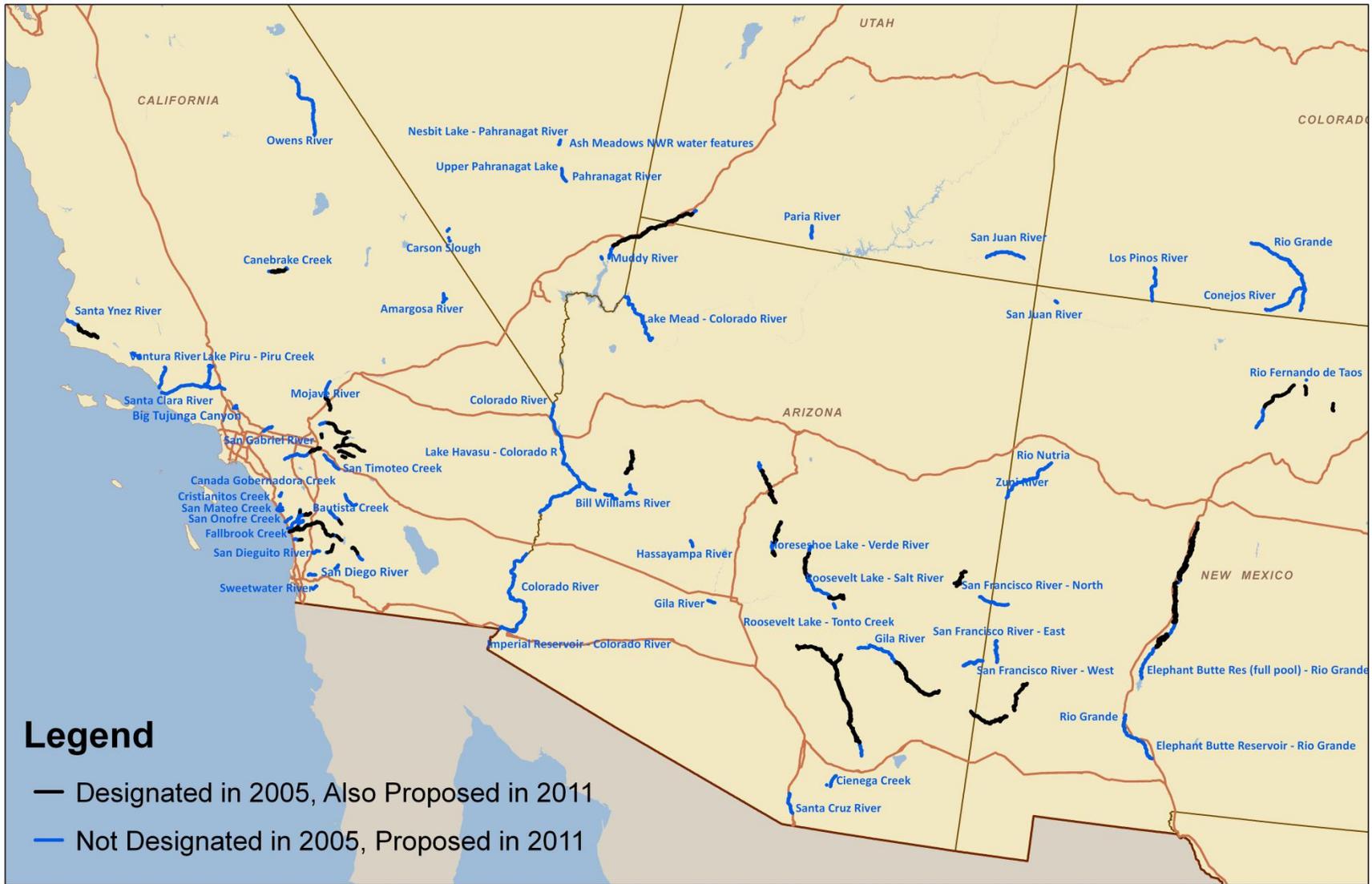
The following stream segments, listed below in Table 2.4 by Recovery Unit, were not designated as flycatcher critical habitat in 2005 but are now being proposed as flycatcher critical habitat. As mentioned above, several of these areas were proposed in 2004, but excluded from the final designation in 2005:

**Table 2.4 Newly Proposed Critical Habitat, by Recovery Unit**

<i>Recovery Unit</i>	<i>Management Unit</i>	<i>Stream Segment</i>
Coastal California	Santa Ynez	Mono Creek
	Santa Clara	Santa Clara River, Ventura River, Piru Creek, Castaic Creek, Big Tujunga Canyon, Little Tujunga Canyon, and San Gabriel River

<i>Recovery Unit</i>	<i>Management Unit</i>	<i>Stream Segment</i>
	Santa Ana	Bautista Creek, San Timoteo Creek, Waterman Creek
	San Diego	Canada Gobernadora Creek, Fallbrook Creek, Sweetwater River (near Sweetwater Reservoir), San Diego River, San Dieguito River, Agua Hedionda Creek, Santa Ysabel Creek, and Vail Lake
Basin and Mohave	Kern	Canebrake Creek
	Mohave	West Fork Mohave
	Amargosa	Willow Creek, Amargosa River NV, Unnamed riparian areas and Carson Slough within Ash Meadows NWR NV
	Owens	Owens River
Lower Colorado	Little Colorado	Rio Nutria, Zuni River NM
	Bill Williams	Bill Williams River, Alamo Lake, Lake Havasu, Santa Maria River AZ
	Hoover-Parker Dam	Colorado River (including Lake Havasu AZ)
	Pahrnagat	Pahrnagat River, Frenchy Lake, Nesbit Lake, Pahrnagat Lake, and Muddy River NV
	Parker Dam to Southerly Int'l	Colorado River, Lake Havasu, and Imperial Reservoir, AZ, CA
	Middle Colorado	Lake Mead AZ
	Virgin	Virgin River, UT (expanding existing segment)
Upper Colorado	San Juan	Los Piños River CO; San Juan River NM, UT
	Powell	Paria River UT
Gila	Roosevelt	Pinal Creek, Roosevelt Lake AZ
	Santa Cruz	Santa Cruz River, Cienega Creek AZ, Empire Gulch, AZ
	San Francisco	San Francisco River AZ, NM
	Hassayampa and Agua Fria	Hassayampa River and Gila River AZ
	Verde	Horseshoe Lake AZ
	Upper Gila	San Carlos Reservoir AZ
	Middle Gila and San Pedro	San Carlos Reservoir AZ
Rio Grande	Upper Rio Grande	Rio Fernando NM
	Lower Rio Grande	Rio Grande NM
	Middle Rio Grande	Elephant Butte Reservoir NM
	San Luis Valley	Rio Grande and Conejos River CO

Conversely, there are stream segments in the 2005 final designation (the No Action Alternative) that are not in the 2011 proposed action: the Little Colorado River - East Fork, in the Little Colorado Management Unit and the Lower Colorado Recovery Unit. Also, there is a small 3.2 km (2 mi) segment of the Middle Rio Grande near the Isleta Pueblo that was designated in 2005, but is not proposed in 2011. Figure 2.1 (next page) depicts stream segments proposed for critical habitat, identified by whether they are in the existing 2005 designation or not designated in 2005 but proposed in 2011.



**Figure 2.1. Proposed Critical Habitat (Alternative A)**

## 2.4 Alternative B—Critical Habitat Designation minus Exclusions

The criteria considered by the Service for exclusion are described in section 2.1. The Service considers a current land management or conservation plan (HCPs as well as other types) or other conservation partnership to provide adequate management or protection if it meets the following criteria:

1. The plan is complete and provides the same or better level of protection from adverse modification or destruction than that provided through a consultation under section 7 of the Act;
2. There is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and
3. The plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology.

Alternative B includes all the segments identified in Alternative A, except for those lands proposed for exclusion as detailed below in Table 2.3. These proposed exclusions total 1,464.3 km (909.8 mi). For a complete discussion of the rationale for exclusion of each stream segment, consult the proposed critical habitat designation (76 FR 50584-50594) and the revision dated July 12, 2012 (77 FR 41147-41162).

**Table 2.3 Plan type, stream segments, and approximate stream length being considered for exclusion from flycatcher critical habitat under section 4(b)(2) of the Act by Management Unit.**

Basis for Possible Exclusion	Streams Segments Considered for Exclusion	Approximate Stream Length Considered for Exclusion in km (mi)
<b>Santa Ana Management Unit</b>		
Western Riverside County Multiple Species HCP	Santa Ana River	34.1 km (21.2 mi)
	San Timoteo Creek	21.4 km (13.3 mi)
	Bautista Creek	22.6 km (14.0 mi)
	Temecula Creek (see San Diego Management Unit)	—
Ramona Band of Cahuilla	Bautista Creek	0.44 km (0.27 mi)
<b>San Diego Management Unit</b>		

<b>Basis for Possible Exclusion</b>	<b>Streams Segments Considered for Exclusion</b>	<b>Approximate Stream Length Considered for Exclusion in km (mi)</b>
San Diego County Multiple Species HCP	San Dieguito River	9.2 km (5.7 mi)
	San Diego River	9.5 km (5.9 mi)
	Santa Ysabel Creek (upper)	2.4 km (1.5 mi)
	Santa Ysabel Creek (lower)	1.0 km (0.6 mi)
	Sweetwater River	6.6 km (4.1 mi)
Western Riverside County Multiple Species HCP	Temecula Creek (including Vail Lake)	18.7 km (11.6 mi)
Orange County Southern Subregional HCP	Canada Gobernadora Creek	5.9 km (3.7 mi)
City of Carlsbad Habitat Management Plan	Agua Hedionda Creek (upper)	3.4 km (2.1 mi)
	Agua Hedionda Creek (lower)	2.1 km (1.3 mi)
La Jolla Band of Luiseno Indians Management Plan	San Luis Rey River	11.5 km (7.2 mi)
Rincon Band of Luiseno Mission Indians Management Plan	San Luis Rey River	2.4 km (1.5 mi)
Pala Band of Luiseno Mission Indians	San Luis Rey River	3.7 km (2.3 mi)
The Barona and Viejas Groups of Capitan Grande Band of Diegueno Mission Indians	San Diego River	4.7 km (2.9 mi)
<b>Owens Management Unit</b>		
Los Angeles Department of Water and Power Management Plan	Owens River	128.5 km (79.9 mi)
<b>Kern Management Unit</b>		
Sprague Ranch Management Plan	South Fork Kern River (north side)	4.0 km (2.5 mi)
Haffenfeld Ranch Management Plan	South Fork Kern River (south side)	0.80 km (0.50 mi)

<b>Basis for Possible Exclusion</b>	<b>Streams Segments Considered for Exclusion</b>	<b>Approximate Stream Length Considered for Exclusion in km (mi)</b>
South Fork Kern River Wildlife Area Management Plan	South Fork Kern River	2.5 km (1.5 mi)
	South Fork Kern River (Lake Isabella)	0.29 km (0.18 mi)
<b>Salton Management Unit</b>		
Iipay Nation of Santa Ysabel	San Felipe Creek	1.6 km (0.98 mi)
<b>Little Colorado Management Unit</b>		
Zuni Pueblo	Rio Nutria	35.8 km (22.2 mi)
	Zuni River	39.9 km (24.8 mi)
Navajo Nation	Zuni River	15.5 km (9.6 mi)
<b>Virgin River Management Unit</b>		
Clark County MSHCP	Virgin River	42.0 km (26.1 mi)
Overton State Wildlife Area Management Plan	Virgin River	6.5 km (4.0 mi)
<b>Middle Colorado Management Unit</b>		
Lower Colorado River MSCP	Colorado River (Lake Mead)	24.1 km (15.0 mi)
Hualapai Tribe Management Plan	Colorado River	50.0 km (31.0 mi)
<b>Pahrnagat Management Unit</b>		
Key Pittman State Wildlife Area Management Plan	Pahrnagat River	4.0 km (2.5 mi)
Overton State Wildlife Area Management Plan	Muddy River	3.1 km (1.9 mi)
<b>Bill Williams Management Unit</b>		
Alamo Lake State Wildlife Area Management Plan	Bill Williams River (Alamo Lake)	5.4 km (3.3 mi)
	Santa Maria River (Alamo Lake)	8.4 km (5.2 mi)
	Big Sandy River (Alamo Lake)	9.6 km (6.0 mi)

<b>Basis for Possible Exclusion</b>	<b>Streams Segments Considered for Exclusion</b>	<b>Approximate Stream Length Considered for Exclusion in km (mi)</b>
Lower Colorado River MSCP	Bill Williams River NWR—Bill Williams River	16.6 km (10.3 mi)
<b>Hoover to Parker Dam Management Unit</b>		
Lower Colorado River MSCP	Colorado River (two segments)	24.7 km (15.3 mi)
	Havasu NWR—Colorado River	35.2 km (21.8 mi)
	Bill Williams River	1.7 km (1.0 mi)
Fort Mohave Tribe Management Plan	Colorado River	17.0 km (10.6 mi)
Chemehuevi Tribe Management Plan	Colorado River	21.9 km (13.6 mi)
<b>Parker Dam to Southerly International Border Management Unit</b>		
Lower Colorado River MSCP	Colorado River (two segments)	70.5 km (43.8 mi)
	Colorado River (Cibola NWR)	17.9 km (11.1 mi)
	Colorado River (Imperial NWR)	38.1 km (23.7 mi)
Colorado River Indian Tribes Management Plan	Colorado River	47.7 km (29.7 mi)
Quechan (Fort Yuma) Indian Tribe Management Plan	Colorado River	23.0 km (14.3 mi)
<b>San Juan Management Unit</b>		
Navajo Nation	San Juan River (New Mexico)	3.5 km (2.2 mi)
	San Juan River (Utah)	51.7 km (32.1 mi)
Southern Ute Tribe	Los Pinos River	25.9 km (16.1 mi)
<b>Verde Management Unit</b>		
Salt River Project Horseshoe and Bartlett Dams HCP	Verde River (Horseshoe Lake)	9.6 km (6.0 mi)
Yavapai Apache Tribal Management Plan	Verde River	2.7 km (1.7 mi)
<b>Roosevelt Management Unit</b>		

<b>Basis for Possible Exclusion</b>	<b>Streams Segments Considered for Exclusion</b>	<b>Approximate Stream Length Considered for Exclusion in km (mi)</b>
Salt River Project Roosevelt Lake HCP	Tonto Creek (Roosevelt Lake)	12.8 km (7.9 mi)
	Salt River (Roosevelt Lake)	16.3 km (10.1 mi)
Pinal Creek Group/Freeport McMoRan Management Plan	Pinal Creek	5.7 km (3.5 mi)
<b>Upper Gila Management Unit</b>		
U-Bar Ranch Management Plan	Gila River	14.0 km (8.7 mi)
San Carlos Apache Tribal Management Plan	Gila River	31.3 km (19.5 mi)
Tribal Partnerships with Gila River Indian Community and San Carlos Apache Tribe	Gila River (San Carlos Lake)	26.8 km (16.6 mi)
<b>Hassayampa and Agua Fria Management Unit</b>		
Tres Rios Safe Harbor Agreement	Gila River	8.7 km (5.4 mi)
<b>San Luis Valley Management Unit</b>		
San Luis Valley Partnership	Rio Grande	159.4 km (99.0 mi)
	Conejos River	69.8 km (43.4 mi)
	Rio Grande (Alamosa NWR)	18.4 km (11.4 mi)
<b>Upper Rio Grande Management Unit</b>		
San Ildefonso Pueblo Partnership	Rio Grande	7.7 km (4.8 mi)
Santa Clara Pueblo Partnership	Rio Grande	10.3 km (6.4 mi)
San Juan Pueblo (Ohkay Owingue) Partnership	Rio Grande	9.3 km (5.8 mi)
<b>Middle Rio Grande Management Unit</b>		
Elephant Butte Reservoir	Rio Grande	45.7 km (28.4 mi)

Basis for Possible Exclusion	Streams Segments Considered for Exclusion	Approximate Stream Length Considered for Exclusion in km (mi)
<b>Lower Rio Grande Management Unit</b>		
Rio Grande Canalization Project	Rio Grande	74.2 km (46.1 mi)
	<b>Total</b>	<b>1,464.3 km (909.8 mi)</b>

## 2.5 Comparison of Potential Impacts of Southwestern Willow Flycatcher Proposed Critical Habitat Designation

The following table (Table 2.4) summarizes the potential effects of the alternative critical habitat designations. Potential effects on resources are summarized from the analyses presented in Chapter 3.

**Table 2.4 Comparison of Potential Effects of Southwestern Willow Flycatcher Proposed Critical Habitat Designation**

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B—with Exclusions</i>
<b>Land Use and Management</b>	<ul style="list-style-type: none"> <li>No impacts beyond those resulting from the 2005 designation</li> </ul>	<ul style="list-style-type: none"> <li>Moderate (less than significant) impacts anticipated from incremental increase in section 7 consultations related to land use management activities in proposed habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Negligible to minor impacts anticipated from incremental increase in section 7 consultations related to land use management activities in newly designated habitat.</li> </ul>
<b>Vegetation</b>	<ul style="list-style-type: none"> <li>No impact beyond those conservation measures resulting from the 2005 critical habitat designation and associated</li> </ul>	<ul style="list-style-type: none"> <li>Compared with No Action Alternative, a small unknown increase in new and reinitiated section 7 consultations</li> <li>Addition of adverse mod analyses to</li> </ul>	<ul style="list-style-type: none"> <li>Minor adverse impacts similar to Alternative A, but fewer consultations, given fewer units of critical habitat</li> </ul>

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B— with Exclusions</i>
	<p>requirements of section 7, ESA.</p> <ul style="list-style-type: none"> <li>• Beneficial effects on vegetation resources from continuing the same level and types of consultations</li> </ul>	<p>section 7 consultations that would be undertaken for the new critical habitat units</p> <ul style="list-style-type: none"> <li>• Minor impacts from delays, increased costs, or project alterations resulting from additional section 7 consultations, including species monitoring, mapping, surveying</li> <li>• Likely beneficial impacts on riparian vegetation from proposed project modifications to conserve habitat</li> </ul>	<ul style="list-style-type: none"> <li>• Beneficial impacts roughly equivalent to Alternative A, owing to conservation easements or agreements on excluded units</li> </ul>

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B— with Exclusions</i>
<b>Wildlife (including T&amp;E)</b>	<ul style="list-style-type: none"> <li>• No impact beyond those conservation measures resulting from the 2005 critical habitat designation and associated requirements of section 7, ESA.</li> <li>• Beneficial effects on wildlife resources from continuing the same level and types of consultations</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, a small unknown increase in new and reinitiated section 7 consultations</li> <li>• Addition of adverse mod analyses to section 7 consultations that would be undertaken for the new critical habitat. Minor impacts from delays, increased costs, or project alterations resulting from additional section 7 consultations, including species monitoring, mapping, surveying</li> <li>• Likely beneficial impacts on wildlife that use riparian habitats and especially the flycatcher from proposed project modifications to conserve habitat</li> </ul>	<ul style="list-style-type: none"> <li>• Minor adverse impacts similar to Alternative A, but fewer consultations, given fewer units of critical habitat</li> <li>• Beneficial impacts roughly equivalent to Alternative A, owing to conservation easements, partnerships, or agreements on excluded units</li> </ul>

<b>Resource</b>	<b><i>No Action (2005 Designation)</i></b>	<b><i>Alternative A—No Exclusions</i></b>	<b><i>Alternative B— with Exclusions</i></b>
<b>Fire Management</b>	<ul style="list-style-type: none"> <li>• No impact beyond those conservation measures resulting from the critical habitat designation of 2005 and associated requirements of section 7, ESA.</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, a small unknown increase in new and reinitiated section 7 consultations</li> <li>• Addition of adverse mod analyses to section 7 consultations that would be undertaken for the proposed critical habitat</li> <li>• Minor impacts from delays, increased costs, or project alterations resulting from additional section 7 consultations, including species monitoring, mapping, surveying</li> </ul>	<ul style="list-style-type: none"> <li>• Minor adverse impacts similar to Alternative A, but fewer consultations, given fewer units of critical habitat</li> </ul>
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>• No adverse effects anticipated beyond any conservation measures or project modifications resulting from the listing of the southwestern flycatcher, designation of the 2005 critical habitat and associated requirements of section 7 of the ESA.</li> <li>• If consultations</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, a small increase in new and reinitiated section 7 consultations on unoccupied land and proposed critical habitat.</li> <li>• Addition of adverse modification analyses to section 7 consultations in new critical habitat.</li> <li>• Moderate (less than significant) impacts from delays, increased costs, or project alternations resulting from</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate (less than significant) adverse impacts similar to Alternative A, but fewer consultations, given fewer units of critical habitat.</li> <li>• Same minor beneficial effects as the No Action Alternative and Alternative A.</li> </ul>

<b>Resource</b>	<b>No Action (2005 Designation)</b>	<b>Alternative A—No Exclusions</b>	<b>Alternative B— with Exclusions</b>
	<p>occur, no consideration of adverse modification to unoccupied units.</p> <ul style="list-style-type: none"> <li>• Minor beneficial effects on water resources due to increased conservation measures to help conserve PCEs and natural stream hydrology and geomorphology</li> </ul>	<p>additional section 7 consultations.</p> <ul style="list-style-type: none"> <li>• Same minor beneficial effects as No Action</li> </ul>	
<b>Livestock Grazing</b>	<ul style="list-style-type: none"> <li>• No adverse effects anticipated beyond any conservation measures or project modifications resulting from the listing of the southwestern flycatcher, designation of the 2005 critical habitat and associated requirements of section 7 of the ESA.</li> <li>• If consultations occur, no consideration of adverse modification to unoccupied units.</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, a small increase in new and reinitiated section 7 consultations on unoccupied land and newcritical habitat.</li> <li>• Addition of adverse modification analyses to section 7 consultations in newcritical habitat</li> <li>• Moderate (less than significant) impacts from delays, increased costs, or project alternations resulting from additional section 7 consultations.</li> <li>• Same minor beneficial effects as No Action</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate (less than significant) adverse impacts similar to Alternative A, but fewer consultations, given fewer units of critical habitat.</li> <li>• Same minor beneficial effects as the No Action Alternative and Alternative A.</li> </ul>

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B— with Exclusions</i>
<b>Construction/Development</b>	<ul style="list-style-type: none"> <li>• No adverse effects anticipated beyond any conservation measures or project modifications resulting from the listing of the southwestern flycatcher, designation of the 2005 critical habitat and associated requirements of section 7 of the ESA.</li> <li>• If consultations occur, no consideration of adverse modification to unoccupied areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, a small increase in new and reinitiated section 7 consultations on unoccupied land and newoccupied critical habitat.</li> <li>• Addition of adverse modification analyses to section 7 consultations in newcritical habitat .</li> <li>• Moderate (less than significant) impacts from delays, increased costs, or project alterations resulting from additional section 7 consultations.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate (less than significant) adverse impacts similar to Alternative A, but fewer consultations, given fewer units of CH.</li> </ul>
<b>Tribal Trust Resources</b>	<ul style="list-style-type: none"> <li>• No adverse effects anticipated because no section 7 consultations are likely to occur.</li> </ul>	<ul style="list-style-type: none"> <li>• Indirect, minor to moderate adverse impacts if consultations occur for proposed activities on newly designated habitat</li> </ul>	<ul style="list-style-type: none"> <li>• No adverse effects anticipated because no section 7 consultations are likely to occur due to the exclusion of tribal trust resources.</li> </ul>
<b>Soils &amp; Minerals</b>	<ul style="list-style-type: none"> <li>• No additional adverse effects beyond any conservation measures or</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, an increase in new and reinitiated section 7</li> </ul>	<ul style="list-style-type: none"> <li>• Compared with No Action Alternative, a small increase in new and</li> </ul>

<b>Resource</b>	<b>No Action (2005 Designation)</b>	<b>Alternative A—No Exclusions</b>	<b>Alternative B— with Exclusions</b>
	<p>project modifications resulting from existing critical habitat.</p> <ul style="list-style-type: none"> <li>• Beneficial impacts on soil and mineral resources due to increased conservation measures to help conserve PCEs.</li> </ul>	<p>consultations for actions within new critical habitat</p> <ul style="list-style-type: none"> <li>• Addition of adverse modification analyses to section 7 consultations in new critical habitat Moderate (less than significant) impacts from delays, increased costs, or project modifications resulting from additional section 7 consultations.</li> <li>• Same beneficial impacts as No Action</li> </ul>	<p>reinitiated section 7 consultations for actions within newly proposed critical habitat.</p> <ul style="list-style-type: none"> <li>• Addition of adverse modification analyses to section 7 consultations in new critical habitat .</li> <li>• Minor impacts from delays, increased costs, or project modifications resulting from additional section 7 consultations.</li> <li>• Same beneficial impacts as No Action and Alternative A</li> </ul>
<b>Recreation</b>	<ul style="list-style-type: none"> <li>• No additional adverse effects beyond any conservation measures or project modifications resulting from existing flycatcher critical habitat.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor adverse impacts from limitations and restrictions on boating, fishing, swimming, camping, horseback riding, OHV use, and bicycling, in small number of cases</li> <li>• Beneficial impacts to the quality of many recreational values—for example, in bird watching, hiking,</li> </ul>	<ul style="list-style-type: none"> <li>• Adverse impacts, though reduced in number from Alternative B, would still be characterized as minor, since some incremental restrictions and limitations on recreational activities could still occur.</li> <li>• This alternative would still be</li> </ul>

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B— with Exclusions</i>
		and sightseeing— which would be preserved and potentially enhanced with conservation, mitigation, and management measures	expected to produce similar beneficial impacts to recreational management activities as Alternative A, since the excluded areas provide conservation benefit to recreational values.
<b>Socioeconomics</b>	<ul style="list-style-type: none"> <li>No additional impacts to economic efficiency and distribution beyond any conservation measures or project modifications resulting from existing flycatcher critical habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Minor to moderate direct adverse impacts from increased number of reinitiated consultations for ongoing projects within designated critical habitat, and additional consultations for proposed projects in new critical habitat</li> <li>Minor to moderate indirect adverse impacts to agencies and project proponents from time and monetary costs of section 7 consultations, including developing alternatives and/or mitigation.</li> <li>Unquantifiable economic benefits from conservation, including improved water quality,</li> </ul>	<ul style="list-style-type: none"> <li>Similar to A, but exclusions would reduce these, due to decreased number of new and re-initiated section 7 consultations.</li> <li>Similar indirect impacts as A, but fewer because of reduced administrative and monetary costs.</li> <li>Same unquantifiable economic benefits from conservation, because exclusions are based on existence of other means of conservation</li> </ul>

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B— with Exclusions</i>
		decreased development in flood prone areas, property values aesthetics and public safety	
<b>Environmental Justice</b>	<ul style="list-style-type: none"> <li>No additional impacts beyond any conservation measures or project modifications resulting from existing flycatcher critical habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Minor adverse impacts, in the context of the entire designation, because: (1) the economic impacts associated with any individual project would be relatively small; and (2) there would be only a small number of projects throughout the designation which would create such impacts.</li> </ul>	<ul style="list-style-type: none"> <li>Same as A, but fewer impact-producing projects due to fewer consultations</li> </ul>
<b>Oil and Gas Development</b>	<ul style="list-style-type: none"> <li>No additional impacts beyond any conservation measures or project modifications resulting from existing flycatcher critical habitat.</li> </ul>	<ul style="list-style-type: none"> <li>Minor adverse impacts because: (1) few projects would be subject to new consultations based solely on the presence of designated critical habitat; (2) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis; and (3) very few if any additional conservation</li> </ul>	<ul style="list-style-type: none"> <li>Only private lands along the Los Pinos River, north of the Southern Ute lands would remain in proposed critical habitat. Potential exists there for future oil and gas development, but no Federal nexus exists for subsurface mineral rights, so no consultations would be triggered. Therefore, no new or expanded</li> </ul>

<i>Resource</i>	<i>No Action (2005 Designation)</i>	<i>Alternative A—No Exclusions</i>	<i>Alternative B— with Exclusions</i>
		<p>measures would be proposed to address critical habitat, beyond those already proposed in jeopardy consultations. In addition, conservation measures developed by the project proponents or resulting from incremental section 7 consultations could benefit the PBFs and PCEs within designated critical habitat.</p>	<p>consultations for oil and gas development would be expected, and thus no impacts from designation of critical habitat.</p>

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## CHAPTER 3

# AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

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### 3.1 Introduction

This chapter is organized by resource categories that may potentially be affected by designating critical habitat for the southwestern willow flycatcher. These resource categories were selected based on issues and concerns identified by the Service in the August 2011 proposed critical habitat rule (76 FR 50542-50629), public comments submitted for the 2005 rule, a review of the consultation history for the species, and public comments on the new proposed rule. Within each resource category, a description of the existing condition and threats is followed by an evaluation of potential environmental consequences resulting from the designation of critical habitat. Potential effects are evaluated for each alternative described in Chapter 2, including the No Action Alternative.

Under the No Action Alternative, no changes in designated critical habitat for the southwestern willow flycatcher would be made; the 2005 designation would continue in place. This means that the consultation history since the 2005 designation can be used to analyze the impacts of the No Action Alternative.

The 2005 designation was analyzed in an Environmental Assessment (Service 2005), which describes the resource conditions and potential impacts of that designation. Consistent with CEQ and Service policy to incorporate previous environmental reviews by reference, this current Environmental Assessment focuses on the incremental impacts of newly designated (or withdrawn) stream segments. This EA uses the consultation history since 2005 as the basis upon which to analyze continuation of the existing designation—i.e., the No Action Alternative.

#### 3.1.1 Methodology

Descriptions of existing conditions presented in sections 3.2 through 3.13 of this document are based on a number of sources. These include:

- Published literature;
- Available state and Federal agency reports and management plans;
- Proposed critical habitat designation for the southwestern willow flycatcher (76 FR 50542-50629); and
- The 2012 economic analysis for the proposed designation of critical habitat (IEc 2012).

#### *Agencies and Projects Likely to Undergo Consultation*

A variety of Federal agencies and projects could cause adverse impacts to the species and therefore would likely go through the section 7 consultation process, whether or not critical habitat is designated. These include:

**Table 3.1 Likely Agency Consultations Regardless of Critical Habitat**

<i>Agency</i>	<i>Project Types</i>
U.S. Army Corps of Engineers	Bridge projects, stream restoration, vegetation management, urban development
U.S. Bureau of Land Management	Fire suppression, fuel reduction treatments, land resource management plans, livestock grazing and management plans, mining permits, renewable energy development
U.S. Bureau of Reclamation	Transportation, storage, and delivery of water
U.S. Department of Homeland Security	Border security infrastructure and operations
U.S. Department of Transportation	Highway and bridge construction and maintenance
U.S. Fish & Wildlife Service	Issuance of section 10 enhancement of survival permits, HCPs, and safe harbor agreements; National Wildlife Refuge planning; Partners for Fish and Wildlife program projects benefiting the flycatcher, Wildlife and Sportfish Restoration program
U.S. Forest Service	Vegetation management, noxious weed treatments, fire management plans, fire suppression, fuel reduction treatments, forest plans, livestock grazing allotment management plans, mining permits, travel management plans.
National Park Service	Recreation, travel management, fire management, vegetation management

Because the Physical or Biological Features (PBFs) and Primary Constituent Elements (PCEs) are nearly identical to the 2005 critical habitat designation, we do not anticipate that different or new agencies will be consulting on previously unknown activities as a result of this proposed revision. Therefore, the same Federal agencies listed above are also anticipated to be the primary agencies that would consult with the Service on critical habitat under section 7.

*Approach to Analyzing Impacts*

There are numerous activities within lands proposed for critical habitat that could potentially be affected by the designation. Consultations are expected to primarily involve projects occurring within floodplains that could impact riparian habitat and stream function (listed above and in the proposed rule (76 FR 50577-50578), similar to those activities which previously occurred during the flycatcher’s consultation history. Activities that could cause impacts include: groundwater pumping, surface water diversion, river damming, and water storage; livestock grazing and management; fire suppression; road/bridge construction and maintenance; mining; agriculture; flood control; vegetation removal; recreation developments and activities including off-road vehicle use, trail development, campgrounds, and hiking use; and other activities.

With respect to critical habitat, the purpose of section 7 consultation is to ensure that actions of Federal agencies do not destroy or adversely modify critical habitat. Individuals, organizations, local governments, states, and other non-Federal entities are potentially affected by the designation of critical habitat *only* if their actions have a connection to Federal actions, called a “nexus”; that is, only if those actions occur on Federal lands, require a Federal permit or license, or involve Federal funding. The designation of critical habitat imposes no universal rules or restrictions on land use, nor does it automatically prohibit or alter any land use or water development activity.

The potential for destruction or adverse modification of critical habitat by a Federal action is assessed by determining the effects of the proposed Federal action on the Physical or Biological Features (PBFs) and Primary Constituent Elements (PCEs) of habitat that are essential to the conservation of the species. These anticipated effects are then analyzed to determine how they will influence the function and conservation role of the affected critical habitat. This analysis provides the basis for determining the significance of anticipated effects of the proposed Federal action on critical habitat. The threshold for destruction or adverse modification is evaluated in the context of whether the critical habitat would remain functional to serve the intended conservation role for the species.

In the context of an Environmental Assessment, the evaluation of the impacts of critical habitat designation focuses on outcomes of the potential increase in section 7 consultations resulting from the designation, since the designation does not itself produce or authorize direct physical impacts. Where consultations occur, impacts could include the following:

- Additional expenditures of time and money by Federal agencies (including the Service) and non-Federal proponents to complete new, re-initiated, or expanded consultations.
- Additional time and costs to implement the reasonable and prudent alternatives and (possibly) discretionary conservation recommendations specified in biological opinions in which adverse modification was concluded.
- Additional time and costs to implement conservation measures that are part of an agency’s proposed action to minimize adverse effects to critical habitat.
- A greater probability that the PBFs and PCEs identified in section 1.4.2 would be maintained, thus increasing the likelihood of species survival.
- Action agencies and project proponents may alter their proposals to reduce, minimize, or avoid impacts on PBFs and PCEs. Such alterations may obviate the need for formal consultation. If a consultation is initiated, then the impact of critical habitat designation could be the modification of the proposal to limit the impacts on PBFs and PCEs or the imposition of reasonable and prudent alternatives that would reduce impacts on PBFs and PCEs.

#### *Considerations for Analyzing Potential Consultation Impacts*

The analysis of potential impacts for each resource topic takes into account a wide range of considerations. First, additional consultations beyond those currently being carried out under the 2005 designation could result from the following circumstances:

- There will likely be some Federal agencies with responsibilities in specific flycatcher Management Units that will now consider consultation on flycatcher habitat where it may have only been rarely addressed in the past.
- Federal agencies may need to re-initiate previously completed section 7 consultations for actions that only addressed the flycatcher under the jeopardy standard (due to its listing as an endangered species) in areas newly proposed as critical habitat, but where flycatchers have been detected (or are believed to occur). The streams or portions of streams in this category that are being proposed as critical habitat for the first time are listed in Table 2.4.
- In addition to re-initiation of ongoing consultation on projects occurring on these specific stream segments (see paragraph above), there could be some incremental effect of designating these streams, because agencies may be more aware of the stream segments and their function in flycatcher recovery. Therefore, the streams designated as critical habitat might receive more agency awareness, and therefore, the agencies may consult with the Service on actions for which they may have previously not considered as needing consultation.
- One likely source of new consultations is the inclusion of areas where flycatchers are not known to be nesting. These are listed in Table 2.4. These areas could be newly subjected to potential consultation to avoid destruction or adverse modification of critical habitat for activities with a Federal nexus.
- There could be some additional section 7 consultations within proposed critical habitat segments that the Service considered occupied by flycatchers at the time of listing, even though some portions of the stream segment might not be considered occupied by other Federal agencies for section 7 consultation. Any part of a stream segment along a stream where flycatchers were found nesting from 1991 to 1994 is considered occupied at the time of listing. This may be a larger area than a Federal agency would consider as occupied, and the Federal agency might consider such a consultation to be based only on critical habitat. Some incremental effects may arise if any section 7 adverse modification consultations occur in these areas. This is because a Federal agency might not have consulted with the Service under section 7 in the absence of the critical habitat designation.
- For those proposed critical habitat areas where the flycatcher is known to have only a few or no territories and there are few critical habitat areas being proposed in a given Management Unit, there is some increased likelihood that a proposed action could result in adverse modification without resulting in jeopardy. This is based on the fact that any substantial reduction in the conservation value of a proposed critical habitat segment in a Management Unit with few or no territories could potentially result in an adverse modification without reaching jeopardy. This would cause an increase in administrative efforts to develop measures to avoid the adverse modification. The Management Units with the fewest territories have an increased possibility of an adverse modification finding where a finding of jeopardy would be unlikely (Salton, Amargosa, San Juan, Powell, Santa Cruz, San Francisco, Hassayampa/Agua Fria, and lower Rio Grande Management Units).

However, the analysis of impacts for each resource topic balances consideration of the potential sources of additional consultations listed above against additional factors:

- Most of the Management Units where critical habitat is proposed are occupied by the southwestern willow flycatcher; therefore, actions in those areas would be subject to section 7 consultations irrespective of the area's status as critical habitat. In such occupied areas, the impact would be to expand consultations to include adverse modification of critical habitat.
- Previously-designated critical habitat (2005) in 15 of the 29 Management Units is already subject to adverse modification analysis under section 7 consultation. In these areas, the number and type of consultations would not change.
- The Little Colorado East Fork stream segment was designated as critical habitat in 2005, but is not being proposed for designation under the new critical habitat, because it did not have the characteristics of essential flycatcher habitat. Under Alternative A, this segment would no longer be subject to section 7 consultations for adverse modification of critical habitat.

### *Consultation History*

From 1995 forward, there have been a limited number of - biological opinions that have resulted in jeopardy determinations for the flycatcher. These opinions occurred within the first six years of the species being listed as endangered, during periods without a critical habitat designation, and during a time when the status of the species was not as well known. In the past, jeopardy has been avoided through proposed conservation measures and project modifications, such as land acquisition and management, research, and monitoring. There have been no previous section 7 consultations where the Service found a proposed Federal action would result in adverse modification of critical habitat. Previous consultations that have affected each resource topic are discussed in those resource-specific sections.

Since 2005 there have been a minimum of 33 formal consultations for the flycatcher critical habitat (.47 formals per month); all of these consultations have resulted in a “no jeopardy” determination (Service 2011a).

### **3.1.2 Economic Analysis**

A separate analysis was conducted by Industrial Economics Incorporated (IEc 2012) to assess the potential economic impacts associated with designation of critical habitat for the flycatcher. Where appropriate, information from the draft economic analysis has been incorporated into this Environmental Assessment. The draft Economic Analysis estimates the costs of conservation activities related to the flycatcher, considering both the baseline costs (i.e., those impacts expected to occur absent the designation of critical habitat) and incremental costs (i.e., those impacts expected to occur as a result of critical habitat designation).

The Economic Analysis uses a basis of comparison of baseline vs. incremental costs that is slightly different from that used in the Environmental Assessment. NEPA regulations require the basis for comparison to include a “No Action Alternative” and the other action alternatives. For the flycatcher Environmental Assessment, the No Action Alternative is defined as the alternative that would be implemented if the Service did not implement either of the proposed Alternatives. That course of action would lead to the continuation of the existing circumstance—that is, a continuation of existing critical habitat as designated in 2005. The Proposed Action consists only of areas not designated in 2005. Therefore, in this Environmental Assessment, all impacts

that are incurred on critical habitat designated in 2005 are considered to be impacts of the No Action Alternative

However, the costs estimated by the Economic Analysis and summarized here in the Environmental Assessment quantify incremental impacts that are based on the designation of *all* critical habitat, not just the additional areas of critical habitat proposed in 2011. This means that the economic impacts identified in the Economic Analysis reach a different total than what would result from comparing the Proposed Action Alternative to the No Action Alternative (the 2005 designation) as required by NEPA.

## **3.2 Land Use and Management**

### **3.2.1 Existing Conditions**

#### **LAND MANAGEMENT**

Table 2 of the proposed rule (76 CFR 50561), incorporated here by reference, displays the proposed critical habitat areas by land ownership for each state, expressed as approximate stream lengths in km (mi). Appendix A displays all proposed stream segments by land management type (Federal agency, State, tribal, private), broken into three regional sections (breakouts are informal, not administrative, done only for purposes of increased legibility).

Federal land management activities subject to formal section 7 consultations involving effects to the flycatcher have occurred throughout the 29 proposed Management Units involving habitat construction, road construction, land management activities and planning, land exchange, pesticide and herbicide use, forest management plan activities, and resource management plan activities.

The proposed critical habitat designation includes lands under Federal (32%), state (8%), private (33%), tribal (13%), and unclassified (14%) land ownership (76 FR 50561). Table 3.2 below summarizes the land ownership status for the 29 designated critical habitat management units by state. Appendix A depicts the land ownership status for the management units.

**Table 3.2 Approximate Proposed Critical Habitat in Hectares (Acres) by Land Ownership and State**

<i>State</i>	<i>Total Area ha (ac)</i>				
	<b>Federal</b>	<b>State</b>	<b>Tribal</b>	<b>Private</b>	<b>Other*</b>
<b>Arizona</b>	42,126 (104,096)	4,530 (11,195)	14,257 (35,231)	21,549 (53,249)	417 (1,031)
<b>California</b>	13,070 (32,296)	428 (1,058)	7,062 (17,449)	361 (893)	30,994 (76,464)
<b>Colorado</b>	3,546 (8,762)	26 (64)	1,064 (2,629)	29,221 (72,206)	575 (1,421)
<b>Nevada</b>	2,330 (5,757)	1,061 (2,622)	2 (6)	1,496 (3,696)	1 (2)
<b>New Mexico</b>	6,457 (15,957)	10,512 (25,975)	5,036 (12,445)	17,719 (43,785)	0 (0)
<b>Utah</b>	1,564 (3,864)	32 (80)	2,063 (5,098)	1,226 (3,030)	0 (0)
<b>Total</b>	<b>69,093</b> <b>(170,731)</b>	<b>16,590</b> <b>(40,995)</b>	<b>29,484</b> <b>(72,857)</b>	<b>71,572</b> <b>(176,859)</b>	<b>31,937</b> <b>(78,917)</b>

Source: Supplemental Materials for Proposed Critical Habitat Rule, Federal Register, August 15, 2011. Docket No. FWS-R2-ES-2011-0053

\* Other/Unclassified includes some local government ownership and unclassified segments (where land ownership was not available).

**Note:** Totals do not sum because some stream segments have different ownership on each side of the bank resulting in those segments being counted twice. CA/AZ includes the stream segments along the Colorado River where California is on one stream bank and Arizona is on the other.

The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area; does not allow the government or public to access private lands; and does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner seeks or requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

#### *Federal Land*

Approximately 32 percent of the land proposed for critical habitat designation is managed by Federal agencies.

#### U.S. Forest Service

Much of the Federal land is managed by the USDA Forest Service on National Forests across three states: Tonto, Prescott, Coconino, and Apache-Sitgreaves National Forests in Arizona; Angeles, Cleveland, San Bernardino, Los Padres, and Sequoia National Forests in California; and Carson, Cibola, and Gila National Forests in New Mexico

On Forest Service lands, the principal activities conducted by the agency affecting critical habitat units include fire and fuels management, habitat restoration, road and fence maintenance and construction, management of off-road vehicle use and livestock grazing, and vegetation management. These activities and their impacts are discussed in the individual resource sections of this chapter. The Gila and Tonto NFs, in particular, have worked to improve conditions for flycatchers along the Gila River and Tonto Creek/Roosevelt Lake/Salt River area by restoring vegetation, removing land management stressors, building cattle fences, establishing seasonal fenced closures, managing off-road vehicles, and preventing and fighting wildfires.

#### Bureau of Land Management

The proposed critical habitat designation also includes Federal land managed by the Bureau of Land Management (BLM) from the Kingman, Hassayampa, Safford, Lake Havasu, and Yuma Field Offices, and the Las Cienegas National Conservation Area (NCA) in Arizona.

National Conservation Areas are managed under the principles of multiple-use and ecosystem management for future generations. The filing of new mining claims and mineral leasing is not permitted in NCAs. Vehicle use at Las Cienegas NCA is limited to designated roads (BLM, 2011). Other BLM lands include smaller parcels in Mohave, Maricopa, Graham, and Yuma counties, Arizona. These lands are managed for multiple use, including habitat restoration, fire management, grazing, and recreation.

#### U.S. Fish & Wildlife Service

There are nine National Wildlife Refuges (NWR) managed by the U.S. Fish and Wildlife Service (USFWS) within the proposed critical habitat units. These include NWRs in Nevada (Ash Meadows and Pahrnagat NWRs), Arizona (Bill Williams NWR), New Mexico (Bosque del Apache and Sevilleta NWRs), Colorado (Alamosa NWR), and at the California/Arizona boundary along the Colorado River (Havasu, Cibola, and Imperial NWRs).

National wildlife refuges are areas set aside and managed with the specific purpose of conserving fish and wildlife. Refuges are managed by the USFWS under the authority of the National Wildlife Refuge System Act of 1966 (NWRS) and the NWRS Improvement Act of 1997 (Improvement Act). The Acts expressly state that wildlife conservation is the priority of NWRS lands, and that the biological integrity, diversity, and environmental health of the refuge are to be maintained. The mission of the NWRS is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the U.S. for the benefit of present and future generations of Americans.

Lands within the NWR system are different from other, multiple-use public lands in that they are closed to all public uses unless specifically and legally opened to those uses that have been determined to be compatible for the refuge. A compatible use is one that, in the professional judgment of the Refuge Manager, will not interfere with or detract from the refuge's purpose. The NWRS Improvement Act has identified six priority refuge uses that include hunting, fishing, wildlife observation, photography, environmental education, and interpretation. These six uses receive priority consideration over other uses in planning and management.

Under the Improvement Act, a Comprehensive Conservation Plan (CCP) is required for managing each refuge. The Improvement Act requires that a CCP be completed for each refuge by 2012 and that the public have an opportunity for active involvement in the plan development and revision. Thus, the CCP planning process requires compliance with the Improvement Act and with NEPA.

These refuges have developed CCPs that will provide for protection and management of Federally-listed species and sensitive natural habitats. The CCPs, which can be found at <http://www.fws.gov/refuges/>, are subject to section 7 consultation requirements. During consultations, the consistency of the CCP with the conservation needs of the flycatcher is evaluated. Prior to implementation of the Improvement Act, routine consultations in some instances resulted in the development of CCPs for specific areas across the flycatcher's range (i.e., Sprague Ranch in Kern Management Unit). However, the Service acknowledges that a CCP does not protect a species within a National Wildlife Refuge from all direct or indirect threats from other actions which could occur outside the Refuge.

### National Park Service

Three National Park Service properties contain areas that are included in the proposed designation:

- (1) Tuzigoot National Monument (21 ha/54 ac) & Montezuma Well—Tuzigoot illustrates Depression-era pioneering archeological efforts in the Southwest. Its archaeological collections constitute one of the largest artifact assemblages of the Southern Sinagua culture of the Verde Valley. Montezuma Well is a unique, spring-fed, limestone sink connected to remnants of an extensive prehistoric irrigation system via a natural outlet (NPS 2011b).
- (2) Lake Mead National Recreation Area (2428 ha /6001 ac)—Proposed critical habitat within the Lake Mead NRA is only in the Colorado River/floodplain area in the far east portion of the NRA, from Iceberg Canyon to the border of Grand Canyon National Park.
- (3) Grand Canyon National Park (1076 ha/2,660 acres)—Proposed critical habitat is the Colorado River segment in the far west of the Park, where it borders Lake Mead National Recreation Area.

### *State Land*

Critical habitat management units for the flycatcher occur in Arizona, California, Colorado, Utah, Nevada, and New Mexico. State-owned land comprises approximately seven percent of the total amount of land proposed for critical habitat designation. Each of these states has wildlife laws that provide some protections to the flycatcher (see Section 1.6). These protections will continue with or without the proposed changes to critical habitat designation.

As part of a joint Federal/State settlement agreement associated with conducting a Federal Natural Resource Damage Assessment for resource impacts in Arizona created by ASARCO (a mining company, ASARCO deeded about four miles of land along the lower San Pedro River to the Arizona Game and Fish Department to compensate for wildlife habitat impacts. Management to replace injured natural resources is the responsibility of the NRDAR trust, which includes multiple Federal and non-Federal stakeholders (Marr, personal communication 2011). This area occurs within the Middle Gila/San Pedro Management Unit. Breeding flycatcher habitat occurs on these lands and is anticipated to be improved and protected for perpetuity.

### *Tribal Land*

Critical habitat on tribal trust resource areas throughout the study area comprises approximately 72,305 acres (29,261 ha), or approximately 13 percent of lands designated for critical habitat. These areas are discussed in more detail in Section 3.9 of this EA.

### *Private Land*

The proposed designation includes 176,619 acres (71,745 ha) of private land (33 percent) that support a variety of land uses. Many of these lands currently implement habitat protection measures as part of their land management activities. These lands include the following:

- Walton Family Memorandum of Understanding. In response to the movement of the introduced tamarisk leaf beetle expanding beyond its anticipated range into the flycatcher's range and affecting its habitat (see section 3.3.1), the Walton Family Foundation is developing a Memorandum of Understanding with the Service to voluntarily fund flycatcher habitat-improvement projects along the Colorado River drainage (Virgin River in particular, etc.) in NV, UT, and AZ. This effort is attempting to offset the impacts from the tamarisk beetle by establishing vegetation the flycatchers rely upon that would not expect to regenerate naturally (see section 3.3.1 for discussion of tamarisk).
- Salt River Project. The Salt River Project (SRP) and Bureau of Reclamation (USBR) have purchased lands along the Verde, Gila, and San Pedro rivers within the Verde and Middle Gila/San Pedro Management Units that are being managed for flycatcher habitat. These properties were purchased and managed as a result of mitigation for habitat loss due to ongoing operations of Roosevelt and Horseshoe Dams in central Arizona and the habitat conservation plans and biological opinions associated with them. Currently, these properties are managed by The Nature Conservancy (TNC) and SRP.
- Orange County Water District. In conjunction with efforts to conserve and recover the endangered least Bell's vireo and southwestern willow flycatcher, species monitoring, cowbird trapping, and habitat restoration and conservation efforts have been undertaken in the Prado Basin and contiguous reaches of the Santa Ana River in southern CA since 1996. Although the local management effort, funded largely by the Orange County Water District pursuant to several Biological Opinions, originally emphasized monitoring and management of the vireo, the conservation of the small breeding population of the flycatcher has now become the top priority of the management team since the species was Federally listed as endangered. These efforts occur within the Santa Ana Management Unit.
- The Nature Conservancy Preserves. TNC owns and manages property along the Hassayampa and Verde Rivers in Arizona within the proposed designation that conserve the riparian habitat flycatcher rely upon. They also have property along the San Pedro River outside of the proposed designation that contributes toward flycatcher conservation by protecting riparian habitat values, retiring water rights, and improving populations. Along the Gila River in the Cliff-Gila Valley, New Mexico, TNC has initiated habitat enhancement on its lands, including reducing levees to allow controlled flooding and subsequent establishment of riparian vegetation for nesting flycatchers. TNCs properties occur in the Hassayampa/Agua Fria, Verde, and Upper Gila Management Units.

- Audubon Kern River Preserve. The Audubon Kern River Preserve (in cooperation with agencies and groups such as the Southern Sierra Research Station, Army Corps of Engineers, California Department of Fish and Game (CADFG), and others) works to protect habitat in the Southern Sierra Nevada, especially in Kern County, California. The 456 ha (1,127 ac) Kern River Preserve (KRP) was purchased in 1981 by TNC. The land had been operated as a cattle ranch since the mid-1800s. TNC removed cattle from the riparian areas shortly after they purchased the property in order to enhance the riparian habitat. However, some riparian areas are lightly to moderately grazed during the winter. The change in management resulted in the regeneration of at least 150 ha (370 ac) of riparian forest. In addition, TNC has planted over 125 ha (309 ac) of riparian habitat. In 1997, Audubon CA took over management of the KRP and continues to manage the property for riparian values. The land protected by efforts of Audubon and its partners now exceeds 8,903 ha (22,000 ac) to be protected for the benefit of biodiversity. Along the South Fork Kern River in the Kern Management Unit, the flycatcher is one of the key riparian bird species that is managed by the Audubon Society.
- Canebrake Ecological Preserve. The CDFG manages the Canebrake Ecological Preserve at the confluence of the South Fork Kern River and Canebrake Creek in the Kern Management Unit. This area contains riparian vegetation suitable for nesting flycatchers.

*Lower Colorado River Multi-Species Conservation Program (LCR MSCP)*

A regional partnership known as the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) involves a broad-based state/Federal/tribal/private regional effort that includes water, hydroelectric power, and wildlife management agencies in Arizona, California, and Nevada. The LCR MSCP works toward the recovery of threatened and endangered species, including the flycatcher, through habitat and species conservation. The habitat-based program aims to reduce the likelihood of additional species listings under the ESA, while accommodating current water diversions and power production and optimizing opportunities for future water and power development. The program is planned for implementation over a 50-year period to address future Federal agency consultation needs under the ESA section 7 and non-Federal agency needs for endangered species incidental take authorization approval under ESA, section 10.

The Habitat Conservation Plan (HCP) for the LCR MSCP funds projects to maintain existing habitat for listed species (including the flycatcher), restore 8,132 acres of native riparian/riverine habitats, implement population enhancement measures, conduct monitoring and research necessary to assess and improve conservation measure effectiveness, and initiate a variety of other conservation measures. The planning area encompassed by the HCP consists of over 450 miles of the Colorado River corridor, from the full pool elevation of Lake Mead south to the International Boundary with Mexico, including the lower reaches of the Virgin River, Muddy River (Nevada), Bill Williams River (Arizona), and Gila River (Arizona).

In addition, there are various other HCPs and habitat management plans in place throughout the 29 proposed Management Units, and a nearly-completed Safe Harbor Agreement. These are listed in Table 4 of the proposed rule (76 FR 50582), as they are the basis for proposed exclusions under Alternative B.

## LAND USE

In the proposed rule designating critical habitat, the Service describes its methodology for identifying and mapping land areas that are considered part of the riparian zone for critical habitat designation. In relevant part the rule states, “Riparian developed areas, as defined below, are not included in our proposed critical habitat designation since these areas do not contain the primary constituent elements ... are not considered essential to the conservation of the flycatcher and, therefore, do not meet the definition of critical habitat” (76 FR 50557). Riparian developed areas include “all developed areas, such as urban and suburban development, agriculture, utilities, mining, and extraction” (76 FR 50557). Due to the limits of land use data collection and mapping, some of the acreages and locations included in summary definitions of critical habitat may include such developed areas, but the Service further states that “Any such developed lands left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat.” Subject to the caveat expressed above, Table 3.3 provides the approximate acreages for principal land uses for Alternatives A and B.

**Table 3.3 Approximate Acres (ha) by Land Use Throughout Proposed Designation**

<i>Land Use</i>	<i>Alternative A</i>		<i>Alternative B</i>	
	<i>Acres</i>	<i>Hectares</i>	<i>Acres</i>	<i>Hectares</i>
Developed, Open Space	4,388	1,776	2,684	1,086
Developed, Low Intensity	3,629	1,469	2,030	822
Developed, Medium Intensity	725	294	390	158
Developed, High Intensity	859	347	573	232
Quarries, Mines, Gravel Pits and Oil Wells	13	5	3	1
Cultivated Cropland	77,999	31,565	19,369	7,838
Pasture/Hay	2,444	989	1,214	491
Aquatic (any open water--fresh or brackish--including lakes, streams, canals, ponds, etc.)	92,241	37,329	22,476	9,096
Sparse and Barren	9,758	3,949	6,165	2,495
Forest and Woodland	11,954	4,838	5,884	2,381
Shrubland	127,189	51,472	77,976	31,556
Grassland	5,794	2,345	3,102	1,255
Recently Disturbed or Modified	49,623	20,082	17,899	7,243
Riparian and Wetland	152,957	61,899	81,252	32,881

Source: USGS, National Biological Information Infrastructure, Gap Analysis Program. February 2010. National Land Cover Gap Analysis Data. Accessed Oct 2011:

<http://dingo.gapanalysisprogram.com/landcoverv2/DownloadData.aspx>

Definitions for Developed Classifications:

Developed, Open Space--areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most

commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.

Developed, Low Intensity--areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.

Developed, Medium Intensity--areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.

Developed High Intensity--highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.

### *Consultations Since Previous Designation*

Since 2005, formal consultations related to proposed land use and management actions with the potential to adversely impact flycatcher critical habitat have occurred with the USACE, BOR, FHWA, USFWS, NPS, and BLM. The states involved included Arizona, California, Colorado, Utah, Nevada, and New Mexico. For example, in 2009 a formal consultation occurred with BLM for the renewal of four livestock grazing permits in southwestern willow flycatcher habitat in Meadow Valley Wash in Lincoln County, Nevada. USFWS issued a “no jeopardy” decision, concluding that while the proposed action would likely result in incidental take of the flycatcher, the proposed project would not jeopardize the flycatcher (Service, 2009).

Following a 2007 consultation requested by BLM for the Arizona Strip Resource Management Plan in the Hoover-to-Parker Management Unit in Arizona, the Service issued a biological opinion that stated that proposed recreation and vegetation management plans would result in the failure of one flycatcher nesting attempt every three years (Service 2007).

One of the most recent consultations to occur in the areas evaluated in this EA pertained to land use changes proposed by the U.S. Army Corps of Engineers (USACE) to improve riparian habitat in the Apache Grove in the Upper Gila Management Unit in Greenlee, Arizona. The Service stated within the Biological Opinion issued for this project that the proposed activities would result in an incidental take of all flycatchers within a 28-29 acre span over the five-year project period (Service 2011b). Conservation measures proposed by the action agency and included in the Biological Opinion directed vegetation removal activities to occur prior to the nesting season and directed that the floodplain along which proposed activities would occur be broadened to ultimately increase flycatcher nesting habitat. The Service concluded that the proposed project activities would be unlikely to jeopardize the continued existence of the southwestern willow flycatcher, since the habitat would be restored and again functional within five years.

### **3.2.2 Environmental Consequences**

Federal land management activities subject to formal section 7 consultations that could cause adverse effects to the flycatcher occur throughout the management units. Activities include habitat construction, road construction, land management and planning, land exchange, pesticide and herbicide use, forest management plan activities, and resource management plan activities. Parts of these lands are also subject to groundwater pumping, surface water diversion; river

damming and water storage; livestock grazing and management; fire suppression; road/bridge construction and maintenance; mining; agriculture; flood control; vegetation removal; recreation developments and activities including off-road vehicle use; trail development; campground; hiking use and other effects.

### **3.2.2.1 No Action**

Under the No Action Alternative, no changes would be made to the 2005 designation of critical habitat. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat. The number of potential consultations would continue to be the same as under current conditions and these consultations would also encourage conservation measures BMPs that enhance and maintain healthy and native riparian ecosystems.

Section 7 consultations would continue to analyze relevant land, resource and fire management plans on Federal, state, tribal, private, and unclassified lands currently occupied by the species and previously designated. These consultations would include, as they do now, analyses of both jeopardy to the species and adverse modification of critical habitat. As they relate to the broad category of land use and management, such consultations would likely include the entire list of activities identified in Table 3.1.

Flycatcher habitat that is currently included in and protected by HCPs throughout the management units would not change. Land management protections identified in these HCPs include conservation measures such as:

- Annual monitoring of population levels and distributions of the flycatcher;
- Incorporating survey data into the GIS species distribution database to utilize in conservation awareness and education programs;
- Control of exotic vegetation and animals that could impact flycatcher habitat;
- Programmatic instructions that limit impacts to flycatcher and its habitat; and
- Monitoring groundwater levels and basin withdrawals managed to avoid degradation and loss of habitat quality.

Therefore, the No Action Alternative would not result in any additional or expanded consultations and, as such, would not have any incremental impacts on land use and management beyond those impacts that currently occur from the 2005 critical habitat designations for the southwestern willow flycatcher and associated requirements of section 7 of the ESA.

### **3.2.2.2 Alternative A**

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing 2005 designation (these are identified in section 2.3).

#### *Newly Proposed Land*

There is an overall increase in the amount of stream miles proposed in 2011 compared to that designated in 2005. All new land proposed for critical habitat riparian designation includes

plants species that flycatchers can use for nesting, perching, cover, and foraging. The land uses of newly designated areas include the following:

- Santa Clara Management Unit in the Coastal California Recovery Unit (CA), which contains part of the Los Padres National Forest (managed by the U.S. Forest Service), and unclassified land;
- Amargosa Management Unit in the Basin and Mojave Recovery Unit (CA and NV), which contains the Mojave National Preserve, managed by the U.S. Forest Service, other Forest Service land, BLM land, and the Ash Meadows National Wildlife Refuge;
- Hassayampa/Agua Fria, Santa Cruz, and San Francisco Management Units in the Gila Recovery Unit (AZ and NM), which contains portions of the Gila River and consists primarily of Forest Service land in the Sitgreaves National Forest, along with private land, some tribal land, land owned by the State of Arizona, BLM land in the Las Cienegas National Conservation Area (NCA), and land managed by the Bureau of Reclamation,
- Powell and San Juan Management Units in the Upper Colorado Recovery Unit (AZ, UT, CO, NM), which contains habitat along the Paria and Los Pinos Rivers and consists primarily of private land and tribal land, including the Navajo Indian Reservation and the Southern Ute Indian Reservation; and
- Lower Rio Grande Management Unit in the Rio Grande Recovery Unit (NM and CO), which consists primarily of private land, Federal land, and land managed by the State of New Mexico within the Leasburg Dam State Park.

The streams or portions of streams which are being newly proposed as critical habitat and where flycatcher territories have been detected from 1991-2010 are the following (this is a subset of Table 2.4):

- Santa Ynez (upper segments) (Santa Ynez Management Unit);
- Piru Creek, San Gabriel River, and Santa Clara River (Santa Clara Management Unit);
- Bautista Creek (Santa Ana Management Unit);
- Canada Gobernadora (San Diego Management Unit);
- Canebrake Creek (Kern Management Unit);
- Amargosa River, Ash Meadows Riparian Areas, and Carson Slough (Amargosa Management Unit);
- Rio Nutria and Zuni River (Little Colorado Management Unit);
- San Juan River and Los Pinos River (San Juan Management Unit);
- Pinal Creek (Roosevelt Management Unit);
- Cienega Creek (Santa Cruz Management Unit);
- San Francisco River (San Francisco Management Unit);
- Hassayampa River and the lower Gila River (Hassayampa and Agua Fria Management Unit);
- Rio Fernando (Upper Rio Grande Management Unit); and
- Lower Rio Grande (Lower Rio Grande Management Unit).

Lands designated as critical habitat in the 2005 rule but which are not part of the proposed 2011 rule include, but are not limited to, the East Fork Little Colorado River in Arizona and the northern portion of Middle Rio Grande on Isleta Pueblo in New Mexico. In general, these lands

feature long stretches of canyons or other portions of rivers that are known to lack the physical or biological features that provide habitat for the southwestern willow flycatcher. Removal of critical habitat designation in these areas may avoid future consultations.

#### *New and Reinitiated Consultations*

The same Federal agencies listed in Table 3.1 are also anticipated to be the primary agencies that would consult with the Service under section 7 on flycatcher critical habitat. Consultation would continue to primarily involve actions occurring within floodplains that could impact riparian habitat and stream function (these actions are also listed in the proposed rule (76 FR 50577-50578)). Activities that are anticipated to undergo evaluation and consultation with the proposed revision of flycatcher critical habitat are no different than those that have previously occurred throughout flycatcher consultation history. It is anticipated, however, that some Federal agencies with responsibilities in specific flycatcher Management Units would now consider consultation on flycatcher habitat where it may have only been rarely addressed in the past.

Because of the similarities between the flycatcher habitat described in the 2011 proposal and the 2005 critical habitat designation, the Service believes that projects already evaluated for critical habitat effects are not anticipated to need to re-initiate consultation.

Because of the current wide distribution of the flycatcher, its ability to move its nesting sites from one season to the next, the dynamic aspect of its habitat, and its migratory nature, most of the Management Units and stream segments proposed as critical habitat in 2011 have had flycatcher territories detected within them at some time since 1991. Flycatcher territories have been detected in parts of 28 of the 29 Management Units and along 68 of the 80 streams (78 percent) now proposed as critical habitat. Because of these detections, agencies are more aware of the presence of the flycatcher, the presence of migratory flycatchers, the ability of habitat to hold territories, and agencies survey habitat for flycatchers when appropriate in order to evaluate upcoming projects.

Therefore, while flycatchers or flycatcher habitat were known to occur in these areas in the past and may have undergone some section 7 consultation, they are now being proposed as critical habitat, which may trigger new consultation efforts for proposed Federal actions or reinitiated consultation for ongoing Federal actions.

In addition to the potential impacts described above on newly designated stream segments, incremental impacts could also occur if designation causes agencies to be more aware of the importance of these and other stream segments to flycatcher for recovery. The overall Management Unit (even streams not proposed or designated as critical habitat) might receive more agency awareness and therefore consultations with the Service on actions they may have previously neglected. These additional consultations could constitute a moderate increase. The Management Units these streams occur within are the Santa Ynez, Santa Clara, Santa Ana, San Diego, Kern, Amargosa, Little Colorado, San Juan, Roosevelt, Santa Cruz, San Francisco, Hassayampa/Agua Fria, upper Rio Grande, and lower Rio Grande.

Another incremental effect of critical habitat is anticipated when completing consultations for projects occurring along stream segments where flycatcher territories have not yet been detected. These stream segments are listed in Table 2.1. Within these particular stream segments (representing about 4 percent of the total stream miles proposed), unless flycatcher territories are

detected, evaluation of projects for the flycatcher might not occur without the designation of flycatcher critical habitat. Many of these segments have not been thoroughly surveyed for flycatcher territories in the past.

The Powell Management Unit, where a segment of the Paria River in southeast Utah (Upper Colorado Recovery Unit) is proposed for critical habitat designation, is the only Management Unit throughout the flycatcher's range where territories have not yet been detected since recent monitoring (post-1991). The BLM is the primary land manager in this area. Designation of critical habitat along the Paria River is expected to result in new consultations. It is anticipated that land uses such as cattle grazing/management and recreation could be evaluated in this area. The proposed stream segment is approximately 1.8 km (3 mi) south of another portion of the river that is being considered for designation as a Wild & Scenic River. Also, as described above, designation of critical habitat could generate increased awareness (and thus an incremental effect of additional surveys and project evaluation) for the overall importance of the Powell Management Unit to flycatcher recovery. This increased awareness could also stimulate surveys and project evaluation in other areas not designated as critical habitat.

#### *Addition of Adverse Modification Analysis to Future Consultations*

Based on the potential increase in consultations resulting from new areas proposed as critical habitat (described in the section above), the Service anticipates some increase in overall consultation workload and administrative efforts. This increase is likely to be moderate, because a long history of consultation on this species and the existence of a Recovery Plan provide the Service and Federal action agencies some certainty as to what to expect under consultations both for analysis and avoidance of jeopardy and adverse modification.

The amount of increased administrative effort due to proposed critical habitat is difficult to foresee and quantify. On a broad scale, based on the overall increase in the amount of proposed critical habitat, there could be a 35 to 45 percent increase in critical habitat evaluations included in formal consultations. This effort of course will depend on the nature and complexity of any future consultation. Overall, the Service does not anticipate a substantial number of consultations that would result in adverse modification and, therefore, does not anticipate a substantial increase in administrative effort to work on measures to avoid adverse modification.

However, for those proposed critical habitat areas where the flycatcher is known to have only a few or no territories and there are few critical habitat areas being proposed in a given Management Unit, there is some increased likelihood that a proposed action could result in adverse modification without resulting in jeopardy. This is based on the fact that any substantial reduction in the conservation value of a proposed critical habitat segment in a Management Unit with few or no territories could potentially result in an adverse modification without reaching jeopardy. This would cause an increase in administrative efforts to develop measures to avoid the adverse modification. Because flycatcher recovery goals are established by Management Unit, the Management Units with the fewest territories have an increased possibility of an adverse modification finding where a finding of jeopardy would be unlikely (Salton, Amargosa, San Juan, PowellPowell, Santa Cruz, San Francisco, Hassayampa/Agua Fria, and lower Rio Grande Management Units).

An incremental effect of the critical habitat designation could occur under the following scenarios (not all mutually exclusive): (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in new designated areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in management units where territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

In summary, the incremental effects of the designated critical habitat for the flycatcher are expected to be moderate (less than significant). Incremental effects would be limited by the relatively large overlap this revision has with the existing designation and the current abundance and broad distribution of nesting and migrating flycatchers. Overall, there is about a 30 percent increase in river miles where an incremental effect of the current revision could occur, compared to the 2005 flycatcher critical habitat designation. Consultation would primarily involve actions occurring within floodplains that could impact riparian habitat and stream function.

### **3.2.2.3 Alternative B**

Within the flycatcher proposed critical habitat rule and subsequent revision, there are short narratives describing about 45 management plans, conservation plans, or conservation partnerships (76 FR 50584-50594 and 77 FR 41147-41162) considered for exclusion from critical habitat. These plans represent HCPs, State Wildlife Areas, Tribal Land Management, private land easements, and a nearly completed Safe Harbor Agreement that are expected to provide a conservation benefit to the flycatcher. Alternative B would exclude approximately 1,464 km (910 mi) of proposed stream segments from critical habitat designation when compared with Alternative A.

Designation of critical habitat under this alternative would decrease the number of re-initiated section 7 consultations for land management activities and decrease the number of additional section 7 consultations, when compared to Alternative A. The impacts to flycatcher Physical and Biological Features and Primary Constituent Elements within designated critical habitat and in areas managed under HCPs and other plans related to flycatcher protection would be the same as described under Alternative A, because these areas employ equivalent flycatcher conservation measures.

The exclusions of these lands from the proposed critical habitat designation could reduce the administrative costs of designation on land management activities in these areas by requiring fewer consultations. The overall impacts on land management would be less than those in Alternative A and would be characterized as minor.

In summary, both action alternatives would: (1) increase the number of re-initiated ESA section 7 consultations for ongoing projects in newly proposed areas where flycatchers have been detected; (2) increase the number of additional section 7 consultations for proposed projects affecting newly designated critical habitat on tribal lands; (3) maintain southwestern willow flycatcher critical habitat Physical and Biological Features and Primary Constituent Elements on tribal lands; (4) increase the likelihood of greater expenditures of time and Federal funds of

government agencies to develop measures to prevent both adverse effects and adverse modification to maintain critical habitat on tribal lands; and (5) increase the likelihood of greater expenditure of non-Federal funds by project proponents to complete section 7 consultations and to develop reasonable and prudent alternatives (as a result of adverse modifications) to maintain designated critical habitat. The revision of the flycatcher critical habitat designation is not expected to impose land use restrictions or prohibit land use activities. The exception may be those rare instances of adverse modification that could occur in management units with few flycatcher territories, where jeopardy is unlikely but adverse modification could occur.

### **3.3 Vegetation**

#### **3.3.1 Existing Conditions**

Breeding flycatchers require dense, mesic (i.e., moist soil condition), shrub and/or tree communities 0.25 acres or larger with floodplains large enough to accommodate riparian patches at least 30 feet wide (Service 2005a). These conditions are required in order to support the insect populations upon which the flycatcher feeds, and to provide suitable breeding and nesting cover and habitat structure. These conditions can be met at a wide variety of elevations with corresponding variations in vegetation and plant species and, due to the variability of hydrological conditions in the Southwest, water availability at a site may range from flooded to dry over the course of a breeding season or from year to year (Sogge et al. 2010). Vegetation structure is very important for Flycatcher breeding habitat and for simplicity, vegetation for breeding flycatchers can be divided into three broad types: native vegetation-dominated habitat (native broadleaf), exotic vegetation-dominated habitat, and mixed native/exotic vegetation-dominated habitat (USFS 2000; Sogge et al. 2010). Since completion of the Recovery Plan, additional segments of substantial recovery value have been identified through continued survey, analysis, and habitat evaluation, and are included in this proposal when needed to reach recovery goals. The distribution and abundance of territories and habitat within each proposed segment are expected to shift over time as a result of natural disturbance events such as flooding that reshape floodplains, river channels, and riparian habitat (Service 2005a). It should be noted that migrating flycatchers are detected in riparian habitats or patches that would be unsuitable for breeding (e.g., the vegetation structure is too short or sparse, or the patch is too small). Such migration stopover areas, even though they not used for breeding, are critically important resources affecting productivity and survival.

A summary description of the vegetation of each management unit is found below, and a detailed description of each management unit location can be found in the proposed rule (76 FR 50542-50629). More detailed descriptions of vegetation can be found in the U.S. Forest Service technical report titled “Status, Ecology, and Conservation of the Southwestern Willow Flycatcher” (USFS 2000).

*The Coastal California Recovery Unit* (Santa Ynez, Santa Clara, Santa Ana, and San Diego Management Units), stretches along the coast of southern California from just north of Point Conception south to the Mexico border (76 FR 50562). Flycatcher breeding habitat is native or native-dominated vegetation, typically comprising a low- to mid-elevation mixture of trees and shrubs. These sites range from single plant species to mixtures of native broadleaf trees and

shrubs including (but not limited to) Goodding's (*Salix gooddingii*) or other willow species, cottonwood (*Populus* spp.), boxelder (*Acer negundo*), ash (*Fraxinus* spp.), alder (*Alnus* spp.), and buttonbush (*Cephalanthus occidentalis*) (Service 2002).

*The Basin and Mohave Recovery Unit* (Owens, Kern, Mohave, Amargosa, and Salton Management Units) forms a broad geographic area that includes the arid interior lands of southern California and a small portion of extreme southwestern Nevada. All flycatcher territories are native or native-dominated riparian habitats. This region includes low- to mid-elevation vegetation similar to the Coastal California Recovery Unit, but surrounded by arid desert. These riparian areas are somewhat dominated by red willow (*Salix laevigata*) and Goodding willow (*Salix gooddingii*), interspersed with areas dominated by nettles (*Urtica dioica*), cattails (*Typha* spp.), and bulrush (*Scirpus* spp.) (Service 2002).

*The Lower Colorado Recovery Unit* (Little Colorado, Middle Colorado, Virgin, Pahrnagat, Bill Williams, Hoover to Parker, and Parker to Southerly International Border Management Units) is geographically large and ecologically diverse. It includes the Colorado River and its major tributaries from Glen Canyon Dam downstream to the Mexican border. Critical habitat vegetation characteristics range from pure native stands (including high-elevation and low elevation willow) to exotic-dominated stands that are predominantly tamarisk (*Tamarisk* spp.) and Russian olive (*Elaeagnus angustifolia*) (Service 2002).

*The Upper Colorado Recovery Unit* (San Juan and Powell Management Units) covers much of the Four Corners area of southeastern Utah and southwestern Colorado, with smaller portions of northwestern Arizona and northeastern New Mexico. Ecologically, this area may be an intergradation area between the southwestern willow flycatcher subspecies and the Great Basin willow flycatcher subspecies (Service 2002; 76 FR 50570). Much willow riparian habitat occurs along drainages within this Recovery Unit and remains to be surveyed (Service 2002). Most high elevation sites (1,900m and above) are dominated by a single species of willow, such as Coyote willow (*Salix exigua*) or Geyer's willow (*Salix geyeriana*) (USFS 2000).

*The Gila Recovery Unit* (Verde, Roosevelt, Middle Gila/San Pedro, Upper Gila, Santa Cruz, San Francisco, Hassayamoa and Agua Fria Management Units) includes the Gila River watershed, from its headwaters in southwestern New Mexico downstream to near the confluence with the Colorado River in southwest Arizona (Service 2002). Critical habitat vegetation within this unit is composed of approximately 60% native-dominated stands, with exotic-dominated (predominantly tamarisk) or mixed native-exotic stands in the remaining critical habitat stands. Within the Gila watershed, flycatcher breeding habitat can be divided into two distinct structural types: riparian scrub and riparian forest. Riparian scrub is dominated by scrubby willows and seepwillow (*Baccharis glutinosa*) that grow along the river bank or in old flood channels (USFS 2000). Riparian forest habitat is dominated by Fremont cottonwood (*Populus fremontii*), tamarisk, Goodding's willow, Arizona sycamore (*Plantanus wrightii*), and boxelder with an understory of the same tree species (USFS 2000).

*The Rio Grande Recovery Unit* (San Luis Valley, Upper Rio Grande, Middle Rio Grande, and Lower Rio Grande Management Units) encompasses the Rio Grande watershed, from its headwaters in southwestern Colorado downstream to the Pecos River confluence in southwestern Texas. Habitat vegetation within this unit is primarily native-dominated, but some exotic-dominated stands are present, including Russian olive and tamarisk.

### *Exotic Vegetation*

Exotic, introduced, or alien plants are those species that have become recently established in a new ecosystem as a result of human activity or intervention. When these exotic species naturalize, they spread widely and rapidly and are referred to as invasive; they can have adverse impacts on native ecosystems. These adverse impacts include a decrease in ecosystem plant species diversity by replacing or reducing the number of native plant species, and thus reducing the quality of habitat, as well as a loss or reduction of ecosystem functions when native plant species are eliminated or reduced. Riparian habitats are typically dynamic ecosystems, characterized by flood flows that sporadically inundate and smother existing plants, redistribute sediment, and alter stream morphology. As such, they tend to be susceptible to the spread of invasive, exotic plants, which are often favored by surface disturbances (Service 2005a).

While some exotic plants are strongly inferior to native wildlife species, the stands of two non-native exotic species, tamarisk (also known as saltcedar; *Tamarix ramosissima*) and Russian olive (*Eleagnus angustifolia*), provide the vegetation structure used by breeding flycatchers as well as habitat used by non-breeding, dispersing, territorial, and migrating flycatchers. Forty-seven percent of willow flycatcher territories occur in mixed native/exotic habitat (> 10% exotic) and twenty-five percent are at sites where tamarisk is dominant (Service 2002). Tamarisk is a much more prevalent invasive than Russian olive within flycatcher habitat, and 86% of nests in mixed and exotic nest substrates are in tamarisk. It is a native of Eurasia that was introduced as an ornamental and stream bank stabilizer. While found in most Recovery Units, tamarisk is more common along the Colorado River and its tributaries, and is especially prevalent in the Upper Colorado, Lower Colorado and Rio Grande Recovery Units.

Although tamarisk can provide good habitat for the flycatcher, it has replaced native vegetation in many streams in the Southwest. While tamarisk has been hypothesized to use more water than native vegetation, a review of the research literature shows that tamarisk has greater salt tolerance, drought tolerance, resistance to water stress, and fire tolerance than native trees. Contrary to previous reviews, the current evidence does not support the conclusion that tamarisk has unusually high evapotranspiration rates or leaf area index that would allow it to dry out water courses (Glenn and Nagler, 2005). This finding is supported by a more recent review conducted by the U.S. Geological Survey in cooperation with the Bureau of Reclamation and the USDA Forest Service, which found that “contemporary studies of evapotranspiration that use state-of-the-art measurement techniques suggest that mesic native species (for example, cottonwood or willow) transpire about the same or more water than nonnative species” (Shafroth et al., 2010). Tamarisk also produces dry leaf, stem, and branch litter that does not decay quickly, creating conditions that can increase fire hazards and alter natural fire regimes (see Section 3.6, Fire Management). The dry brush litter that does not decay quickly increases fire frequency and severity. Flammability is exacerbated by human-caused actions that reduce the frequency and magnitude of flooding, thereby allowing leaf litter to persist for longer periods of time. In addition, recent evidence points to altered water regimes from actions such as damming, diversion, and groundwater pumping that favor tamarisk over native species by creating landscape conditions that simultaneously allow tamarisk to persist and prevent native trees from flourishing. This means that anthropogenic factors are creating an environment in which tamarisk thrives and native vegetation cannot prosper (Stromberg et al. 2009; University of Arizona, 2008; Shafroth et al. 2008). Recent research shows that the salt-tolerant tamarisk grows

well in high salinity environments, and is incidentally found there because of its salt tolerance (Glenn & Nagler, 2005), rather than itself increasing the salinity of soils. These saline soils are caused by land management practices that prevent regular overbank flooding (Glenn & Nagler, 2005).

Depending on its prevalence and the management strategy, removal of tamarisk can alter the current water regime and habitat. Where tamarisk forms a monoculture of vegetation in the structure and height used by the flycatcher, removal would impact the flycatcher by removing all available nesting and roosting sites. The Service's 2002 Recovery Plan discusses the invasive nature of tamarisk and references a study by Sferra et al. (2000) that shows equivalent nest productivity between tamarisk-dominated and native-dominated sites (Service 2002). A 2005 study by Sogge et al. indicates that habitat structure is more important to the flycatcher than the tree species composition: flycatchers were found to favor stands with dense structure, high canopy cover, and tall stature, and to avoid shorter sparser stands, regardless if they were composed of native or nonnative vegetation. Because the flycatcher breeds across a very diverse climate range, the vegetation composition of suitable habitat within that range varies greatly and the presence or absence of tamarisk may not be indicative of habitat preference in any given landscape (Sogge et al. 2005).

Tamarisk is considered an invasive plant by the USDA and management plans have been created by numerous states and agencies, including the NPS, USFS, Colorado State Parks, Colorado Department of Natural Resources, the Missouri River Watershed Coalition, and the New Mexico Department of Agriculture, and a multi-agency group was formed called The Saltcedar Biological Control Consortium (this Environmental Assessment identifies this by its alternate name "tamarisk"). In 2004 a tamarisk conference was held to develop a strategic regional approach for managing tamarisk and the Salt Cedar and Russian Olive Control Demonstration Act (7 USC 7781) was passed in 2006 to preserve in-stream water resources and develop a research and demonstration program to eradicate tamarisk and Russian olive. The bill directed the Secretary of the Interior to work with other federal agencies and complete an assessment of the extent of infestations and undertake eradication demonstration projects and analyze possible beneficial uses of the resulting biomass (USDA, 2005). Subsequently, the USDA developed an EA reviewing the environmental impacts of releasing the tamarisk defoliating leaf beetle in the western U.S. (USDA 2005).

The U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) allowed the release the non-native tamarisk-defoliating leaf beetle (*Diorhabda elongata*) as a biological control agent of tamarisk from the years 2005 to 2010. These beetles were permitted for release after assurances from APHIS that no beetles would be released within 200 miles of flycatcher habitat and that beetles could not become established within the documented range of the flycatcher (south of the 38°N latitude) (APHIS 2009). The Center for Biological Diversity brought a lawsuit to APHIS for not reinitiating consultation when research showed successful adaption of the beetle as far south as 32°N latitude and defoliation of sites occupied by breeding flycatchers; APHIS responded by re-initiating consultation (APHIS 2009). In June of 2010 APHIS announced that it would no longer permit the release of the leaf beetle because of concerns about the potential impacts to the flycatcher (APHIS 2010). However, there is concern that the previously-released beetle populations will move from their existing locations at the perimeter of the flycatchers breeding range into the areas where most territories occur.

The Recovery Plan states:

Tamarisk eradication can be detrimental to willow flycatchers in mixed and exotic habitats, especially in or near occupied habitat or where restoration is unlikely to be successful. Risks to the flycatcher increase if the tamarisk control projects are implemented in the absence of a plan to restore suitable native riparian plant species or if site conditions preclude the re-establishment of native plant species of equal or higher functional value. Threats also increase if the eradication projects are large-scale in nature, thus possibly setting the stage for large-scale habitat loss. (Service 2002).

*Federal Threatened and Endangered Plant Species*

The plant species that are listed as endangered or threatened by the USFWS (or are proposed or candidates for listing) and that are likely to occur in the proposed critical habitat management units are listed in Table 3.4.

Of the listed species that could occur, 23 wildlife species and 9 plant species have critical habitat that overlap with proposed flycatcher critical habitat. This represents about 22.6% of the total proposed flycatcher designation, and about 1100 stream miles (1770 km).

**Table 3.4 Federally Listed or Candidate Plant Species that Could Occur in Flycatcher Recovery Units and Proposed Critical Habitat**

Common Name	Scientific Name	Status*	Recovery Units					
			CC	BM	LC	UP	G	RG
Amargosa niterwort	<i>Nitrophila mohavensis</i>	T		X				
Ash Meadows gumplant	<i>Grindelia fraxinopratensis</i>	T		X				
California Ocutt grass	<i>Ocuttia californica</i>	E	X		X			
California taraxacum	<i>Taraxacum californicum</i>	E	X		X			
Canelo Hills ladies'-tresses	<i>Spiranthes delitescens</i>	E					X	
Gambel's watercress	<i>Rorippa gamellii</i>	E	X		X			
Huachua water-umbel	<i>Lilaeopsis schaffneriana var recurva</i>	E					X	
La Graciosa thistle	<i>Cirsium loncholepis</i>	E	X					
Marsh sandwort	<i>Arenaria paludicola</i>	E	X					
Navajo sedge	<i>Carex specuicola</i>	C				X	X	
Nevin's barberry	<i>Berberis nevinii</i>	E	X		X			
Pecos sunflower	<i>Helianthus paradoxus</i>	T			X			X
Pedate checker-mallow	<i>Sidalcea pedata</i>	E	X		X			
San Diego button-celery	<i>Eryngium aristulatum car parishii</i>	E	X		X	X		
San Diego thormint	<i>Acanthomintha ilicifolia</i>	T	X					
Slender-petaled mustard	<i>Thelypodium stenopetalum</i>	E	X		X			
Spreading navarretia	<i>Navarretia fossalis</i>	T	X		X			
Spring-loving century	<i>Centaurium namophilum</i>	T		X				
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	T	X		X			

Common Name	Scientific Name	Status*	Recovery Units					
			CC	BM	LC	UP	G	RG
Ute's ladies-tresses	<i>Spiranthes diluvialis</i>	T			X			
Ventura marsh milk-vetch	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	E	X					
Willowly monardella	<i>Mondardella linoides</i> ssp. <i>Vimineae</i>	E	X					
Wright's marsh thistle	<i>Cirsium wrightii</i>	C						X

\* Federal Status Abbreviations

E = Endangered; T = Threatened; PE = Proposed Endangered; C = Candidate Taxon, Ready for Proposal; XN = Experimental,

Non-essential Population (may apply in only a portion of a species' range)

### Consultations Since Previous Designation

Consultations about the flycatcher regarding vegetation generally occur for fire management activities (addressed in Section 3.5), land management plans (such as habitat conservation plans, or grazing management, which is covered in Section 3.11) or for exotic/invasive plant management. Management of salt cedar (mostly by physical removal and use of herbicides) is a common task in the Southwest and there have been several biological opinions issued by the Service regarding specific plans. Bureau of Land Management (BLM) salt cedar control includes best management practices (BMPs) and consultation on these projects has resulted in a finding of no jeopardy (Service 2008; Service 2005b). These BMPs include activities such as only using herbicide treatments outside of the flycatcher breeding season, applying to treatments outside of known breeding habitat, and by replacing tamarisk with native vegetation for no net loss of riparian habitat (Service 2008; Service 2005b).

In 2005 the Service issued a programmatic Biological Opinion (BO) (Service 2005c) addressing the potential impacts of continued implementation of Land and Resource Management Plans (LRMPs) for 11 National Forests. In reviewing all the aspects of each LRMP within each forest, the Service was most concerned with the use of insecticides (which would adversely affect PCE 2), herbicides, and other chemical agents, and improper grazing practices (addressed in Section 3.11), fire management (addressed in Section 3.6). The BO resulted in findings of no jeopardy and of not likely to adversely modify existing critical habitat. The BO did note that certain actions such as maintaining and restoring riparian habitats, and management of invasive species such as the brown-headed cowbird, would have beneficial impacts to the flycatcher.

## 3.3.2 Environmental Consequences

### 3.3.2.1 No Action Alternative

Under the No Action Alternative, no changes would be made to the 2005 designation of critical habitat. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat. The number of potential consultations would continue to be the same as under current conditions and these consultations would also encourage BMPs that enhance and

maintain healthy and native riparian ecosystems. As they relate to vegetation, such consultations would likely include:

- U.S. Army Corps of Engineers--stream restoration and vegetation management;
- U.S. Bureau of Land Management--for aquatic habitat restoration, fire suppression, fuel reduction treatments, resource management plans, and livestock grazing and management;
- U.S. Fish & Wild Service—for issuance of ESA section 10 permits for enhancement of survival, Habitat Conservation Plans, and Safe Harbor Agreements; for national wildlife refuge planning, for exotic and invasive plant management; and
- U.S. Forest Service—for aquatic habitat restoration, vegetation management, noxious weed treatments, fire-management plans, fire suppression, fuel-reduction treatments, forest plans, and livestock-grazing- allotment management plans.

Consequently, this alternative would have no impact on vegetation, including candidate, proposed, or listed species, beyond those of any conservation measures resulting from the presence of existing critical habitat and associated requirements of section 7 of the ESA.

### **3.3.2.2 Alternative A**

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing 2005 designation (these are identified in section 2.3).

Compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in the management units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed. Designation would result in a small, but imprecisely known increase in the number of additional section 7 consultations for proposed exotic plant management projects affecting the new flycatcher critical habitat units.

Increased section 7 consultations would likely have beneficial, conservation-related effects to PCEs and designated critical habitat except in the cases where exotic vegetation control is limited by flycatcher use of tamarisk and Russian olive.

#### *New and Reinitiated Consultations*

Because impacts to PBFs and PCEs that occur within designated critical habitat stream segments are closely tied to adverse effects to the flycatcher, activities that would require consultation for critical habitat are primarily the same as those requiring consultation for the species. The designation of critical habitat raises awareness of the species presence in an area, and therefore project proponents who have not requested consultations for actions that may affect the species may decide to do so.

Reinitiated consultations are consultations that have been completed for impacts to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. As it relates to vegetation, such consultations could include:

- Fire Management plans which include vegetation management — BLM, USFS;
- River restoration projects, wetland restoration projects — USACE, USFS; and
- Land management plans, conservation management plans and livestock management plans— BLM, USACE, USFS, USFWS.

Because critical habitat was previously designated in 2005 and because of the similarities between the 2005 and 2011 PCEs and PBFs, it is not anticipated that projects already evaluated for critical habitat effects would need to re-initiate consultation.

#### *Addition of Adverse Modification Analysis to Future Consultations*

Activities proposed in the 12 units of critical habitat where breeding flycatchers are currently not known to occur could now trigger consultation due to designation of critical habitat. There will also be additional consultations for adverse modification, and additional time will be required to complete consultations that would only have considered effects on the species, which would increase administrative costs to the Service and to the action agencies. Implementing conservation measures resulting from those additional consultations would also increase costs for action agencies. Outcomes of consultations for critical habitat could also include reasonable and prudent alternatives and other conservation measures designed to maintain flycatcher PCEs. These outcomes cannot be specified in advance; however, based on past consultations types of additional management actions that may be required include, but are not limited to:

- Revising management plans;
- Mapping, surveying, and monitoring flycatcher habitat and preparing survey and monitoring reports;
- Modifying or converting occupied breeding habitat dominated by exotic vegetation to habitat dominated by native vegetation; and
- Avoid high-severity fire affects.

In summary, the effects of critical habitat designation on vegetation are expected to be minor because: (1) few projects would be subject to new consultations based solely on the presence of newly designated critical habitat, because 21 of 29 of the proposed units are occupied by the southwestern willow flycatcher and were designated as critical habitat in 2005; (2) few additional consultations would be necessary for projects affecting unoccupied areas (the 12 such newly-designated stream segments), leading to conservation measures and potential additional project costs and delays; (3) it is unlikely that consultations would be reinitiated for projects that have previously consulted on critical habitat because of the similarities between the PCEs and PBFs described in the 2011 proposal and the 2005 critical habitat designation; (4) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis in areas occupied by the flycatcher; (5) though some additional conservation measures may be implemented to avoid adverse modification above those that would be necessary to avoid jeopardy on proposed critical habitat segments only sparsely occupied by flycatcher territories, this would likely be limited to portions of 8 of the 29 Management Units, where such conditions exist. Increased section 7

consultations would likely have beneficial, conservation-related effects to PCEs and designated critical habitat except in the cases where exotic vegetation control is limited by flycatcher use of tamarisk and Russian olive.

### **3.3.2.3 Alternative B**

Alternative B would exclude approximately 1,464 km (910 mi) of proposed stream segments from critical habitat designation when compared with Alternative A. When compared with Alternative A, designation of critical habitat under this alternative would decrease the number of re-initiated section 7 consultations and the number of new section 7 consultations.

Effects to PCEs would be generally the same as for Alternative A, as PCE maintenance and associated benefits to vegetation within exclusion areas is expected from the habitat conservation plans (HCPs) and other conservation management plans that are the basis for the exclusions. Those few exclusion areas that do not have an HCP in place include some areas that have a commitment and history of conservation action. Since including these areas in the designation could have economic impacts to the extent that activities would require a Federal license, permit or funding, these exclusions could reduce the economic impacts of designation on vegetation conservation in these areas overall, by requiring fewer consultations. This would reduce administrative costs as well for the Service. The overall impacts to vegetation would still be characterized as minor.

## **3.4 Wildlife and Fisheries (Including Threatened & Endangered Species)**

### **3.4.1 Existing Conditions**

Hundreds of mammal, bird, amphibian, reptile, and fish species are dependent on riparian habitats and their associated aquatic habitats in the proposed flycatcher critical habitat area. Boreal wetlands (see Glossary) are inhabited by tree frogs, salamanders, relict native salmonid fishes, beaver, mice, and shrews. Montane "canyon bottom" forests support beaver, raccoon, rodents, migratory songbirds, garter snakes, tree frogs, salamanders, and fish species that include dace, trout, and sucker (Service 2005a). Great Basin riparian wetlands provide habitat for numerous minnow and chub species, migratory bats, muskrats, migratory waterfowl, and shorebirds. Interior and California riparian deciduous woodlands and forests support tree squirrels, opossums, gophers, bats, and common game species such as white-tailed deer, black bear, and wild turkey (Service 2005a).

Wildlife and aquatic riparian community composition varies widely by state and river reach due to local and regional conditions such as elevation, climate, stream type, type and extent of upstream water management activities; proximity of agricultural and urban areas; and grazing pressure. Of particular importance to wildlife, fisheries, and listed species are the composition, quality, quantity, and extent of riparian vegetation present. Riparian systems provide numerous resources for wildlife, including food; cover; water; shady and moist microclimates; woody structural components for roosting, perching, and breeding; inputs of nutrients and organic matter; and critical migration corridors (Service 2005a).

## Wildlife

The riparian breeding bird community along streams in the Southwest is dominated by neotropical migrants that live and breed in the area during the spring and summer (i.e., species that breed in the U.S. and Canada and overwinter in Mexico or farther south). Within the riparian zone, many of these summer residents are specialists and exhibit narrow habitat requirements defined by vegetation composition and/or structure. For example, rails (family Rallidae) and marsh wrens (*Cistothorus palustris*) are largely restricted to marsh habitat dominated by cattails and other native emergent vegetation. Flycatchers (*Empidonax spp.*), Bell's vireo (*Vireo bellii*), and yellow warbler (*Dendroica petechia*) are generally dependent upon dense, early-to- mid-successional stage vegetation. Gray hawk (*Asturina nitida*), common black-hawk (*Buteogallus anthracinus*), and yellow-billed cuckoo (*Coccyzus americanus*) are strongly associated with more mature riparian forest and woodland of taller structure. In contrast, mourning dove (*Zenaida macroura*), ash-throated flycatcher (*Myiarchus cinerascens*), and blue grosbeak (*Passerina caerulea*) are habitat generalists, making use of a wide variety of woody riparian vegetation types (Service 2005a).

The brown-headed cowbird (*Molothrus ater*) is a species that will lay eggs in nest of other birds, a tactic called brood parasitism. This brood parasitism by the brown-headed cowbird is a threat to the flycatcher at some sites because in most cases cowbird parasitism causes complete flycatcher nest failure or the successful rearing of only cowbird chicks (Service 2005a). Appendix F of the 2002 Recovery Plan provides guidelines for assessing and managing cowbird parasitism (Service 2002). Although cowbird parasitism may not occur with the flycatcher as often as other songbird species, or be more damaging than predation of eggs and nestlings by other species, deterrence of cowbird parasitism is more easily achieved without impacting the entire ecosystem than managing for other predators (Service 2002).

The number of native mammal species using riparian habitats in the Southwest is less diverse than for birds. Most large, wide-ranging mammals (i.e., ungulates and carnivores) will make use of riparian areas where available in their home range at some point in their life cycle. Mammals restricted to riparian and riverine habitats in the Southwest include the river otter (*Lutra canadensis*) and beaver (*Castor canadensis*). Beaver in particular can enhance riparian and riverine systems by felling mature trees, building dams, and creating more open-water habitat via beaver ponds. This makes them a cornerstone species for many riparian systems in the Southwest by initiating succession, preventing erosion, and creating habitats necessary for a variety of other riparian plants and animals (Service 2005a).

Many reptiles and amphibians are also limited to riparian and/or associated riverine habitats in the southwest. For example, garter snakes (*Thamnophis spp.*), the Sonoran mud turtle (*Kinosternon sonoriense sonoriense*), leopard frogs (*Rana spp.*), and several species of toad (*Anaxyrus spp.*) are dependent on riparian/riverine habitats for all or most of their life cycles. The Mexican garter snake (*Thamnophis eques*) has been petitioned for Federal listing and at least historically occurred in flycatcher habitat. Other southwest reptiles generally associated with uplands, including Gila monster (*Heloderma suspectum*), will preferentially use riparian habitats because of the moderate temperatures and greater abundance of food present in streamside areas (Service 2005a).

## *Fisheries*

The Lower Colorado River typifies river and stream conditions—and by extension, fisheries—throughout the Southwest. Fisheries habitat in the Lower Colorado River and tributaries was historically characterized by large seasonal floods that carried large sediment loads. This seasonal flooding and the associated sediment loads resulted in a unique fisheries community represented by species adapted to high velocity flows and low visibility. This hydrological regime also resulted in shifting channels with separate or connected backwaters and oxbows. These backwaters provided warm, relatively safe nursery habitat for fry and young-of-the-year of many native fish species (Service 2005a).

The current hydrology of the Colorado River system has been substantially altered by the construction of hydroelectric dams and irrigation diversions, though these changes have not occurred on all Southwest streams (covered in Section 3.2). Especially on the Lower Colorado River, these structures have altered the historic flow regime, decreasing the variability of flow fluctuations and altering flow timing from spring-summer peaks to smaller daily peaks and reducing overbank flows (Poff et al. 1997). Water releases from dams that take water from the deepest parts of the reservoirs immediately behind the dam result in clear, cold-water flows immediately downstream of the dams. These flows favor non-native salmonid, sportfish species such as rainbow trout (*Onchorhynchus mykiss*) and brown trout (*Salmo trutta*) but do not provide ideal temperature or conditions for native species (Service 2005a). Native fish species are adapted to the historic temperature regime, which included daytime water temperatures up to 70–80°F (21–27°C) during the summer, and have not fared well with changes to temperature and flow regimes (Service 2005a).

Ten native fish species were historically found in the Lower Colorado River. These included three marine/estuarine species: the spotted sleeper (*Eleotris picta*), the Pacific tenpounder (*Elops affinis*), and the striped mullet (*Mugil cephalus*). Only one specimen of the spotted sleeper has ever been catalogued; however, both the Pacific tenpounder and striped mullet are common. None of these species' ranges extends beyond the current Imperial Dam in California (Service 2005a).

The desert pupfish (*Cyprinodon macularius*) was historically found in the lower reaches of the Colorado and Gila Rivers in the early 1900s. This species occupied backwaters and springs along the river margins (Service 2005a). Its present range includes the Lower Colorado River in Arizona and California, downstream from Needles to the Gulf of California and to the delta in Sonora and Baja California (Service 2002). Six other species historically occurred in this section of the river system: bonytail chub (*Gila elegans*), roundtail chub (*G. robusta*), Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), flannelmouth sucker (*Catostomus latipinnis*), and woundfin (*Plagopterus argentissimus*). Roundtail chub typically inhabited tributary streams such as the Salt, Verde, and Gila Rivers and were not believed to be abundant in the lower mainstream Colorado River (Service 2005a). Similarly, woundfin are also rare in the mainstream Colorado River with no fish collections reported since the turn of the century. Currently, its distribution is limited to the Virgin River (Service 2005a). Low numbers of flannelmouth suckers historically occupied the Lower Colorado River, however, this native population was extirpated (Service 2005a). A population of 600 was transplanted from the Paria River to the mainstem Colorado River below Lake Mead in 1976. That population still currently exists. The remaining three native fish species, the Colorado

pikeminnow, bonytail chub, and razorback sucker, made up the majority of the historic large fish assemblage of the lower Colorado and Gila Rivers. All three of these species are currently Federally listed as endangered.

Along the Rio Grande River, proposed flycatcher critical habitat overlaps with critical habitat for the Rio Grande silvery minnow (*Hybognathus amarus*), which is only found in the section of the Rio Grande between Cochiti dam and Elephant Butte Reservoir (MRGESCP, 2003). Both the flycatcher and silvery minnow have experienced loss of habitat from stream modifications along the river system that include agriculture development, water diversion, impoundments, and livestock grazing (MRGESCP, 2003). Because of potential conflicting interests between current and future water users and protected species, a collaborative group called the Middle Rio Grande Endangered Species Collaborative Program was developed. This group consists of local, regional, tribal, and federal organizations whose goals are to alleviate jeopardy for the protected species while still providing for current and future water users (MRGESCP, 2010).

The Bureau of Reclamation has overseen several restoration projects, funded by MRGESCP, to enhance habitat for both the silvery minnow and the flycatcher. Several groups including the Santa Domingo tribe (USBR, 2008), the Pueblo of San Felipe (USBR, 2007a), and the City of Albuquerque (USBR, 2007b) have been funded to remove non-native plants and refurbish habitats along the Rio Grande. These projects provide proper water flow and bank stabilization for the silvery minnow while also creating native habitat structure for the flycatcher.

#### *Federal Threatened and Endangered Wildlife Species*

The wildlife species that are listed as endangered or threatened by the Service (or are proposed or candidates for listing) and that are likely to occur in the proposed critical habitat stream segments are listed in Table 3.5. The number and diversity of these species, including mollusks, fish, amphibians, reptiles, birds, and mammals, attest to the value of riparian habitats for fish and wildlife.

Of the listed species that might occur, 23 wildlife species and 9 plant species have designated critical habitat that overlap with the proposed Flycatcher critical habitat. This represents about 22.6% of the total proposed flycatcher designation, and about 1100 stream miles (1770 km).

**Table 3.5 Federally Listed Wildlife Species that Could Occur in Flycatcher Recovery Units and Proposed Critical Habitat**

Common Name	Scientific Name	Status*	Recovery Units					
			CC	BM	LC	UP	G	RG
Apache trout	<i>Oncorhynchus apache</i>	T					X	
Arizona treefrog	<i>Hyla wrightorum</i>	T					X	
Arroyo toad	<i>Bufo californicus</i>	E	X	X	X			
Ash meadows Amargos pupfish	<i>Cyprinodon nevadensis mionectus</i>	E	X					
Ash meadows speckled dave	<i>Rhinichthys osculus nevadensis</i>	E		X				
Beautiful shiner	<i>Cyprinella formosa</i>	T					X	
Big spring spinedace	<i>Lepidomeda mollispinis pratensis</i>	T			X			
Bonytail chub	<i>Gila elegans</i>	E	X		X	X	X	

Common Name	Scientific Name	Status *	Recovery Units					
			CC	BM	LC	UP	G	RG
California red-legged frog	<i>Rana aurora draytoni</i>	T	X	X	X			
California tiger salamander	<i>Ambystoma californiense</i>	E	X	X				
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	E					X	
Colorado pike minnow	<i>Ptychocheilus lucius</i>	E	X		X	X	X	X
Columbia spotted frog	<i>Rana luteiventris</i>	C		X				
Desert pupfish	<i>Cyrinodon macularius</i>	E	X	X	X	X	X	
Giant gartersnake	<i>Thamnophis gigas</i>	T		X				
Gila chub	<i>Gila intermedia</i>	E					X	
Gila topminnow	<i>Poeciliopsis occidentalis</i>	E			X	X	X	
Gila trout	<i>Oncorhynchus gilae</i>	T					X	X
Greenback cutthroat trout	<i>Oncorhynchus clarki stomias</i>	T				X		
Headwater chub	<i>Gila nigra</i>	C					X	
Hiko White River springfish	<i>Crenichthys baileyi grandis</i>	E			X			
Huachua springsnail	<i>Pyrgulopsis thomsoni</i>	C					X	
Humpback chub	<i>Gila cyoha</i>	E			X	X		
Lahotan cutthroat trout	<i>Oncorhynchus clarki henshai</i>	T		X				
Least Bell's vireo	<i>Vireo belli pusillus</i>	E	X	X	X	X		
Least tern	<i>Sterna antillarum</i>	E	X	X	X	X	X	X
Light footed clapper rail	<i>Rallus longirostris levipes</i>	E	X	X				
Little Colorado spinedace	<i>Lepidomeda vittata</i>	T					X	
Loach minnow	<i>Tiraroga cobitis</i>	T					X	
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T			X	X	X	X
Mohave tui chub	<i>Gila bicolor hovaensis</i>	E	X		X			
Mountain yellow-legged frog	<i>Rana muscosa</i>	E	X	X	X			
Northern Mexican gartersnake	<i>Thamnophis eques megalops</i>	C					X	
Ocelot	<i>Leopardus pardalis</i>	E					X	
Owens pupfish	<i>Cyrpinodon radiosus</i>	E		X				
Owens tui chub	<i>Gila bicolor snyderi</i>	E		X				
Page springsnail	<i>Pyrgulopsis morrisoni</i>	C					X	
Pahrnagat Roundtail chub	<i>Gila robusta jordani</i>	E			X			
Piping plover	<i>Charadrius melodus</i>	E						X
Railroad valley springfish	<i>Crenichthys nevadae</i>	T		X				
Razorback sucker	<i>Xyrauchen texanus</i>	E	X		X	X	X	X
Relict leopard frog	<i>Rana onca</i>	C			X			
Rio Grande cutthroat trout	<i>Oncorhynchus clarki virginalis</i>	C						X

Common Name	Scientific Name	Status *	Recovery Units					
			CC	BM	LC	UP	G	RG
Rio Grande silvery minnow	<i>Hybognathus amarus</i>	E						X
Roundtail chub	<i>Gila robusta</i>	C			X	X	X	
Santa Ana sucker	<i>Hybognathus amarus</i>	T	X		X			
Stephen's riffle beetle	<i>Heterelmis stephani</i>	C					X	
Sonoran tiger salamander	<i>Ambystoma tigrinum stebbinsi</i>	E					X	
Spikedace	<i>Oncorhynchus mykiss</i>	T					X	
Unamored threespike stickleback	<i>Gasterosteus aculeatus williamsoni</i>	E	X		X			
Virgin River chub	<i>Gila seminuda</i>	E			X			
White river spinedace	<i>Lepidomeda albivallis</i>	E		X				
White river springfish	<i>Crenichthys baileyi baileyi</i>	E			X			
Woundfin	<i>Plagopterus agentissimus</i>	E			X		X	
Yaqui catfish	<i>Ictalurus pricei</i>	T					X	
Yaqui chub	<i>Gila purpurea</i>	E					X	
Yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	C		X	X	X	X	X
Yosemite toad	<i>Anaxyrus canorus</i>	C		X				
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	X	X	X	X	X	
Zuni bluehead sucker	<i>Catostomus discobolus yarrowi</i>	C			X		X	

\* Federal Status Abbreviations

E = Endangered; T = Threatened; PE = Proposed Endangered; C = Candidate Taxon, Ready for Proposal; XN = Experimental,

Non-essential Population (may apply in only a portion of a species' range)

2 Recovery Unit Abbreviations

CC = Coastal California; BM = Basin and Mohave; LC = Lower Colorado; UP = Upper Colorado G = Gila; RG = Rio Grande

(Source: Service 2011b)

### *Consultations Since Previous Designation*

Most activities that would affect wildlife and fisheries would do so indirectly, through habitat management, water management, and grazing management. However, some activities can directly impact wildlife species and their habitats, such as nonnative species introduction (like leaf beetles, or exotic sport fish) or removal and management and lake and river fish stocking.

In the 2009 Final Gunnison River Basin Programmatic Biological Opinion, the Service reviewed water management activities including adjusting flow rates, and removal of nonnative fish species along the Gunnison River with a “no effect” finding for the flycatcher and associated critical habitat (Service 2009a). Also in 2009 the Service conducted an intra-agency consultation for proposed piscicide treatments of the Gila River to remove nonnative fish species that included a “no effect” finding for the flycatcher and associated critical habitat (Service 2009b).

In 2005, section 10 recovery permits were issued to qualified individuals to experimentally hold water in Horseshoe Reservoir at levels that inundated otherwise-suitable flycatcher habitat for research and population census purposes, to benefit recovery of the southwestern willow flycatcher within its historical range (Service 2005d). The Service found that the proposed action “may affect, and is likely to adversely affect” the flycatcher and its proposed critical habitat. Recovery permits were issued for the incidental take of southwestern willow flycatcher resulting from nest searching, nest monitoring, and inundation of habitat resulting from harm and/or harassment of up to 7 pairs and 17 territorial male flycatchers (Service 2005d).

In 2011, the Arizona Game and Fisheries Department proposed 166 stocking sites in the state of Arizona and 18 species of native and nonnative sportfish to be stocked at one or more of those sites (Service 2011c). The Service found that with best management practices such as stocking outside of flycatcher habitat or outside of flycatcher breeding season, it was determined that this project would not jeopardize the continued existence of the flycatcher, or destroy or adversely modify designated critical habitat (Service 2011c).

### **3.4.2 Environmental Consequences**

#### **3.4.2.1 No Action Alternative**

Under the No Action Alternative, no changes would be made to the 2005 designation of critical habitat. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat. Consultations may occur in the proposed critical habitat, as currently, if individuals of the species found there might be affected by agency actions. The number of potential consultations would be expected to continue at the same rate as under current conditions and these consultations would also encourage BMPs that enhance and maintain healthy and riparian ecosystems. As they relate to wildlife, such consultations would likely include:

- U.S. Army Corps of Engineers (bridge projects, stream restoration, vegetation management, urban development);
- U.S. Bureau of Land Management (fire suppression, fuel-reduction treatments, land and resource management plans, livestock grazing and management plans);
- U.S. Department of Transportation (highway and bridge construction and maintenance);
- U.S. Fish and Wildlife Service (issuance of section 10 enhancement of survival permits, habitat conservation plans, and safe harbor agreements; National Wildlife Refuge planning; Partners for Fish and Wildlife program projects benefiting the flycatcher, Wildlife and Sportfish Restoration program); and
- U.S. Forest Service (vegetation management, noxious weed treatments, fire-management plans, fire suppression, fuel-reduction treatments, forest plans, livestock-grazing-allotment management plans).

Consequently, this alternative would have no adverse impacts on wildlife, including candidate, proposed, or listed species. There would likely be positive impacts associated with those conservation measures resulting from the presence of existing critical habitat) and associated requirements of section 7 of the ESA.

### 3.4.2.2 Alternative A

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing 2005 designation (these are identified in section 2.3).

Compared to the No Action Alternative, Alternative A (all proposed stream segments, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in the management units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

Increased section 7 consultations would likely have beneficial, conservation-related effects on PBFs and PCEs within designated critical habitat, which would in turn result in beneficial impacts to wildlife species.

#### *New and Reinitiated Consultations*

Wildlife species are dependent on their habitat and those species that use riparian habitats in the Southwest desert are vulnerable to habitat changes, and affects to the PCEs in flycatcher critical habitat. Because impacts to PBFs and PCEs that occur within designated critical habitat stream segment are closely tied to adverse effects to the flycatcher, activities that would require consultation for critical habitat are primarily the same activities that currently require consultation for the species. The designation of critical habitat raises awareness of the species presence in an area, and therefore project proponents who have not requested consultations for actions that may affect the species may decide to do so.

Proposed actions that adversely affect or may affect flycatcher critical habitat along the 12 stream segments where breeding flycatchers are not known to occur could now trigger consultation with the Service. These additional consultations for adverse modification would increase administrative costs to the Service and to the action agencies. Implementing conservation measures that are taken for actions that now require consultations would also increase costs for action agencies.

Reinitiated consultations are consultations that have been completed for impacts to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. In terms of wildlife, such consultations could include:

- Fire Management plans — BLM, USFS, NPS;
- River restoration projects, wetland restoration projects — USACE, USFS; and
- Land management plans, conservation management plans and livestock management plans— BLM, USACE, USFS, USFWS.

Because critical habitat was previously designated in 2005 and because of the similarities between the 2005 and 2011 PCEs and PBFs, it is not anticipated that projects already evaluated for critical habitat effects would need to re-initiate consultation.

### *Addition of Adverse Modification Analysis to Future Consultations*

The additional consultations, and the additional time required to complete consultations that would only have considered effects on the species, would increase administrative costs to the Service and to the action agencies. Implementing conservation measures resulting from those additional consultations would increase costs for action agencies. Outcomes of consultations for critical habitat could also include reasonable and prudent measures designed to maintain flycatcher PCEs. These outcomes cannot be specified in advance; however, based on past consultations types of additional management actions that may be required include, but are not limited to:

- Revising management plans;
- Mapping, surveying, and monitoring flycatcher habitat and preparing survey and monitoring reports;
- Modifying or converting occupied breeding habitat dominated by exotic vegetation to habitat dominated by native vegetation; and
- Adjusting exotic and invasive species management.

Section 7 consultations can also benefit a variety of wildlife species through the incremental conservation of flycatcher PCEs. Birds such as Bell's vireo, blue grosbeak, and yellow warbler would benefit from conservation of breeding habitat consisting of dense riparian vegetation with thickets of trees and shrubs interspersed with small areas of open water or marsh or shorter/sparser vegetation. Breeding raptors such as common black-hawk and gray hawk would benefit from maintenance of more mature riparian forest stands. Wild turkey would benefit from the conservation of riparian trees as roosting sites (NWTF, 2010). Insectivorous birds, mammals, reptiles, and amphibians would all benefit from the conservation of diverse insect populations that have been identified as a flycatcher PCE. Riparian mammals would primarily benefit from conservation of riparian habitat that would provide cover, shelter, and foraging areas.

In general, the designation of critical habitat and subsequent conservation or maintenance of riparian habitat would have beneficial effects on fish by providing valuable refuge habitat for young-of-the-year native and non-native species. Maintenance of instream flows would have a generally beneficial, long-term impact for all fish species. Conservation of flycatcher PCEs would assist in maintaining instream flows because healthy riparian habitat serves to reduce erosion, increase bank storage of water through maintenance of the riparian water table, reduce water temperature through shading and evapotranspiration, and provide opportunities for increased insect prey.

Consultation and implementing conservation measures and recommendations would reduce the potential future effects of federal projects on most listed riparian vertebrates and invertebrates. If designation of critical habitat resulted in reducing the effects of federal projects, listed mammals, birds, reptiles, and amphibians would respond positively to the maintenance of riparian tree and shrub communities, particularly those in close association with open water or marsh habitat. However, it should be noted that designation of flycatcher critical habitat would have only minor effects (either beneficial or adverse) on existing populations of razorback sucker, Colorado pikeminnow, and bonytail. The Colorado pikeminnow is no longer found in the Lower Colorado River system, and razorback sucker and bonytail appear to be

confined to large reservoirs in a small area that would be not be impacted by critical habitat designation (Service 2005; Service 2008f). Critical habitat designation would not be expected to cause agencies to change dam and reservoir operations, and water levels, or water quality requirements, which are the river characteristics most severely impacting the listed fish species.

In summary, the effects of critical habitat designation on vegetation are expected to be minor because: (1) few projects would be subject to new consultations based solely on the presence of newly designated critical habitat, because 15 of 29 of the proposed stream segments are occupied by the southwestern willow flycatcher and were designated as critical habitat in 2005; (2) few additional consultations would be necessary for projects affecting unoccupied areas (the 12 newly-designated stream segments), leading to conservation measures and potential additional project costs and delays; (3) it is unlikely that consultations would be reinitiated for projects that have previously consulted on critical habitat because of the similarities between the PCEs and PBFs described in the 2011 proposal and the 2005 critical habitat designation; (4) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis in areas occupied by the flycatcher; (5) though some additional conservation measures may be implemented to avoid adverse modification above those that would be necessary to avoid jeopardy on proposed critical habitat segments only sparsely occupied by flycatcher territories, this would likely be limited to portions of 14 of the 29 Management Units, where such conditions exist. Increased section 7 consultations could also have beneficial, conservation-related effects to PBFs, PCEs and designated critical habitat.

### **3.4.2.3 Alternative B**

Alternative B would exclude approximately 1,464 km (910 mi) of proposed stream segments from critical habitat designation when compared with Alternative A. When compared with Alternative A, designation of critical habitat under this alternative would decrease the number of re-initiated section 7 consultations and the number of new section 7 consultations.

Effects to PBFs and PCEs would be generally the same as for Alternative A, as PCE maintenance and associated benefits to wildlife within exclusion areas are expected from the HCPs and other conservation management plans that are the basis for the exclusions. Those few exclusion areas that do not have an HCP in place include some areas that have a commitment and history of conservation action. Since including these areas in the designation could have economic impacts to the extent that activities would require a Federal license, permit or funding, these exclusions could reduce the economic impacts of designation on wildlife conservation in these areas overall, by requiring fewer consultations. This would reduce administrative costs as well for the Service. The overall impacts to wildlife would still be characterized as minor.

## **3.5 Fire Management**

### **3.5.1 Existing Conditions**

Native riparian vegetation is not generally fire-adapted, and evidence suggests that, historically, fire has not been a major disturbance in the vegetation communities that border southwestern streams. Wildland fire, however, is becoming a more common form of disturbance in riparian

habitats throughout the Southwest and thus a more common form of disturbance to the riparian habitat that supports the flycatcher. The increased prevalence of fire disturbance is attributed to increased fuel loading resulting from control of floods; replacement of native vegetation by exotic species, many of which are highly flammable (e.g., tamarisk); river dewatering; and increased ignitions associated with increased human activity (Service 2002).

Flood control tends to prevent dead vegetation, litter, and woody debris from being swept away or redistributed during the scouring actions of normal high water flows and allows woody material and dead vegetation to accumulate. The replacement of native riparian trees and shrubs by tamarisk tends to increase fuel loads within flycatcher breeding habitat: dense stands of tamarisk produce large quantities of dry leaf litter, and dead stems and branches do not decay quickly. This relatively dense ground material supports intense, fast-moving fires that further alter the historic fire regime and accelerate the replacement of native riparian vegetation. River dewatering increases the frequency and intensity of wildland fire by reducing the water content of riparian vegetation, thereby causing the stress-related death and desiccation (drying) of riparian vegetation, which increases fuel loads. Dewatering also contributes to the replacement of native vegetation by more flammable exotic species, such as tamarisk. Livestock grazing within riparian habitat can contribute to establishing exotic vegetation. Increasing recreation along rivers and stream riparian corridors increases the fire potential and the instances of human-caused fires within these areas (Service 2002).

An additional consequence of the trend toward the increased frequency of riparian fire is that the fires tend to burn during the flycatcher summer breeding season, causing direct loss of nests, young, and habitat. Nesting success within a burned breeding area can be lost for several years after a fire, due to loss of the necessary vegetation structure needed for nesting. Reducing wildfire risk through hazardous fuel reduction and suppressing wildfire can be beneficial for flycatchers (Service 2002).

Current Federal fire management practices conform to the National Fire Plan, which was developed by Federal agencies in 2001 to address the causes of changing fire regimes and to guide wildland fire management (FY 2001 Interior and Related Agencies Appropriations Act [Public Law 106–291]). The implementation plan for this collaborative effort, called the 10-year Comprehensive Strategy, outlines a comprehensive approach to the management of wildland fire, hazardous fuels, and ecosystem restoration and rehabilitation on Federal and adjacent state, Tribal, and private forest and range lands in the United States.

The four primary goals of this strategy are to (1) improve prevention and suppression, (2) reduce hazardous fuels, (3) restore fire-adapted ecosystems, and (4) promote community assistance. Possible fire management actions depend on specific circumstances and may include:

- Reduction of hazardous fuel loads by mechanical, chemical, or biological means;
- Reduction of hazardous fuel loads or habitat restoration with prescribed fire, which is any fire ignited by management actions to meet specific objectives;
- Wildland fire use, which is the management of naturally ignited wildland fires to accomplish specific restated resource management objectives in predefined geographic areas; and
- Wildland fire suppression.

These actions could result in potential impacts such as increased water temperatures, fire-induced changes in pH, and increased ammonium and phosphate levels leached from smoke and ash. Post-fire effects include increased runoff and heavy sediment loads due to loss of groundcover and subsequent erosion in the watershed; loss of streamside vegetation that provides nutrients, shade, bank stabilization, and habitat among roots; altered channel morphology; degraded water quality; and altered food web.

Consistent with national policy, the focus of fire management has increasingly been on the wildland-urban interface (WUI), which comprises areas where flammable wildland fuels meet or intermingle with structures and other human development. Very little of the proposed critical habitat for the flycatcher overlaps WUI areas, because WUI areas are closer to developed areas, which the Service has tried to avoid in this designation.

In 2003, as part of the National Fire Plan, alternative section 7 process regulations were published to reduce potential delays on concurrence by the USFWS for National Fire Plan actions that action agencies (e.g., BLM, Forest Service) have determined are "not likely to adversely affect any listed species or designated critical habitat." The alternative section 7 process allows action agencies to conduct the section 7 process more efficiently in WUI areas (68 FR 68254).

The 2002 Recovery Plan also includes some specific measures for fire management (Service 2002). These include:

- Increasing water availability through:
  - Increasing efficiency of groundwater management
  - Using urban waste water outfall and rural irrigation delivery and tail waters
  - Providing or reestablishing instream flows
- Expanding the active channel area that supports currently suitable and potentially suitable flycatcher habitat by increasing the width of levees and using available flows to mimic overbank flow
- Reactivating flood plains to expand native riparian forests
- Restoring more natural channel geometry (width, depth, bank profiles) where the return of the natural hydrograph will be insufficient to improve habitat
- Developing fire risk and management plans
- Suppressing fires
- Restoring groundwater, base flows, and flooding
- Reducing incidence of flammable exotics
  - Managing/reducing exotic species that contribute to increased fire incidence
  - Using water more efficiently and reduce fertilizer applications
- Reducing recreational fires

#### *Consultations Since Previous Designation*

Section 7 consultations regarding fire management are often programmatic in nature, covering broad-based fire management plans and programs, but consultations may be triggered for

individual burn and rehabilitation plans. Emergency section 7 consultations for wildland fire suppression are typically conducted “after the fact”.

Past impacts of vegetation fire-management activities on flycatchers have been limited. Since designating the previous critical habitat in 2005, four consultations have been completed for actions involving fire management planning. Two of these consultations were for amendments to the same Fire Management Plan at Fallbrook Naval Station and three consultations were for fuels reduction treatments.

In 2006 the Tumacácori National Historical Park proposed to remove, treat, and re-treat tamarisk year-round for the next 10 years, with efforts to work outside of the April-to-September breeding season for the flycatcher (Service 2006). Large piles of dead and down woody material would be pile-burned as determined by the fuels specialist, with these burns expected to be ongoing for the next ten years, in conjunction with the tamarisk removal. The Service found that the proposed action was not likely to jeopardize the continued existence of the flycatcher, nor was it likely to result in adverse modification or destruction of the species’ critical habitat (Service 2006).

Conservation measures listed in the Biological and Conference Opinion for the BLM Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management (Service 2004a) exemplify the kinds of conservation measures that might be expected for future section 7 consultations for the flycatcher. These measures are designed to minimize adverse effects of all fire management activities on Federally-protected species and their habitat. Several measures are specifically designed to protect and enhance the ecological values and functions of riparian areas. Conservation efforts for protecting sensitive species and habitat generally include:

- Using Minimum Impact Suppression Tactics in sensitive habitats;
- Rehabilitation and restoration of critical habitat if fire management or suppression activities occur;
- Restricting prescribed burning within ½ mile of occupied or unsurveyed suitable habitat to times when weather conditions allow smoke to disperse away from the habitat when birds may be present;
- Avoiding the use of fire retardants or chemical foams in riparian habitats or within 300 feet of aquatic habitats, particularly sites occupied by Federally protected species.;
- Minimizing the use of low flying helicopters, chainsaws and bulldozers, and developing access roads except where necessary;
- Incorporating consideration of sensitive species and habitat into all fire management and rehabilitation plans, programs, and implementation efforts; and
- Training firefighters and support personnel on the conservation measures designed to minimize or eliminate take of the species present.

## **3.5.2 Environmental Consequences**

### **3.5.2.1 No Action Alternative**

Under the No Action Alternative, no changes would be made to the 2005 designation of critical habitat. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat. Consultations may occur in the proposed critical habitat, as currently, if individuals of the species found there might be affected by agency actions. The number of potential consultations would continue to be the same as under current conditions and these consultations would also encourage BMPs that enhance and maintain healthy and native riparian ecosystems. As they relate to fire management, such consultations would likely include:

- U.S. Bureau of Land Management (fire suppression, fuel-reduction treatments, fire management plans);
- U.S. Fish and Wildlife Service (fire-management plans, fire suppression, fuel-reduction treatments, forest plans);
- U.S. Forest Service (fire-management plans, fire suppression, fuel-reduction treatments); and
- National Park Service (fire management, fire suppression, fuel reduction treatments, vegetation management)

Consequently, this alternative would have no impact on fire management, beyond those conservation measures resulting from the presence of existing critical habitat and associated requirements of section 7 of the ESA.

### **3.5.2.1 Alternative A**

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing 2005 designation (these are identified in section 2.3).

Fire management activities could produce short-term, adverse impacts to flycatcher PCEs from riparian vegetation disturbance or removal, potential loss of breeding sites, harassment, and site disturbance, but can be expected to produce long-term beneficial impacts to flycatcher habitat by reducing the risks of critical habitat loss from catastrophic, uncontrolled wildland fire.

Compared to the No Action Alternative, Alternative A (all proposed stream segments, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some stream segments in the management units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

### *New and Reinitiated Consultations*

Because impacts to PBFs and PCEs that occur within designated critical habitat stream segments are closely tied to adverse effects to the flycatcher, activities that would require consultation for critical habitat are primarily the same activities that currently require consultation for the species. However, because the designation of critical habitat raises awareness of the species' presence in an area or the area's importance to its recovery, project proponents who have not requested consultations for actions in previously designated areas that may affect the species, its habitat, and/or its recovery, may decide to do so. Based on previous activity in designated units, such project proponents would include at least the Forest Service and Bureau of Land Management, although the specific locations of these types of projects in critical habitat are not known at this time.

Proposed actions that adversely affect or may affect flycatcher critical habitat along the 12 stream segments where breeding flycatchers are not known to occur could now trigger consultation with the Service. These additional consultations for adverse modification would increase administrative costs to the Service and to the action agencies. Implementing conservation measures that are taken for actions that now require consultations would also increase costs for action agencies.

Reinitiated consultations are consultations that have been completed for impacts to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. As it relates to fire management, such consultations could include:

- Fire Management Plans—BLM, USFS, USFWS;
- Fuels Reduction—BLM, USFS, USFWS; and
- Fire Suppression—BLM, USFS, USFWS.

These reinitiated consultations would include after-the-fact consultations precipitated by emergency fire response activities.

### *Addition of Adverse Modification Analysis to Future Consultations*

The additional consultations, and the additional time required to complete consultations that would only have considered effects on the species, would increase administrative costs to the Service and to the action agencies. The outcomes cannot be predicted precisely; however, based on past consultations, types of additional management actions or project modifications that may be required would include, but not be limited to, the list of measures from previous consultations, listed in section 3.5.1. While these outcomes cannot be specified in advance, based on past consultations the types of additional management actions that may be required include:

- Revising fire management plans;
- Mapping, surveying, and monitoring flycatcher habitat and preparing survey and monitoring reports;
- Modifying or converting occupied breeding habitat dominated by exotic vegetation to habitat dominated by native vegetation (during fuels reduction activities that involve the removal of tamarisk); and
- Retaining riparian vegetation.

Beyond the potential costs in time and money for additional consultations, it is important to note that actions by agencies in response to listing and as outcomes of section 7 consultations have not significantly constrained fire management. Conservation activities and measures have focused on timing and avoiding occupied locations, limitations that allow fire management goals to be achieved. Also, the alternative section 7 regulations for fire management limit the delays that fire management projects experience to complete consultations. Because of the above and the expectation that few fire management projects would be subject to consultation solely because of the presence of critical habitat and the benefits to flycatchers from reducing risks of wildfire, designating flycatcher critical habitat is expected to have minimal impacts on fire risk reduction projects and wildfire suppression.

In summary, the effects of critical habitat designation on fire management activities are expected to be minor because (1) few projects would be subject to new consultations based solely on the presence of designated critical habitat, because 15 of the 29 proposed units are occupied by the flycatcher; (2) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis; (3) very few if any additional conservation measures would be proposed to address critical habitat, beyond those already proposed in jeopardy consultations; and (4) actions by agencies in response to listing and as outcomes of section 7 consultations have not significantly constrained fire management.

### **3.5.2.2 Alternative B**

Compared to Alternative A, designation of critical habitat under this alternative would decrease the number of re-initiated section 7 consultations for ongoing fire management projects and reduce the number of additional section 7 consultations for proposed fire management projects. Alternative B would exclude approximately 1,464 km (910 mi) from critical habitat designation. Constraints and costs to fire management activities resulting from section 7 requirements in the excluded areas, while minor, would not occur. Effects to PBFs and PCEs would be generally the same as for Alternative A, as maintenance of these is expected as a result of the HCPs and other conservation management plans that are the basis for the exclusions.

Effects to fire management activities would be generally the same as for Alternative A, as fire management activities within exclusion areas are incorporated into the existing land management plans that are the basis for the exclusions. Since including these areas in the designation could have economic impacts to the extent that activities would require a Federal license, permit or funding, these exclusions could reduce the economic impacts of designation on wildlife in these areas overall, by requiring fewer consultations. This would reduce administrative costs as well for the Service. The overall impacts to fire management would still be characterized as minor.

## **3.6 Water Resources**

### **3.6.1 Existing Conditions**

Continuing threats to the southwestern willow flycatcher include the reduction and elimination of available water in, and changes to water quality of, the flycatcher's breeding habitat, as well as changes in the natural flow of rivers and streams from human activities. The flycatcher is

dependent on riparian environments for breeding and nesting, and breeding habitat includes dense riparian tree and shrub communities along rivers, swamps, and other wetlands, including lakes and reservoirs. Current river and stream hydrology, as well as the geomorphology, now reflect a combination of both natural and artificial processes. These changes include dams and reservoirs, flood control and diversion structures, canals, groundwater management, wastewater discharges, stream channelization, and levees (Service 2002). These activities could be impacted by critical habitat designation for the southwestern willow flycatcher.

Operation of dams can modify, reduce, destroy, or increase riparian habitats both downstream and upstream of a dam site. The natural stream cycles below a dam are modified; all stages of high, medium and low flow can be altered, with high flows typically being reduced or shifted to manage for downstream water supply. A lack of flooding can cause a buildup of debris, resulting in less substrate available for seed germination, reduction of water in the aquifer and the lateral extent of vegetation, increase in salt in the soil, transport of fine soils, and increased frequency of fires. These events can also change the levels of soil and water chemistry, affecting the plant community along the dammed stream (Service 2002). Appendix B lists the major dams located in 2005 proposed critical habitat and on 2011 newly proposed critical habitat stream segments. “Major” dams are those with a height of 50 ft. or more and with 5,000 acre-feet or more in storage.

Within the conservation space of a reservoir, riparian habitat that becomes established on exposed lake bottoms can be affected by how dam operations alter lake levels. Impacts of inundation can be mitigated by temporary development of riparian habitats where source streams enter the reservoir. These areas tend to be vulnerable due to reservoir management (raising and lowering the water level), resulting in increased instability of flycatcher populations. Although large flycatcher populations do occupy reservoir habitat, they may not be as numerous or as persistent as those that occupied miles of pre-dammed rivers (Service 2002).

Diversion and groundwater pumping occur from agricultural, industrial, and municipal uses and have been a major factor in the deterioration of southwestern willow flycatcher habitats. Flycatcher habitat is affected by the reduction of water in riparian ecosystems and associated subsurface water tables (Service 2002). In addition, channelization, bank stabilization, levees, and other forms of flow control projects are typically used for flood control and can result in the separation of streams from their floodplain. Channelization and bank stabilization modify flycatcher habitat by physically manipulating the stream courses, while levees and other flood control projects prevent overbank flooding, reduce the extent of alluvial-influenced floodplain, reduce water tables adjacent to streams, increase stream velocity, increase the intensity of floods, and generally reduce the volume and width of wooded riparian habitats (Service 2005a).

Within the counties containing flycatcher critical habitat, mining is a large industry, as discussed in Section 3.10 and in the Economic Analysis (IEc 2012). Several mines, primarily located outside of the proposed critical habitat, draw surface water or utilize groundwater wells located in the vicinity of critical habitat for industrial purposes. Reductions in water availability to mining companies could delay or curtail production at mine facilities adversely affecting these companies.

Designation of flycatcher critical habitat may affect water use for mining projects on both Bureau of Land Management and Forest Service land. There are currently no data that indicate

whether existing or future diversions of water for mining activities (including groundwater pumping) reduce stream flow or modify hydrologic conditions to the degree that adversely impacts flycatcher and its riparian habitat. Also there are no hydrologic models available that assess the role of any specific mining facility's groundwater pumping or surface water diversions in determining stream flow or other hydrologic conditions within critical habitat. Therefore, because data on the effects of diversions of water for mining activities on the flycatcher and flycatcher habitat are limited, the potential impacts of flycatcher critical habitat on mining-related water resources are difficult to project (IEc 2012).

Other activities that could be impacted by critical habitat designation in relation to water resource projects include habitat restoration projects to protect water quality and maintain, enhance, and restore rivers and streams as well as associated riparian habitats. These projects could have both beneficial and adverse impacts to the flycatcher. Projects that enhance flycatcher specific habitat may help the recovery of the species, while enhancement projects for other species and water quality improvements may degrade suitable habitat for the flycatcher.

### *Gila River Basin*

Surface water resources in the Gila River are fully appropriated and subject to ongoing adjudication. Consumptive uses in the Gila River Basin total over 3 million acre-feet per year, with about 72 percent for irrigation and livestock uses, 25 percent for municipal and industrial uses, and 3 percent for mining operations (U.S. Bureau of Reclamation 2004). To facilitate consumptive use, numerous water storage and diversion structures have been constructed in the mainstem Gila River and its major tributaries.

In order to understand current surface water issues for the Gila River, it is necessary to explain several historical events.

The Coolidge Dam was built between 1924 and 1928, and is owned and operated by the Bureau of Indian Affairs as part of the San Carlos Indian Irrigation Project (SCIIP), for purposes of providing irrigation to the Gila River Indian Community (GRIC) and the San Carlos Irrigation and Drainage District (SCIDD). The maximum storage capacity of Coolidge Dam is 869,000 acre-feet. The flows between Coolidge Dam and the Ashurst-Hayden Diversion Dam are appropriated to GRIC and SCIDD. All diversions of Gila River water are regulated under the 1953 Globe Equity 59 Decree. The Gila Water Commissioner is appointed by the U.S. District Court to administer the Decree, which controls use of the waters of the Gila River in the reach from above Virden, NM to its confluence with the Salt River west of Phoenix. Under the Decree, approximately 60 percent of the water goes to GRIC, while the remaining 40 percent goes to SCIDD. SCIDD provides water to a variety of private landowners and municipalities for irrigation purposes on approximately 50,000 acres, including the communities of the Casa Grande and Florence Valleys. The U.S. Bureau of Indian Affairs would be the Federal action agency for water resource actions involving San Carlos Lake and operation of the Coolidge Dam.

In 1952, Arizona sued California over water supplied by the Colorado River. The dispute grew to include the settlement of water rights of and between New Mexico and Arizona on the Gila River system. In 1964, the U.S. Supreme Court (*Arizona v. California*) allocated water to

California and Arizona based on future growth projections, but limited New Mexico's allocation to its "present use" developed as of 1957. New Mexico protested this allocation, and its State Engineer entered into negotiations with Arizona to improve its position. The State Engineer saw an opportunity to secure water for New Mexico as part of the Central Arizona Project (CAP).

The Colorado River Basin Project Act of 1968 (CRBPA) authorized the CAP. The CAP delivers water from the Colorado River near Lake Havasu across Arizona through Phoenix and Tucson. Section 304(f) of the original CRBPA authorized an exchange of waters from the Gila River and its tributaries and underground water sources for CAP water in amounts that permit consumptive use of water in New Mexico not to exceed an annual average in any period of 10 consecutive years of 18,000 acre-feet over and above the consumptive uses provided for by Article IV of the decree of the U.S. Supreme Court in *Arizona v. California*.

The Arizona Water Settlements Act (AWSA) of 2004, in addition to settling several outstanding Indian water claims, authorizes water exchanges between the Gila River Indian Community and various parties in the State of Arizona, including mining companies and several municipalities in the upper Gila River watershed. Section 212(d) of the AWSA modified Section 304(f) of the CRBPA to allow the Secretary of Interior to contract with New Mexico water users or the State of New Mexico, with the approval of its Interstate Stream Commission, for water from the Gila River, its tributaries, and underground water sources in amounts that will permit consumptive use of water in New Mexico not to exceed an annual average in any period of 10 consecutive years of 14,000 acre-feet over and above the consumptive uses provided for by Article IV of the decree of the U.S. Supreme Court in *Arizona v. California*. Such increased consumptive uses shall continue only so long as delivery of Colorado River water to downstream Gila River users in Arizona is being accomplished in accordance with the AWSA, in quantities sufficient to replace any diminution of their supply resulting from such diversion from the Gila River, its tributaries, and underground water sources.

Title I Section 107 and Title II Section 212 of the AWSA (Public Law 108-451) provides between \$66 and \$128 million in non-reimbursable funds for New Mexico to develop water supply alternatives, including a New Mexico Unit of the CAP if desired to accomplish the exchange. Funds will be deposited into the New Mexico Unit Fund, a State of New Mexico Fund established and administered by the New Mexico Interstate Stream Commission. Beginning in 2012, \$66 million, indexed to reflect changes since 2004 in the construction cost indices, will be deposited into the New Mexico Unit Fund in 10 equal annual payments. Following notification by December 31, 2014 that the State of New Mexico intends to have the New Mexico Unit constructed or developed, an additional \$34 to \$62 million may be available. A Record of Decision is to be issued in the *Federal Register* by the Secretary of Interior no later than the end of 2019 (unless extended by the Secretary for reasons outside the control of the State of New Mexico) regarding the decision.

### *Wetlands and Floodplains*

Under the Clean Water Act (CWA), wetlands are defined as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (EPA 2011)." Wetlands typically include swamps, marshes, and bogs. Breeding habitat of the flycatcher includes vegetation alongside rivers, streams, or other wetlands. The

flycatcher's nesting territories, nests, and forage areas occur in relatively dense and expansive growth of trees and shrubs, near or adjacent to surface water or in areas underlain by saturated soils (76 FR 50544). Wetlands are often located along buffer zones of perennial and intermittent surface streams. Critical habitat designations around river segments include the riparian zone that is directly influenced by river functions. In fact, the Service used National Wetlands Inventory (NWI) data to help delineate critical habitat for the flycatcher (76 FR 50557).

The southwestern flycatcher is reliant upon the existing habitat conditions to live and breed. As part of the primary constituent elements (PCE), riparian vegetation for the flycatcher is characterized by a mosaic of dense patches of riparian forests interspersed with small openings of open water, marsh, or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Another PCE is the flycatcher's insect prey population, which is found within or adjacent to riparian floodplains or moist environments (76 FR 50551). It can be assumed that floodplains exist along all river and stream miles designated as critical habitat.

#### *Watershed (Surface and groundwater)*

Table 2.4 of the document includes a list of streams and stream portions not designated as critical habitat in 2005 that are now being proposed for designation.

The Management Units with proposed critical habitat are distributed between 17 different watersheds within California, Nevada, Colorado, Utah, Arizona, and New Mexico (USGS 2006). Surface and groundwater rights in New Mexico, Arizona, Nevada, Colorado, and Utah follow the doctrine of prior appropriation: first in time, first in right. Prior appropriations are typically based on date of appropriation and beneficial use. The state entities responsible for managing surface and ground water management in these states are:

- Utah Division of Water – Office of State Engineer;
- Nevada Division of Water Resources;
- New Mexico Office of the State Engineer;
- Colorado Office of the State Engineer; and
- Arizona Department of Water Resources.

Many of these state agencies also oversee dam projects and floodplain management in their respective states as well as review and grant permits for new and changed water rights (ADWR 2011; NMOSE 2011; NDWR 2011; CODWR No Date; UDWR 2010).

The State of California does not have an entity that manages both surface and groundwater. Instead, it follows a “dual system” of both the riparian doctrine and the prior appropriation doctrine. All waters are the property of the State and private property rights allow the use of water but not the ownership (CADWR 1994). The State of California is not authorized under the California State Water code to manage groundwater. Groundwater in the state can either be managed by local agencies under authority granted in the California Water Code or other statutes, local government groundwater ordinances or joint powers agreements, and court adjudications (CADWR 2011). The State entity that oversees surface water rights and water quality in California is the State Water Resources Control Board..

Representative water use and water withdrawals within these states that potentially affect critical habitat are depicted in Table 3.6 (below).

*Consultations Since Previous Designation*

Because the vegetation that flycatchers rely upon for cover, food, shelter, and reproduction is typically dependent on a combination of a stream’s ground and surface water, several types of water related projects have the potential to affect the flycatcher’s habitat and thereby trigger consultations if there is a Federal nexus, including:

**Table 3.6 Water Use and Water Withdrawals, by State--2005**

	<i>Water Use</i>		<i>Water Withdrawals*</i>					
	<b>Pop. Served (1000s)</b>	<b>Total withdrawals* (Surface and Groundwater)</b>	<b>Public</b>	<b>Irrigation</b>	<b>Livestock</b>	<b>Industrial</b>	<b>Mining</b>	<b>Thermal Power**</b>
AZ	5,940	6,240	1,170	4,810	12.6	22.4	103	89.9
CA	36,100	45,700	6,900	24,400	197	95.7	308	12,600
CO	4,670	13,600	864	12,300	33.1	142	21.4	123
NV	2,410	2,380	676	1,500	8.51	5.9	99.1	36.8
NM	1,930	3,330	286	2,810	50.7	13.2	58.7	55.9
UT	2,550	5,120	607	4,000	17.8	163	167	62.2

Source: USGS Estimated water use in the United States (USGS 2009)

\* Withdrawals reported in million gallons per day

\*\*Water converted to steam for electricity-generation

- Maintenance, construction, and operation of dams and stream channelization;
- Flood control;
- Section 404 permitting under the CWA;
- Wastewater management; and
- River restoration and enhancement projects.

Since critical habitat was designated in 2005, approximately 16 section 7 consultations for water and wetland related projects have been conducted by several Federal agencies and departments: the U.S. Army Corps of Engineers (USACE), The Natural Resource Conservation Service (NRCS), The U.S. Bureau of Reclamation (USBR), the Service, and the U.S. International Boundary and Water Commission (USIBC), Bureau of Land Management (BLM), and the U.S. Department of Agriculture (USDA). Fewer than 10 of these consultations dealt with 2005 designated critical habitat, and none of these consultations ended with the Service determining that the project was likely to adversely modify critical habitat. These projects included: water delivery, diversion, and hydropower generation; flood control; dam operations; channel maintenance; and 404 permits and riparian enhancement projects. An example of each of these consultations is provided below. Consultations on wastewater projects have not occurred for 2005 designated critical habitat.

The Service conducted an intra-Service section 7 consultation for the issuance of an incidental take permit, for the Lower Colorado River Multi-Species Conservation Program (LCR MSCP). The LCR MSCP was designed as a joint effort by Federal and non-Federal (state, local, and private) entities with management authority for storage, delivery, and diversion of water; hydropower generation, marketing, and delivery; and land management or Native American Trust responsibilities along the LCR. Federal agencies involved in the LCR MSCP include Bureau of Indian Affairs (BIA), BLM, the Service, NPS, and USBR, which was the lead Federal agency. During the 10-year development of the Conservation Plan, the Service evaluated the effects of these agencies actions on the LCR and its historical floodplain including activities related to water delivery and diversion. At the time that consultation took place, 2004 proposed critical habitat existed in the project area. The Service found that the proposed project was not likely to destroy or adversely modify proposed critical habitat.

In 2005 the USACE, along with NRCS, consulted with the Service in a re-initiation of consultation for the City of Mesquite's Post-Flood Actions and 2005 Runoff Season Flood Control Measures, Virgin River, Clark County, Nevada and Mohave County, Arizona. A flood event occurred in the action area during January 11<sup>th</sup> to the 13<sup>th</sup>, 2005. NRCS was involved in funding part of the mitigation efforts. Actions taken by the City in the Virgin River to prevent and repair damage from this flood event and actions proposed to reduce the high potential of incurring additional flood damage from spring runoff were addressed.

The Service determined that the post-flood project would affect 2005 proposed critical habitat but that the project was not likely to result in adverse modification. This determination was reached because even though previous actions had affected riparian vegetation of critical habitat, the golf course and the USACE proposed measures to avoid, substantially minimize, or compensate for the effects of the previously completed actions and proposed actions to the flycatcher (Service 2005b).

In 2006, the USACE conducted section 7 consultation for the X Diamond Ranch Little Colorado River Riparian Enhancement Project. The proposed action included a section 404 CWA permit for a riparian and aquatic enhancement project along a 1-mile reach of the Little Colorado River. Funding for the project was through an Arizona Department of Water Resources Water Protection Fund Grant for the development and implementation of measures to protect water of sufficient quality and quantity to maintain, enhance, and restore rivers and streams and associated riparian habitats. 2005 critical habitat occurs throughout the action area of this project. The Service determined that the restoration work should have a long-term beneficial effect to the constituent elements of the flycatcher's critical habitat. The project would establish willows on vertical banks currently lacking a willow component, stabilize eroding river banks, and occur outside of the flycatcher breeding and migration season. The Service determined that the project would not adversely modify this critical habitat because only one mile of critical habitat would be affected, and effects to PCEs would not reduce the value of critical habitat (Service 2006).

The Service conducted an intra-Service section 7 consultation in 2008 for the issuance of a section 10 incidental take permit of threatened and endangered species associated with operations of Horseshoe and Bartlett dams and reservoirs by Salt River Project in Maricopa and Yavapai counties, Arizona. The permit would cover the operation of the dams as proposed with implementation of proposed minimization, mitigation, and monitoring measures. Both dams would continue to be operated in a manner consistent with their purpose of water storage

reservoirs and to minimizing spills of water past Granite Reef Dam with two added objectives: maintaining tall dense vegetation in Horseshoe and managing Horseshoe water levels to minimize impacts to covered aquatic species.

The Service determined that the effects of the proposed action were unlikely to result in adverse modification of designated critical habitat (Service 2008a)

The Service also conducted an intra-service section 7 consultation on the issuance of a section 10 incidental take permit for an Enhancement of Survival Permit to the Arizona Game and Fish Department (AZGFD) for the reestablishment of endangered Gila and Yaqui topminnow and endangered desert and Quitobaquito pupfish. The proposed action was to authorize incidental take, including possible habitat modification on lands controlled by the AZGFD and landowners enrolled in a Safe Harbor Agreement (SHA). Habitat of the pupfish and topminnow occur in retention basins; water treatment facilities; groundwater recharge basins; natural or artificial wetlands; springs, marshes, or streams; residential waters; natural or artificial ponds, lakes, other catchments; and golf course ponds or other artificial water features. 2005 designated critical habitat for the flycatcher within the project area included portions of the Roosevelt and Verde River management unit along the upper half of Tonto Creek, the upstream tip of the Salt River at Cherry Creek, section of the upper segment along the Verde River south of Camp Verde, and a section of the middle segment of the Verde River. The Service concluded that the project was unlikely to result in adverse modification of proposed 2005 critical habitat because all designated critical habitat is within stream systems and the SHA cannot be used on sites that have the potential for fish to move from them unless downstream landowners also sign a Certificate of Inclusion (Service 2008b).

Also in 2008, the USBR conducted a section 7 consultation for the Elephant Butte Reservoir Temporary Channel Maintenance Project and the effects it would have on the flycatcher and 2005 critical habitat. The USBR along with the New Mexico Interstate Stream Commission sought to construct and maintain a temporary channel that facilitates delivery of water and sediment from the Rio Grande to Elephant Butte Reservoir. The proposed action included maintenance of the temporary channel for five and a half years and new construction of a lower channel. Enhancement features include maintenance operations, future temporary channel construction, and widening and realignment of the existing temporary channel.

The Service found that channel degradation could occur in the project area and may result in the following: reduction in the quantity and quality of suitable habitat; reduction in the overall functionality of habitat; and reduction of the extent and density of the habitat, opening up habitat to predators. Nests could also be more vulnerable to nest parasitism by brown-headed cowbirds. Lowering of the lake and continued drought conditions could contribute to additional channel incision upstream into areas with critical habitat.

The Service determined that even though there would be an effect to critical habitat it would not result in adverse modification. They made this determination because the temporary channel represents a small part of the flycatcher's occupied range and provides marginal habitat. The Service concluded that while critical habitat for the flycatcher may be adversely affected, flycatcher habitat is ephemeral and areas that are not currently suitable habitat may become habitat in the future. Even though the habitat was found marginal, it was determined that it

would still serve the intended conservation for the species with implementation of the proposed project.

Three biological opinions with the mining industry have been conducted by the Service prior to the 2005 critical habitat designation. Mitigation efforts taken by the mining industry include agreeing to both protect sensitive habitat areas and monitor the flycatcher populations occurring on their land (IEc 2012).

Typical conservation or mitigation measures recommended in these and other consultations on water projects include:

- Reducing land management stressors to help native vegetation to flourish;
- Continuing directing irrigation runoff into the southwestern willow flycatcher nesting site;
- Implementing Long-term Flood Control measures in coordination with the proponent;
- A city-directed development of a Long-term Flood Control Measures and Restoration Implementation Plan for the original action area and the expanded action area;
- Creation or protection of riparian areas composed of dense riparian woodlands;
- Riparian woodlands should be at least 10 acres in size;
- Riparian woodlands should be provided in blocks rather than in strips;
- Riparian habitats should be located in areas that favor a natural succession of vegetation;
- Modification of reservoir operations to make riparian habitat available earlier in the nesting season;
- Maintaining riparian vegetation at higher elevations in the reservoir whenever possible;
- Earlier and more rapid drawdown of reservoir whenever feasible in the spring to make more habitat available early in the breeding season;
- Acquiring and managing sufficient acreage of mitigation habitat in perpetuity to provide permanent habitat;
- Use of adaptive management to acquire additional habitat if impacts are predicted to exceed a specified threshold, additional management measures on mitigation properties in response to changed circumstances, and brown-headed cowbird management;
- Use current flycatcher monitoring data and avoid work within 0.25 miles of an active nest;
- Monitoring vegetation health and incorporate vegetation mapping;
- Monitoring ground water levels along certain boundaries of the project area;
- Monitoring the riverbed and movement of the headcut (see Glossary); and
- Working with the Service to plan and implement a specific restoration project that will establish flycatcher habitat on the Rio Grande, outside of the San Marcial Reach.

(Service 2005a; Service 2005b, Service 2006; Service 2008a, Service 2008b; Service 2008c).

### **3.6.2 Environmental Consequences**

Critical habitat designation has the potential to affect water supply operations if it causes the following:

- Limits on reservoir capacity to avoid impacts on designated habitat;

- Requiring the release of otherwise stored and delivered water;
- Requirements to purchase replacement water at greatly increased cost; or
- Disruption of established water contracts and water rights.

Flood control systems could be adversely affected by the proposed critical habitat designation if a section 7 consultation resulted in requirements to conserve dense riparian woodlands in areas needed for channel capacity or in areas where such vegetation conflicts with federal levee maintenance requirements for vegetation free zones. Requirements to acquire and/or create dense riparian habitat to mitigate impacts to critical habitat could delay the timing and the ability of local agencies to fund flood control maintenance activities putting neighboring communities at risk of flooding.

### **3.6.2.1 No Action**

Under the No Action Alternative, southwestern willow flycatcher critical habitat would remain the same as that designated in 2005. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat.

Section 7 consultations would be initiated when projects “may affect” the southwestern willow flycatcher or adversely modify or destroy 2005 critical habitat. As they relate to water resource projects, such consultations would likely include:

- U.S. Army Corps of Engineers – stream restoration, urban development requiring section 404 permits under the Clean Water Act;
- U.S. Bureau of Land Management — fire suppression, fuel reduction treatments, mining permits and claims, and renewable energy and development;
- U.S. Bureau of Reclamation –transportation, storage, and delivery of water;
- U.S. Fish and Wildlife Service -issuance of section 10 permits for enhancement of survival, habitat conservation plans, wildlife and sport fish restoration projects, and safe harbor agreements; and
- U.S. Forest Service - fire management plans, fire suppression, fuel reduction treatments, and mining permits and claims.

Specifically, several water projects with a Bureau of Reclamation nexus could trigger section 7 consultation, among which are those being considered under the Arizona Water Settlement Act (AWSA), which is described above in section 3.6.1.

Designation of flycatcher critical habitat may affect water use and management in New Mexico relative to the proposed New Mexico Unit of the Central Arizona Project (CAP). It is not clear how water will be delivered; however, the New Mexico Interstate Stream Commission states that building a dam on the Gila River is not foreseeable. During the Service’s 2012 designation for the spikedace and loach minnow, the New Mexico Interstate Stream Commission noted that the State of New Mexico may divert but has not committed to diverting water, and that its planning process to date has not evaluated proposals for a New Mexico Unit of the CAP. At this point, no additional studies are planned to address the type of storage facility needed to complete the New Mexico Unit of the CAP. Therefore, because there are no specific plans, the potential impacts of

flycatcher habitat on the New Mexico CAP unit are unknown, and further study of the issue during the time frame for completion of the decisions regarding the critical habitat designation would not provide any useful information.

Consultations could also take place for operational changes or emergencies within a floodplain, between the Service and private individuals, a local municipality, or state governments requesting assistance from the Federal Emergency Management Agency (FEMA). Under FEMA's Procedure Memorandum 64, private individuals, local municipalities, or state governments are required to comply with the ESA independently of the FEMA process for floodplain activities that have already occurred. For floodplain activities under development, FEMA will not approve projects until the private, local government, or state government has complied with the ESA (FEMA 2010).

However, these consultations would occur under any of the alternatives, including No Action. Therefore, this alternative would not have any impacts on water resource management projects beyond any conservation measures or project modifications resulting from the listing of the southwestern flycatcher, designation of the 2005 critical habitat, and associated requirements of section 7 of the ESA.

### **3.6.2.2 Alternative A**

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing designation (these are identified in Table 2.4).

Therefore, compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in the 14 Management Units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

#### *New and Reinitiated Consultations*

Because impacts to PBFs and PCEs that occur within designated critical habitat stream segments are closely tied to adverse effects to the flycatcher, activities that would require consultation for critical habitat are primarily the same activities that currently require consultation for the species. Thus, an increase in the number of section 7 consultations would not come from consideration of additional activities, but only from the addition of specific geographic areas to the designation.

Because critical habitat was previously designated in 2005 and because of the similarities between the 2005 and 2011 PCEs and PBFs it is not anticipated that projects already evaluated for critical habitat effects would need to re-initiate consultation.

The designation of critical habitat raises awareness of the species presence in an area, and therefore project proponents who have not requested consultations for actions that may affect the species may decide to do so in newly proposed critical habitat.

In addition, water resource management projects with a Federal nexus on land proposed for critical habitat in the Powell Management Unit, where breeding flycatchers are currently not known to occur, could now trigger consultation due to designation of critical habitat. Overall, there are 12 river segments proposed as critical habitat in seven different Management Units (totaling about 86 river miles) where flycatcher territories have not been detected since 1991. These are listed in Table 2.1. The additional consultations would increase administrative costs to the Service, the action agencies, and any project proponent involved in the consultation process. As it relates to water resource management projects, such consultations could include:

- U.S. Army Corps of Engineers – stream restoration, urban development;
- U.S. Bureau of Land Management — fire suppression, fuel reduction treatments, and renewable energy and development;
- U.S. Bureau of Reclamation –transportation, storage, and delivery of water;
- U.S. Fish and Wildlife Service -issuance of section 10 permits for enhancement of survival, habitat conservation plans, and safe harbor agreements; and
- U.S. Forest Service - fire management plans, fire suppression, fuel reduction treatments.

Reinitiated consultations are consultations that have been completed to analyze jeopardy to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. Consultations on water resource management projects have occurred for critical habitat areas designated in 2005, but have not occurred for new areas being proposed as critical habitat. The streams or portions of streams where the southwestern willow flycatcher has been detected but were not designated as critical habitat in 2005 are listed in section 3.2.2.2 (Land Use). The types of consultations that could be reinitiated for these areas are the same as those that could be initiated for stream segments where flycatcher territories have not been detected since 1991.

#### *Addition of Adverse Modification Analysis to Future Consultations*

The consultation analyses for effects on a listed species and effects on critical habitat are similar in many respects and are parallel processes because the health of a species cannot be disassociated from the health of its habitat. The analyses are distinct, however, in that the standard for determining jeopardy concerns only survival of the species, while the standard for determining adverse modification must also take into account habitat values essential for the recovery of the species. Adverse modification is considered a higher standard of preventing substantial loss of the conservation value of the critical habitat segment to allow for flycatcher recovery goals to be met in a given Management Unit. As a result, there could be some limited instances where a proposed Federal action could result in adverse modification without resulting in jeopardy. This could result in additional or more restrictive conservation measures than those that would be otherwise applied.

The additional consultations, and the additional time required to complete consultations that would only have considered effects on the species, would increase administrative costs to the Service and to the action agencies. Implementing conservation measures resulting from those

additional consultations could delay water resource projects and would also increase costs for action agencies. The outcomes cannot be predicted precisely; however, based on past consultations, types of additional management actions or project modifications that may be required would include, but not be limited to, the list of measures from previous consultations, listed in section 3.6.1.

As mentioned above, actions that are found not likely to jeopardize the species would in most cases not destroy or adversely modify critical habitat, because of the close relationship between the species and its habitat. However, where there are fewer flycatcher territories within a designated segment, a finding of adverse modification without a finding of jeopardy is possible. This is based on the fact that any substantial reduction in the conservation value of a proposed critical habitat segment in a Management Unit with few or no territories could potentially result in an adverse modification without reaching jeopardy. This would cause an increase in administrative efforts to develop measures to avoid the adverse modification. Because flycatcher recovery goals are established by Management Unit, the Management Units with the fewest territories have an increased possibility of an adverse modification finding where a finding of jeopardy would be unlikely (Salton, Amargosa, San Juan, Powell, Santa Cruz, San Francisco, Hassayampa/Agua Fria, and lower Rio Grande Management Units).

The following are possible project modifications to water resource management projects that could be sought to avoid adverse modification:

- Altering dam operations to more closely mimic the natural hydrograph;
- Altering dam operations to improve the overall longevity of habitat within the conservation space of a reservoir;
- Reducing or retiring other water consumptive stressors (such as water diversion or groundwater pumping) to offset impacts;
- Increase the width between levees;
- Improve the abundance and distribution of native riparian vegetation through reducing land and water management stressors; and
- Retain riparian vegetation.

These project modifications and conservation measures would help conserve PBFs and PCEs and natural stream hydrology and geomorphology, and would have minor beneficial effects on water resources and water quality, including floodplains and wetlands.

It should be noted that, while the list above provides the range of potential project modifications, the history of previous consultations suggests that none to date have required changes to water operations for flycatcher such that downstream flow to water users has been affected. Due to the extensive history of management of flycatcher through mitigated incidental take, this Environmental Assessment assumes that, in areas where flycatcher territories have been detected, water managers will pursue an ITP or Statement for current operations as part of an HCP or section 7 biological opinion.

In addition, management agencies have asserted in some cases that they lack legal discretion to release water for flycatcher management purposes. For example, in *Defenders of Wildlife v. Norton*, the Federal district court held that U.S. Bureau of Reclamation (USBR) lacked

discretion to provide water for species in the Colorado Delta because USBR was precluded from changing Colorado River operations by the Colorado River compact (*Defenders of Wildlife v. Norton*, 257 F. Supp. 2d 53 (D.D.C. 2003)). Other court cases addressing section 7 consultation between USBR and the Service have upheld the use of off-site mitigation, as is often contemplated in incidental take permits (ITPs) for the flycatcher, and allowed USBR to raise the level of the lake above existing flycatcher habitat (*Southwest Center v. U.S. Bureau of Reclamation*, 143 F.3d 515, (9<sup>th</sup> Cir. 1998) and *Southwest Center for Biological Diversity v. U.S. Bureau of Reclamation*, 6 F. Supp. 2d 1119 (D.Az. 1997)). Based on these findings, it appears unlikely that flycatcher conservation efforts will result in changes in dam operations beyond those conservation activities outlined in an ITP. Therefore, the list of possible project modifications above must be read in conjunction with the earlier judicial opinions and consultation history which help define the most likely consultation outcomes.

One concern related to water resources, expressed in public comment by the Gila River Indian Community (GRIC), is whether designating the San Carlos Lake would adversely affect the delivery of water mandated to the GRIC through the operation of the San Carlos Irrigation District (SCID). While the precise impacts of designation of critical habitat are uncertain owing to the variable conditions of rainfall and subsequent water flows in a given year, the presence of critical habitat in this area could trigger re-initiation of consultation between the Service and the U.S. Bureau of Indian Affairs for SCID operations, if such operations have the potential to adversely modify critical habitat.

Conservation measures that may be required as a result of that consultation could include those that were recommended in a 2004 Biological Opinion for a water exchange with the Central Arizona Project, requested by the San Carlos Apache Indian tribe. Such measures include: research and monitoring, cowbird trapping, and providing the Service and the Bureau of Indian Affairs with a report at the end of the breeding season that documents flycatcher reproductive success and cowbird trapping activities. Additional conservation measures may include acquiring additional flycatcher habitat as part of a compensatory off-site mitigation strategy. With these measures, and based on the outcomes of previous consultations and the potential limits on the discretion of the action agency to alter dam operations as discussed above, it is not anticipated that the Service would make a determination of adverse modification to flycatcher critical habitat from SCID operations. Therefore it is not anticipated that designation of critical habitat would lead the Service to require that the U.S. Bureau of Indian Affairs change current water flows (IEc 2012; Service 2004b).

The Service's Economic Analysis projects that the present value of incremental impacts to water management activities could range from \$1.4 to \$9.6 million assuming a seven percent real discount rate over 30 years. This figure represents an impact from designation of ALL critical habitat of approximately \$110,000 to \$720,000 on an annualized basis. These impacts include the costs of conservation efforts associated with section 7 consultations or the development of HCPs, as well as administrative efforts to consider potential adverse modification of habitat in unoccupied units, and to address jeopardy and adverse modification in the San Francisco management unit, as part of future section 7 consultations

Overall, the effects of critical habitat designation on water resource projects can be characterized as moderate because: (1) the majority of previous completed section 7 consultations covering

significant water management and operations, with and without critical habitat, have resulted in no or only minor alterations to dam operations or retiring of water consumptive stressors; (2) additional consultations would be necessary for projects affecting areas where flycatcher territories have not been detected since 1991 (the 12 such newly-designated stream segments), leading to conservation measures and potential additional project costs and delays; (3) additional conservation measures may be implemented to avoid adverse modification above those that would be necessary to avoid jeopardy on proposed critical habitat segments only sparsely occupied by flycatcher territories. These would likely be limited to portions of 8 of the 29 Management Units, where such conditions exist; (4) it is unlikely that consultations would be reinitiated for projects that have previously consulted on critical habitat because of the similarities between the PCEs and PBFs described in the 2011 proposal and the 2005 critical habitat designation; (5) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis in areas occupied by the flycatcher; (6) few projects would be subject to new consultations based solely on the presence of newly designated critical habitat, because 15 of 29 of the proposed units are occupied by the southwestern willow flycatcher and were designated as critical habitat in 2005.

### **3.6.2.3 Alternative B**

For Alternative B (proposed units minus exclusions), the impacts associated with the designation of critical habitat would be similar to those identified for Alternative A. However, the exclusions are primarily private and Federal lands associated with the existing Habitat Conservation Plans (HCPs) and other conservation or management plans for the area. These exclusions could reduce the economic impacts of designation on water resource management projects in these areas by requiring fewer consultations overall. This would reduce administrative costs as well for the Service.

In addition, the Pinal Creek Group, represented by Freeport McMoRan, is actively implementing the Water Quality Assurance Revolving Fund Remedial Action Program required by the Arizona Department of Environmental Quality Consent Order, issued in April 1998, along lower Pinal Creek in Gila County, Arizona (Roosevelt Management Unit). These actions occur throughout the proposed 5.7 km (3.5 mi) of proposed flycatcher critical habitat. The primary purpose of this Remedial Action Program is the monitoring, extraction, and treatment of contaminated Pinal Creek groundwater. Implementation of these remedial projects has resulted in improved abundance, distribution, and quality of riparian habitat for flycatchers.

The extraction, treatment, and discharge of Pinal Creek groundwater onto the surface of the Pinal Creek bed and associated land management actions have been the primary actions which have helped establish and maintain increased abundance of riparian vegetation. The goal of the habitat mitigation and monitoring plan associated with the Remedial Action Program is the maintenance and long-term restoration of riparian habitat, dominated by native tree species. Exotic plant management has limited the occurrence of flammable plants and reduced the potential impacts of wildfire. Much of these lands are also fenced properties with limited public access and actions that could impact vegetation. From 1999 to 2007, these actions have resulted in a 130 percent increase in total riparian vegetation volume within the 117-ha (290-ac) mitigation area. We will coordinate with the Pinal Group and Freeport-McMoRan and examine

what flycatcher conservation actions, management plans, and commitments and assurances occur on these lands to consider Pinal Creek for exclusion from the final designation of flycatcher critical habitat under section 4(b)(2) of the Act.

However, modifications would still be sufficient in number, range, and duration to characterize the impacts as moderate, for the reasons given for Alternative A.

## **3.7 Livestock Grazing**

### **3.7.1 Existing Conditions**

The proposed rule and the flycatcher Recovery Plan list improper livestock grazing as a threat to the existence of the southwestern willow flycatcher and the flycatcher's habitat. The main threat from livestock grazing occurs when grazing effects flycatcher habitat availability and suitability. Improper livestock management could reduce the volume and composition of riparian vegetation; prevent regeneration of riparian plant species; physically disturb nests; alter floodplain dynamics; facilitate brood parasitism by brown-headed cowbirds; alter watersheds and soil characteristics; alter stream morphology; dry riparian areas; soil compaction; and facilitate the growth of flammable invasive plant species. In addition, livestock grazing activities in uplands contribute to surface runoff quantity and intensity, sediment transport, soil chemistry, and infiltration and water holding capabilities of the watershed; flood flows may increase in volume while decreasing in duration, and low flows may decrease in volume and increase in duration. Riparian habitat downstream of upland grazing can become reduced and degraded. Improper livestock management that could negatively affect flycatcher habitat includes unrestricted ungulate access and use of riparian vegetation; excessive ungulate use of riparian vegetation during the non-growing season; overuse of riparian habitat and upland vegetation due to insufficient herbaceous vegetation available to ungulates; and improper herding, water development, or other livestock management actions (76 FR 50578; Service 2002).

Federal land makes up 32 percent of the proposed critical habitat. Livestock grazing on Federal land primarily takes place on both U.S. Bureau of Land Management (BLM) and U.S. Forest Service (USFS) lands, but can also take place on land owned by other Federal agencies including the Department of Defense. Historically, lands in this region were heavily overgrazed, degrading watersheds and altering fire regimes. To address overgrazing, Federal grazing permits were established on both USFS and BLM lands in the early 20th century. The USFS established a system of range regulation between 1906 and 1907 that included limits on herd sizes, grazing seasons, areas of use and grazing fees (Lester 2002). The BLM established grazing permits in 1934 with the Taylor Grazing Act of 1934 (BLM 2011). In general, livestock grazing has been on the decline on BLM- and Forest Service-managed lands in the Southwest. For example, Animal Unit Months (AUMs) have gone from 18.2 million in 1954 to 8.2 million AUMs in 2010. Drought and market fluctuations are also contributing to declines in livestock grazing.

According to the flycatcher Recovery Plan, evidence in the literature and field examples have indicated that the flycatcher's recovery would be most assured and achieved in the shortest time by excluding livestock grazing from riparian areas deemed necessary for the recovery of this species where grazing has been identified as a principal stressor. There is also evidence that suggests certain types of grazing can be compatible with recovery; however, the data on

livestock grazing and the flycatcher's existence are insufficient to identify what specific grazing systems are compatible and in which specific circumstances (Service 2002). Exploring the level of grazing that is compatible with maintenance of suitable flycatcher habitat, including critical habitat is needed. The Service believes that carefully managed and closely monitored light-to-moderate levels of grazing within critical habitat during the non-growing season may be compatible with flycatcher recovery (Service 2002).

The Recovery Plan sets forth guidelines for managing livestock grazing for southwestern willow flycatcher conservation. Guidelines include:

- Identifying the most important riparian areas for recovery of the flycatcher;
- Identifying the most appropriate areas for permitting livestock grazing given the biodiversity concerns in a specific area;
- Reconfiguring grazing pasture boundaries allowing different management techniques with varying ecological sensitivity within important flycatcher areas; and
- Excluding livestock from sites where exclusion would result in the greatest ecological improvement and least economic loss.

Monitoring grazing in flycatcher habitat is an important component to maintaining its suitability. Guidelines specific to monitoring include:

- Establishing livestock use numbers based on drought years if monitoring is not annual;
- With annual monitoring, adjust livestock levels in response to reduced forage availability, poor vigor and physiological stress on forage plants, and/or decreased cover brought on by drought conditions; and
- Institute and/or improve record-keeping and documentation of grazing practices; work with state universities, private colleges, and research institutions to fund and facilitate research that better defines the ecological and hydrological effects and sustainability of livestock grazing in southwestern ecosystem (Service 2002).

Additional management techniques that could be used to help increase flycatcher habitat and quality in livestock grazing include: determining appropriate areas, seasons, and use consistent within the natural historical norm and tolerances; reducing grazing in upland areas; improving conditions of upland areas (revegetation); reconfigure grazing units, improve fencing, and improve monitoring and documentation of grazing practices; manage wild and feral hoofed-mammals (ungulates) (e.g., elk, horses, burros) to increase flycatcher habitat quality and quantity (76 FR 50578).

The USFS adopted a policy of rangeland adaptive management in 2005. This policy sets limits on the timing, intensity, frequency, and duration of livestock grazing. These limits are analyzed in Environmental Assessments that reflect Allotment Management Plans (AMP). In addition, documents including restocking guidelines and drought policies will be incorporated into adaptive management strategies. Land and resource management plans (RMPs), which included Rangeland Management Programs, for 11 National Forests and National Grasslands in the Southwestern Region were analyzed in a Biological Opinion in 2005. While some LRMPs were found to have an overall positive effect on the flycatcher, others were found to have adverse effects on the 2005 listed PCEs or lethal and sublethal Rangeland Standards and Guidelines. An

overall finding of not likely to jeopardize the flycatcher was made for the LRMPs (Service 2005a).

To minimize effects to the flycatcher, action agencies have excluded grazing from riparian areas during certain seasons to avoid impacting the critical growing season of the vegetation. Exclusion of riparian areas from grazing could result in a reduction in the number of livestock grazing permits, though action agencies do not always exclude grazing during certain seasons and there has never been an adverse modification determination for grazing projects. (Service 2009a).

#### *Consultations Since Previous Designation*

Since 2005, several formal section 7 consultations involving grazing on BLM- and USFS administered Federal land in the Southwest have occurred. These consultations involved grazing allotments on several of the Management Units including the Little Colorado, Pahrangat, Roosevelt, and San Diego units. At least two of these formal consultations have resulted in incidental take statements, but no adverse modification to critical habitat was found.

In 2009 the USFS conducted section 7 consultations for ongoing grazing on three allotments in the Tonto National Forest, along the Salt River, which is part of the 2005 critical habitat designation. The Forest Service's proposed action was to provide grazing opportunities and improve or maintain range and watershed conditions on the three grazing allotments by employing conservative use and deferred or rest-rotation strategies. Management actions of the proposed project included but were not limited to adjustments of timing, intensity, frequency, and duration of grazing. Monitoring was also included in the project design to provide for adaptive management. The Service determined that critical habitat would not be adversely affected because the land management strategies under the proposed action were anticipated to help sustain existing habitat and potentially improve habitat quality and abundance (Service 2009d).

In 2010, BLM conducted a section 7 consultation for the proposed Greenwood community grazing allotment permit renewal, along 3.9 km (2.3 mi.) of critical habitat along the Big Sandy River. The proposed action included renewal of a 10-year grazing permit, construction of range improvements needed to implement the grazing plan, and construction of a five-acre enclosure. 3.9 miles of 2005 critical habitat is located within the project area. The Service determined that renewing the grazing permit would not adversely modify designated southwestern willow flycatcher critical habitat, based on the following: grazing on critical habitat would occur for only four months outside of the breeding, migration, and nesting period of the flycatcher; the number of cattle and season of use would be reduced; range improvement construction would occur outside of riparian habitat; monitoring measures would be implemented; and there would be low restocking rates (Service 2010a).

The USFS and BLM have implemented a variety of land management strategies to improve habitat conservation on rangeland. Several of these measures serve to minimize impacts to the southwestern willow flycatcher and 2005 critical habitat. These measures have included:

- Monitoring seasonal utilization on key forage during the grazing period;
- Optimizing watershed conditions and vegetative ground cover;

- Working with permittees to assist in fixing control features such as fencing;
- Monitoring management approaches and species response including adjusting the timing, intensity, frequency, and duration of grazing to reach resource objectives;
- Implementing a rest-rotation grazing system, emphasizing full season rest in pastures with unsatisfactory riparian conditions;
- Conducting flycatcher surveys at occupied and/or potential flycatcher locations;
- Considering acquisition of lands or interests in lands with at-risk or high resource values or those characteristics that contribute to restoration, healthy watersheds, or other resource goals in the planning area;
- Developing and implementing an interagency inventory and monitoring program for special status plant and animal species;
- Limiting livestock grazing in sensitive areas through terms and conditions and/or season-of-use restrictions on grazing permits in accordance with a site-specific plan;
- Implementing range improvements through a range improvement permit between the permittee and the Service's Partners for Fish and Wildlife Program (PFW); and
- Conducting monitoring every two to four years during livestock use (Service 2008; Service 2010a).

(Service 2009e; Service 2005a; Service 2005b)

According to USFS and BLM staff, range managers can sometimes avoid AUM reductions when grazing restrictions are put in place for flycatcher through changes in grazing management practices. For example, in the Apache-Sitgreaves forest, three flycatcher nesting sites were identified on allotments along the Little Colorado River. Grazing was restricted within a two-mile radius around these sites during the flycatcher breeding season. Due to the small number of acres excluded relative to the entire allotment, USFS range managers were able to alter grazing patterns to avoid these areas during the summer without reducing AUMs. Another example of this type occurred with the exclusion of grazing during the flycatcher breeding season on the Bruton River allotment, administered by New Mexico BLM. Initially this allotment was authorized for 1800 AUMs for 150 head year-round. To avoid reducing AUMs, after the exclusion of grazing during the flycatcher breeding season, BLM increased the number of head authorized during rest of the year from 150 to 198 cows, thereby maintaining an authorization of 1800 AUMs (IEc 2012).

### **3.7.2 Environmental Consequences**

Proposed activities or conservation measures that affect livestock grazing on critical habitat include, but are not limited to, permanent or temporary fencing, rest rotation plans, and seasonal variations in livestock grazing. Actions that would alter the permanence of a breeding site, including soil erosion or siltation, prescribed fires, groundwater pumping, road and bridge construction, and destruction of riparian or wetland vegetation, may also affect critical habitat for the southwestern willow flycatcher thus triggering a section 7 consultation.

#### **3.7.2.1 No Action**

Under the No Action Alternative, southwestern willow flycatcher critical habitat would remain the same as that designated in 2005. The section 7 consultation process would continue as

presently conducted without considerations of the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat.

Section 7 consultations would be initiated when projects “may affect” the southwestern willow flycatcher or adversely modify or destroy 2005 critical habitat. Such consultations would analyze relevant programmatic grazing plans, Livestock Grazing Management Plans, and Livestock Permits on Federal lands currently occupied by the species and the 2005 critical habitat. As they relate to livestock grazing, such consultations would likely include:

- U.S. Bureau of Land Management—Programmatic Livestock Grazing Programs and management plans, and resource management plans; and
- U.S. Forest Service— forest plans, grazing allotment management plans, and livestock grazing and management.

Therefore, the No Action Alternative would not have any impacts on livestock grazing beyond those of any conservation measures or project modifications resulting from the listing of the southwestern flycatcher, designation of the 2005 critical habitat, and associated requirements of section 7 of the ESA.

### **3.7.2.2 Alternative A**

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing designation (these are identified in section 2.3).

Compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in the 14 Management Units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

#### *New and Reinitiated Consultations*

Because impacts to PBFs and PCEs that occur within designated critical habitat stream segments are closely tied to adverse effects to the flycatcher, activities that could trigger consultation for critical habitat are primarily the same activities that currently trigger consultation for the species. Thus, an increase in the number of section 7 consultations would not come from expanding the list of impact-causing activities, but only from the addition of specific geographic areas to the designation.

Because critical habitat was previously designated in 2005 and because of the similarities between the 2005 and 2011 PCEs and PBFs it is not anticipated that projects already evaluated for critical habitat effects would need to re-initiate consultation.

The designation of critical habitat raises awareness of the species presence in an area, and therefore project proponents who have not requested consultations for actions that may affect the species may decide to do so in newly proposed critical habitat.

In addition, Federal agencies permitting livestock grazing on Federal land proposed for critical habitat, where breeding flycatchers are currently not known to occur, may now decide to complete consultation due to designation of critical habitat. Overall, there are 12 river segments proposed as critical habitat in seven different Management Units (totaling about 86 river miles) where flycatcher territories have not been detected. These are listed in Table 2.1. A portion of the Paria River is under consideration for designation as a Wild and Scenic River, but this portion is approximately 1.8km (3 mi.) south of the segment proposed as critical habitat.

Federal lands in these areas are primarily managed by the BLM and could trigger consultation for proposed actions relating to livestock grazing. The additional consultations would increase administrative costs to the Service, the action agencies, and any project proponent involved in the consultation process.

Reinitiated consultations are consultations that have been completed for impacts to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. Since critical habitat was designated in 2005, consultations on grazing projects have occurred for adverse modification in these areas, but have not occurred for new areas being proposed as critical habitat. The streams or portions of streams where the southwestern willow flycatcher has been detected but were not designated as critical habitat in 2005 are listed in section 3.2.2.2 (Land Use). As it relates to livestock grazing, such consultations could include:

- U.S. Bureau of Land Management—programmatic livestock grazing programs and management plans, and resource management plans; and
- U.S. Forest Service— forest plans, grazing allotment management plans, and livestock grazing and management.

#### *Addition of Adverse Modification Analysis to Future Consultations*

The consultation analyses for effects on a listed species and effects on critical habitat are similar in many respects and are parallel processes because the health of a species cannot be disassociated from the health of its habitat. The analyses are distinct, however, in that the standard for determining jeopardy concerns only survival of the species, while the standard for determining adverse modification must also take into account habitat values essential for the recovery of the species. Adverse modification is considered a higher standard of preventing substantial loss of the conservation value of the critical habitat segment to allow for flycatcher recovery goals to be met in a given Management Unit. As a result, there could be some limited instances where a proposed Federal action could result in adverse modification without resulting in jeopardy. This could result in additional or more restrictive conservation measures than those that would be otherwise applied.

The additional consultations, and the additional time required to complete consultations that would only have considered effects on the species, would increase administrative costs to the Service and to the action agencies. Implementing conservation measures resulting from those additional consultations would also increase costs for action agencies. The outcomes cannot be

predicted precisely; however, based on past consultations types of additional management actions that may be required include, but are not limited to, are:

- Implement forest-specific actions from the southwestern willow flycatcher Recovery Plan for grazing management; and
- Implement a monitoring plan to determine when the actual growing season occurs in the grazing area to help limit the overuse of riparian areas by livestock (Service 2005b; Service 2007).

Outcomes of consultations for critical habitat could also include reasonable and prudent alternatives and other conservation measures designed to maintain southwestern willow flycatcher PBFs and PCEs.

Actions that are found not likely to jeopardize the species would in most cases not destroy or adversely modify critical habitat, because of the close relationship between the species and its habitat. However, where there are fewer flycatcher territories within a designated segment, a finding of adverse modification without a finding of jeopardy is possible. This is based on the fact that any substantial reduction in the conservation value of a proposed critical habitat segment in a Management Unit with few or no territories could potentially result in an adverse modification without reaching jeopardy. This would cause an increase in administrative efforts to develop measures to avoid the adverse modification. Because flycatcher recovery goals are established by Management Unit, the Management Units with the fewest territories have an increased possibility of an adverse modification finding where a finding of jeopardy would be unlikely (Salton, Amargosa, San Juan, Powell, Santa Cruz, San Francisco, Hassayampa/Agua Fria, and lower Rio Grande Management Units).

The most prominent possible project modification to livestock grazing that could be sought to avoid adverse modification is to modify grazing operations through fencing, reconfiguration of AUMs, off-site water development, and reducing grazing intensity by restricting season of use and size of grazing herds. The Recovery Plan states that removing stressors, including grazing, would be the easiest and quickest way to improve habitat conditions, though it also states that scientists believe grazing can be managed to be compatible with flycatcher recovery. In addition, Federal agencies have already limited grazing in certain riparian areas –but Biological Opinions conducted on grazing in existing critical habitat have not always led to excluding grazing in these areas (Service 2007; Service 2005b). The BLM and USFS have also tried to avoid reduction in grazing AUMs for private ranchers on Federal land by increasing the number of head during non-flycatcher breeding months, or by changing grazing management schemes to avoid excluded riparian corridors (Service 2005c). Therefore, it is not anticipated that flycatcher conservation activities from designating critical habitat would result in significant further reductions in permitted or authorized AUMs on Federal lands.

Impacts to grazing will result from designation of critical habitat because: (1) additional consultations would be necessary for projects affecting unoccupied areas (the 12 such newly-designated stream segments), leading to conservation measures and potential additional project costs and delays; (2) additional conservation measures may be implemented to avoid adverse modification above those that would be necessary to avoid jeopardy on proposed critical habitat segments only sparsely occupied by flycatcher territories. These would likely be limited to portions of 8 of the 29 Management Units, where such conditions exist; (3) it is unlikely that

consultations would be reinitiated for projects that have previously consulted on critical habitat because of the similarities between the PCEs and PBFs described in the 2011 proposal and the 2005 critical habitat designation; (4) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis in areas occupied by the flycatcher; (5) few projects would be subject to new consultations based solely on the presence of newly designated critical habitat, because 15 of 29 of the proposed units are occupied by the southwestern willow flycatcher and were designated as critical habitat in 2005.

The Service's Economic Analysis estimates that the present value of incremental impacts to grazing activities could range from \$2.2 million to \$3.5 million, assuming a seven percent real discount rate over 20 years, from 2012 through 2031. This figure corresponds to an annualized impact of approximately \$190,000 to \$310,000. These impacts include the costs associated with reductions in grazing allowances and riparian fencing, as well as administrative efforts to consider potential adverse modification of habitat as part of future formal and informal section 7 consultations, and technical assistance, related to grazing allotments in critical habitat areas. Because grazing activities occur in 27 of the 29 critical habitat units, future administrative costs are anticipated in most units (IEc 2012).

Overall, these effects on livestock grazing can be characterized as moderate because:

1. Impacts to livestock grazing are unavoidable in these areas. Although these projects can continue in flycatcher critical habitat, they could trigger project modifications and/or conservation measures.
2. Many project modifications to livestock grazing management will produce permanent adjustments. Grazing may take place outside of the breeding habitat or away from riparian areas. Riparian vegetation may need to be placed along riparian areas after grazing, and monitoring for vegetation for several years may take place.
3. Some of the project modifications, mitigation, and/or conservation measure may take place after the project has been implemented. For example, monitoring of livestock grazing within critical habitat would occur throughout the use of the grazing area.

### **3.7.2.3 Alternative B**

For Alternative B (proposed units minus exclusions), the impacts associated with the designation of critical habitat would be similar to those identified for Alternative A, but lesser overall. The exclusions are primarily non-Federal, tribal, and Federal lands associated with the following: existing Habitat Conservation Plans (HCPs), Safe Harbor Agreements, and other conservation or management plans for the area. These exclusions could reduce the economic impacts of designation on livestock grazing activities in these areas overall, by requiring fewer consultations overall, and by fewer resulting reductions in grazing permits or AUMs. This would reduce administrative costs as well for the Service.

For example, as referenced in section 3.6.2.3, 5.7km (3.5 mi) of Pinal Creek in Roosevelt Management Unit is proposed for exclusion under this Alternative, owing to the Water Quality Assurance Revolving Fund Remedial Action Program required by the Arizona Department of Environmental Quality Consent Order issued in April 1998 along lower Pinal Creek in Gila County, Arizona. In addition to providing a more constant surface water and elevated

groundwater table available to grow riparian plants, activities implemented under this Agreement have limited cattle grazing pressure on vegetation within the Pinal Creek area through fencing and modification of previous grazing strategies. Cattle-grazing is now eliminated during the growing season (April through October).

While exclusions reduce the number of consultations and modifications triggered by section 7 consultations, modifications would still be of sufficient number and permanence to produce moderate impacts, for the reasons given for Alternative A.

### **3.8 Construction/Development—Roads, Bridges, Dams, Infrastructure, Residential**

#### **3.8.1 Existing Conditions**

Construction projects such as roads, dams, ponds, bridges, discharge pipes, stormwater detention basins, dikes, residential units, and levees could cause impacts to southwestern willow flycatcher critical habitat. During delineation of the proposed critical habitat, the Service made efforts to avoid heavily developed areas such as lands covered by buildings, pavement, and other structures because these areas lack the physical and/or biological features needed by the flycatcher. The proposed revision also states that critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located. While the Service tried to avoid these areas, these types of developments are not often found adjacent to rivers within floodplains, and may not be found on recent maps. Additionally, the scale of the maps the Service prepared under the parameters for publication within the Code of Federal Regulations may not reflect the removal of such developed lands. Any such developed lands left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat (76 FR 50597).

The Recovery Plan states that the primary factor contributing to the decline of the flycatcher is the loss and modification of flycatcher breeding habitat. Construction through urban development is one activity that has resulted in the loss and modification of flycatcher habitat in the Southwest (Service 2002).

#### *Consultations Since Previous Designation*

Formal consultations to analyze the effects of construction or maintenance projects on the southwestern willow flycatcher and 2005 critical habitat have previously been conducted by:

- U.S. Army Corps of Engineers (USACE);
- U.S. Forest Service (USFS);
- U.S. International Boundary and Water Commission (USIBC);
- U.S. Air Force (USAF);
- Bureau of Land Management (BLM);
- U.S. Fish & Wildlife Service (intraService consultations);
- U.S. Bureau of Reclamation; and
- Federal Highway Administration (FHWA).

For example, the USIBC addressed the southwestern willow flycatcher for the Morelos Diversion Dam Channel Capacity Restoration Project in 2006. The USIBC incorporated conservation efforts into the project that included:

- Not removing willows and cottonwood trees from certain sites within the proposed project;
- Limiting construction activities to seasons outside of the migration and breeding season of the flycatcher;
- Fencing and signage around sensitive habitat;
- Monitoring construction activities to help develop mitigation measures;
- Use of best management practices (BMPs) to avoid storm water pollution issues and erosion;
- Avoiding sensitive habitats in staging areas; and
- Replacing habitat.

The Service found the project was not likely to jeopardize the continued existence of the flycatcher (Service 2006a).

In 2006 the FHWA addressed the flycatcher in consultation for the proposed replacement of the 8th Avenue Bridge over the Gila River in Safford, Graham County, Arizona. FHWA developed several conservation measures to address the effects to the flycatcher and its habitat. These measures include:

- Avoiding the breeding season during removal of riparian vegetation; and
- Planting cottonwood poles or other vegetation as part of the mitigation under the Section 404 Nationwide Permit that Graham County would obtain (Service 2006b).

The Service concluded that the project was not likely to jeopardize the flycatcher nor was critical habitat in the area likely to be adversely modified or destroyed. This determination was based on the conservation efforts incorporated into the project and the size and duration of the project (Service 2006b).

Also in 2006, the USACE conducted consultation for the Cotton Lane Bridge, Bank Stabilization, and Habitat Modification at the Gila River. The Maricopa County Department of Transportation (MCDOT) had applied for a permit under Section 404 of the Clean Water Act to construct the proposed project. Conservation measures developed by the USACE and MCDOT to address the effects to the flycatcher and its habitat were developed in a mitigation plan and they included:

- On-site habitat enhancement and creation of wetlands in three separate areas;
- Soil tests to determine that soil salinity levels are within levels need by desired vegetation;
- Use of hand or mechanized planting techniques;
- Mimicking natural densities and patterns observed in and around breeding flycatcher sites for restored cottonwood/willow galleries;
- Implementation of flood irrigation in the appropriate season;
- Directing any flood irrigation will be through various canals during the breeding season to help create moist soil conditions;

- Implementation of pre-construction surveys;
- Use of locally obtained pole plantings for cottonwood and willow plantings;
- Monitoring the mitigation site quarterly for five years following completion unless after two years the area meets the 80 percent survivorship requirement; and
- Quarterly monitoring reports to the USACE by the MCDOT.

The Service concluded that the project was not likely to jeopardize the flycatcher and critical habitat would not be adversely modified (Service 2006c).

### **3.8.2 Environmental Consequences**

Construction or development near or next to flycatcher habitat causes both direct and indirect impacts to flycatcher habitat, including alteration of natural river functions; additional stress to riparian areas; removal of suitable habitat through removal of brush and/or other mid-story or shrub-canopy vegetation; increased species mortality from automobiles; introduction and facilitation of the spread of invasive plant species; and increased run-off, waste, and other chemicals (Service 2002). Additionally, residential development in flycatcher habitat can increase the presence of predators such as cowbirds and house cats. Real estate development also increases demand for domestic, commercial, and industrial water use, transportation infrastructure, and recreational opportunities.

Nearly all impacts to residential development activities occur in California management units, with the majority of incremental costs stemming from impacts in the Santa Clara Management Unit, where flycatcher critical habitat has not been previously designated. The majority of all impacts to development activities are due to lost land value due to set-asides of otherwise developable land.

#### **3.8.2.1 No Action**

Under the No Action Alternative, southwestern willow flycatcher critical habitat would remain the same as that designated in 2005. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat.

Section 7 consultations would be initiated when projects “may affect” the southwestern willow flycatcher or adversely modify 2005 critical habitat. As they relate to construction, such consultations would likely include:

- U.S. Bureau of Land Management — land and resource management plans;
- U.S. Bureau of Reclamation –transportation, storage, and delivery of water;
- U.S. Department of Homeland Security – border security infrastructure and operations;
- U.S. Department of Transportation – highway and bridge construction and maintenance;
- U.S. Fish and Wildlife Service – habitat conservation plans, and National Wildlife Refuge planning; and
- U.S. Forest Service — travel-management plans.

Therefore, this alternative would not have any impacts on construction projects beyond those of any conservation measures or project modifications resulting from the listing of the southwestern

flycatcher, designation of the 2005 critical habitat, and associated requirements of section 7 of the ESA.

### **3.8.2.2 Alternative A**

Under Alternative A, additional stream segments have been proposed as critical habitat compared to the existing designation (these are identified in section 2.3).

Compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) completing consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected (post-1991); (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in the 14 Management Units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

#### *New and Reinitiated Consultations*

Because impacts to PBFs and PCEs that occur within designated critical habitat stream segments are closely tied to adverse effects to the flycatcher, activities that could trigger consultation for critical habitat are primarily the same activities that currently trigger consultation for the species. Thus, an increase in the number of section 7 consultations would not come from expanding the list of impact-causing activities, but only from the addition of specific geographic areas to the designation.

Because critical habitat was previously designated in 2005 and because of the similarities between the 2005 and 2011 PCEs and PBFs it is not anticipated that projects already evaluated for critical habitat effects would need to re-initiate consultation.

The designation of critical habitat raises awareness of the species presence in an area, and therefore project proponents who have not requested consultations for actions that may affect the species may decide to do so in newly proposed critical habitat.

In addition, construction projects with a Federal nexus on land proposed for critical habitat in the Powell Management Unit where breeding flycatchers are currently not known to occur could now trigger consultation due to designation of critical habitat. Overall, there are 12 river segments proposed as critical habitat in seven different Management Units (totaling about 86 river miles) where flycatcher territories have not been detected since. These are listed in Table 2.1. Construction projects with a Federal nexus in these areas could now decide to engage in consultation. The additional consultations would increase administrative costs to the Service, the action agencies, and any project proponent involved in the consultation process. Such consultations could also cause delays in construction projects; where construction has a public safety benefit (road or bridge repairs, for example), such delays could lead to public safety risks.

Reinitiated consultations are consultations that have been completed to analyze jeopardy to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. Since critical habitat was designated in 2005,

consultations on construction projects have occurred for adverse modification in these areas, but have not occurred for new areas being proposed as critical habitat. The streams or portions of streams where the southwestern willow flycatcher has been detected but were not designated as critical habitat in 2005 are listed in section 3.2.2.2 (Land Use). As it relates to construction and development, such reinitiated consultations could include:

- U.S. Bureau of Land Management — land and resource management plans, mining permits, and energy development;
- U.S. Bureau of Reclamation — transportation, storage, and delivery of water;
- U.S. Department of Homeland Security — border security infrastructure and operations;
- U.S. Department of Transportation — highway and bridge construction and maintenance;
- U.S. Fish and Wildlife Service — section 10 enhancement of survival permits, habitat conservation plans, safe harbor agreements, and National Wildlife Refuge planning; and
- U.S. Forest Service — travel-management plans.

#### *Addition of Adverse Modification Analysis to Future Consultations*

The consultation analyses for effects on a listed species and effects on critical habitat are similar in many respects and are parallel processes because the health of a species cannot be disassociated from the health of its habitat. The analyses are distinct, however, in that the standard for determining jeopardy concerns only survival of the species, while the standard for determining adverse modification must also take into account habitat values essential for the recovery of the species. Adverse modification is considered a higher standard of preventing substantial loss of the conservation value of the critical habitat segment to allow for flycatcher recovery goals to be met in a given Management Unit. As a result, there could be some limited instances where a proposed Federal action could result in adverse modification without resulting in jeopardy. This could result in additional or more restrictive conservation recommendations than those that would be otherwise applied.

The additional consultations, and the additional time required to complete consultations that would only have considered effects on the species, would increase administrative costs to the Service and to the action agencies. Implementing conservation measures and recommendations resulting from those additional consultations could delay construction projects and would also increase costs for action agencies. Where a construction project has a public safety benefit (road or bridge repairs, for example), such delays could lead to public safety risks. The outcomes cannot be predicted precisely; however, based on past consultations, types of additional management actions that may be required include, but are not limited to, those measures resulting from previous consultations, as identified above.

Actions that are found to not jeopardize the species would in most cases not destroy or adversely modify critical habitat, because of the close relationship between the species and its habitat. However, where there are fewer flycatcher territories within a designated segment, a finding of adverse modification without a jeopardy finding is possible. This is based on the fact that any substantial reduction in the conservation value of a proposed critical habitat segment in a Management Unit with few or no territories could potentially result in an adverse modification without reaching jeopardy. This would cause an increase in administrative efforts to develop measures to avoid the adverse modification. Because flycatcher recovery goals are established by Management Unit, the Management Units with the fewest territories have an increased

possibility of an adverse modification finding where a finding of jeopardy would be unlikely (Salton, Amargosa, San Juan, Powell, Santa Cruz, San Francisco, Hassayampa/Agua Fria, and lower Rio Grande Management Units). In these cases, potential project modifications are similar to project modifications taken to avoid jeopardy to the species and are listed above.

The Service's Economic Analysis projects that:

- Construction projects such as roads, dams, bridges, or other transportation infrastructure could produce incremental impacts ranging from \$5.8 million over 20 years (or \$510,000 on an annualized basis, assuming a seven percent discount rate). This estimate includes the administrative and project modification costs associated with eight road and bridge construction and maintenance projects expected to occur in stream reaches that are not occupied by flycatcher, or areas where flycatcher presence is not well known and not currently addressed. It also includes the cost of administrative effort for 88 informal consultations and two technical assistances that may occur in these areas over the next 20 years. Finally, the total includes the additional, incremental cost of considering adverse modification in 71 formal consultations, 759 informal consultations, and 51 technical assistance calls anticipated in areas that are occupied, and where the species' presence is currently addressed (IEc 2012).
- Residential development could produce incremental impacts of \$810,000 over 20 years. This total impact estimate includes the following project modification costs potentially incurred on the unoccupied Little Tujunga Canyon stream segment: \$37,000 in lost land value due to set-asides of otherwise developable land; conservation efforts associated with the projects at a cost of \$140,000 over 20 year, and regulatory time delay impacts associated with a two-year delay that may occur if the designation triggers review under CEQA, estimated at \$4,100 in present value terms. Future administrative costs associated with this project, and those associated with addressing adverse modification for an additional 37 projects in stream reaches that were previously designated as flycatcher habitat, are also included. Finally additional incremental administrative costs stem from the effort associated with addressing adverse modification for an estimated 344 informal and 104 technical assistances. In total, the estimated incremental administrative costs are \$630,000 in present value terms. On an annualized basis, total incremental impacts are estimated to be \$71,000 (IEc 2012).

Overall, the effects of critical habitat designation on construction projects can be characterized as moderate because:

1. Impacts to some construction projects are unavoidable in these areas. Although these projects can continue in flycatcher critical habitat, they could be subject to project modifications and/or conservation measures.
2. Many project modifications to construction projects will produce permanent adjustments. Additional measures may take place, such as placing riparian vegetation along riparian areas after construction and monitoring vegetation for several years. Construction projects may also require additional funds for conservation activities benefiting the flycatcher.

3. Some conservation measures may take place after the project has been implemented. For example, buying and maintaining lands that offset impacts to the flycatcher would also take place after the project has been implemented.

These impacts result because: (1) additional consultations would be necessary for projects affecting unoccupied areas (the 12 such newly-designated stream segments), leading to conservation measures and potential additional project costs and delays; (2) additional conservation measures may be implemented to avoid adverse modification above those that would be necessary to avoid jeopardy on proposed critical habitat segments only sparsely occupied by flycatcher territories. These would likely be limited to portions of 14 of the 29 Management Units, where such conditions exist; (3) it is unlikely that consultations would be reinitiated for projects that have previously consulted on critical habitat because of the similarities between the PCEs and PBFs described in the 2011 proposal and the 2005 critical habitat designation; (4) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis in areas occupied by the flycatcher; (5) few projects would be subject to new consultations based solely on the presence of newly designated critical habitat, because 15 of the 29 Management Units designated as critical habitat in 2005 are also known to have the occurrence of breeding flycatchers.

### **3.8.2.2 Alternative B**

For Alternative B (proposed units minus exclusions), the impacts associated with the designation of critical habitat would be similar to those identified for Alternative A. The exclusions are primarily private, tribal, and Federal lands associated with existing Habitat Conservation Plans (HCPs), Safe Harbor Agreements, conservation easements, or other conservation or management plans for the area. These exclusions could reduce the economic impacts of designation on construction and development activities in these areas by requiring fewer consultations overall. This would reduce administrative costs as well for the Service. However, modifications would still be of sufficient number and permanence to produce moderate impacts, for the reasons given for Alternative A.

## 3.9 Tribal Trust Resources

### 3.9.1 Existing Conditions

Tribal trust resources are natural resources retained by or reserved for Indian tribes through treaties, statutes, judicial decisions, and executive orders. Indian lands are not Federal public lands or part of the public domain, and thus are not subject to public Federal land laws. Indian tribes manage Indian land in accordance with tribal goals and objectives, within the framework of applicable laws; however, the U.S. is entrusted with Tribal trust resources for the benefit of Indian tribes. Secretarial Order #3206 outlines the responsibilities of the USFWS when actions taken under the authority of the Endangered Species Act may affect Indian lands and tribal trust resources. The agency's responsibilities include ensuring that Indian tribes do not bear a disproportionate burden for the conservation of listed species. In addition, the Secretarial Order provides for the role of Bureau of Indian Affairs (BIA) in the section 7 consultation process: in addition to circumstances where BIA is the agency proposing an action, BIA also has a role to play where another Federal agency is proposing an action that may affect tribal rights or tribal trust resources. In such cases, the Service shall notify the affected tribe(s) and either provide for (where the action agency is another agency of the Department of Interior) or encourage (if the action agency is outside DOI) participation of the BIA in the consultation process.

Under the existing 2005 rule, 537 acres (217 ha) of tribal areas were designated as flycatcher critical habitat, after exclusions were adopted from the 2004 proposal.

Table 3.7 shows the census-based socioeconomic information for affected tribes in 2010.

**Table 3.7 Census Socioeconomic Information for Affected Tribes (2010)**

<i>Area/Tribal Land Area</i>	<i>Population</i>	<i>Unemployment Rate</i> <sup>(1)</sup>	<i>Per Capita Income</i>	<i>Poverty Rate</i> <sup>(2)</sup>
<b>National Level Information</b>				
USA	308,745,538	7.9%	\$27,334	13.8%
<b>State Level Information</b>				
Arizona	6,392,017	7.7%	\$25,680	15.3%
California	37,253,956	9.0%	\$29,188	13.7%
Colorado	5,029,196	6.8%	\$30,151	12.2%
Nevada	2,700,551	9.0%	\$27,589	11.9%
New Mexico	2,059,179	7.2%	\$22,966	18.4%
Utah	2,763,885	5.9%	\$23,139	10.8%
<b>Tribal Level Information</b>				
Barona Reservation, CA	640	13.6%	\$43,396	10.5%
Chemehuevi Reservation, CA	308	13.0%	\$17,001	50.2%
Colorado River Indian Reservation, AZ, CA	8,764	5.1%	\$17,432	26.3%
Fort Mojave Reservation and Off-Reservation Trust Land, AZ, CA, NV	1,477	11.3%	\$21,661	28.6%
Fort Yuma Indian Reservation,	2,197	18.9%	\$9,512	36.6%

<i>Area/Tribal Land Area</i>	<i>Population</i>	<i>Unemployment Rate</i> <sup>(1)</sup>	<i>Per Capita Income</i>	<i>Poverty Rate</i> <sup>(2)</sup>
CA, AZ				
Hualapai Indian Reservation and Off-Reservation Trust Land, AZ	1,335	15.1%	\$12,209	41.2%
La Jolla Reservation, CA	476	13.2%	\$24,167	9.4%
Navajo Nation Reservation and Off-Reservation Trust Land, AZ, NM, UT	173,667	15.6%	\$10,547	37.7%
Ohkay Owingeh, NM	6,309	13.6%	\$18,034	24.3%
Pala Reservation, CA	1,315	6.6%	\$19,549	32.4%
Ramona Village, CA <sup>(3)</sup>	13	NA	NA	NA
Rincon Reservation, CA	1,215	9.7%	\$24,840	20.9%
San Carlos Reservation, AZ	10,068	19.8% <sup>(4)</sup>	\$10,222	46.0%
San Ildefonso Pueblo and Off-Reservation Trust Land, NM	1,752	12.9%	\$26,131	9.0%
Santa Clara Pueblo, NM	2,600 <sup>(5)</sup>	7.4%	\$22,182	22.8%
Santa Ysabel Reservation, CA	330	30.9%	\$14,684	15.0%
Southern Ute Reservation, CO	12,153	5.4%	\$27,714	8.4%
Viejas Reservation, CA	520	8.5%	\$27,158	22.1%
Yavapai-Apache Nation Reservation, AZ	2,290 <sup>(6)</sup>	12.3% <sup>(4)</sup>	\$10,275	42.4%
Zuni Reservation, NM, AZ	7,891	8.8%	\$10,081	37.0%

**Notes:**

- (1) Unemployment rate provided by the Census is the number of unemployed persons, age 16 and over, as a percent of the total civilian labor force.
- (2) Poverty rate represents the percent of individuals whose income in a 12 month period was below the poverty level. Poverty thresholds are the same for all parts of the country, but vary depending on the applicable family size, age of householder, and number of related children under 18. Poverty thresholds are shown at <http://www.census.gov/hhes/www/poverty/data/threshld/>.
- (3) 2010 Census data are not available for the Ramona Reservation, beyond a population estimate of 13.
- (4)
- (5) The Arizona Unemployment Statistics Program reports 2010 unemployment for the tribes as 23.1 percent and 26.8 percent for the Yavapai-Apache and San Carlos Apache, respectively. The San Carlos Apache Tribe has stated that they believe that this estimate is low. A study by the San Carlos Apache Tribe found that the unemployment rate is 76 percent. Letter from Joe Sparks, Sparks, Tehan & Ryley, P.C. re: Request for Information Regarding Possible Designation of Critical Habitat for the Southwestern Willow Flycatcher, dated September 7, 2004.
- (6) Population number provided in comment letter from Santa Clara Pueblo in comment letter dated September 10, 2012.
- (7) Public comment of Susan B. Montgomery, Special Legal Counsel to the Yavapai-Apache Nation, in response to the Proposed Rule for designation of flycatcher critical habitat. October 14, 2011.
- (8)

**Sources:** U.S. Census Bureau, 2010 American Community Surveys.

*Consultations Since Previous Designation*

Since 2005, the total number of tribal activities subject to formal section 7 consultations involving potential effects to the flycatcher is difficult to completely determine because tribal lands may be impacted by projects conducted by other agencies, and typically, other Federal

agencies consult on behalf of tribes. However, at least two linked projects on tribal lands have led to consultations since 2005. Prior to the 2005 designation, there was at least one (1) formal consultation with the Bureau of Indian Affairs.

In 2010, the Federal Highway Administration (FHWA) entered into formal consultation with the Service on improvements proposed by the Arizona Department of Transportation (ADOT) along US Highway 70 on the San Carlos Apache Reservation, at two different locations near where nesting flycatchers were known to occur: the Gila River Bridge and the San Carlos River Bridge. In both locations the action consisted of bridge replacement with associated improvements. As part of each proposed action, ADOT developed conservation measures to avoid or minimize impacts to the flycatcher, and offered to provide funding through an Intergovernmental agreement with the San Carlos Apache Tribe, for flycatcher surveys and development of a site restoration plan. Both consultations resulted in incidental take statements, findings of no jeopardy, and reasonable and prudent measures consisting of reproductive monitoring, documentation of cowbird trapping, and other habitat use and changes (Service 2010b; Service 2010c).

### **3.9.2 Environmental Consequences**

Activities that may affect critical habitat, when carried out, funded, or authorized on tribal lands, should result in consultation for the flycatcher. These activities are described in section 3.1.1.

#### **3.9.2.1 No Action**

Under the No Action Alternative, impacts on Tribal Trust resources within and along riparian corridors containing flycatcher habitat would not change. The section 7 consultation process would continue as presently on the 72,000+ acres of critical habitat located on tribal lands, without the additional tribal currently proposed. The number of potential consultations would continue to be the same as under current conditions. The USFWS would continue to conform to Secretarial Order #3206 through collaboration and communication with tribal sovereignties with all potential consultations.

#### **3.9.2.2 Alternative A**

The proposed designation of critical habitat under Alternative A would include approximately 66,963 acres (27,100 hectares) of tribal lands, or approximately 13 percent of all land proposed for critical habitat designation.

The 14 tribal areas where new critical habitat is proposed—beyond that designated in 2005—are shown in Table 3.8. New PCH on tribal areas spans approximately 66,963 acres (27,100 hectares). Many of these proposed areas were proposed originally in 2004, but then excluded from the final designation, and many are similarly being considered for exclusion in Alternative B. The full table of tribal areas where critical habitat is designated (including existing critical habitat from the 2005 designation) is given in Appendix C.

**Table 3.8 Tribal Areas in Newly Proposed Critical Habitat Segments  
(not designated in 2005)**

<i>Management Unit</i>	<i>Water Body</i>	<i>County</i>	<i>State</i>	<i>Indian Reservation Name</i>	<i>PCH Area within Reservation</i>	
					<i>Acres</i>	<i>Hectares</i>
Parker-Southerly International Boundary	Colorado River	La Paz/San Bernadino / Riverside	AZ/CA	Colorado River Indian Reservation	14,052	5,687
Hoover-Parker	Colorado River	Mohave/ Clark/ San Bernadino	AZ/NV/ CA	Fort Mojave Indian Reservation	6,556	2,653
Parker-Southerly International Boundary	Colorado River	Yuma/ Imperial	AZ/CA	Quechan (Fort Yuma) Indian Reservation	1,400	567
Middle Colorado	Lake Mead - Colorado River	Mohave	AZ	Hualapai Indian Reservation	1,752	709
San Juan	San Juan River	San Juan	NM	Navajo Indian Reservation	525	212
San Juan	San Juan River	San Juan	UT	Navajo Indian Reservation	5,098	2,063
Little Colorado	Zuni River	Cibola	NM	Ramah Navajo Indian Reservation	543	220
Upper Gila	San Carlos Reservoir - Gila River	Pinal	AZ	San Carlos Indian Reservation (Reservoir owned by BIA)	21,845	8,840
San Juan	Los Pinos River	La Plata	CO	Southern Ute Reservation	2,629	1,064
Little Colorado	Zuni River	McKinley	NM	Zuni Indian Reservation	3,571	1,445
Little Colorado	Rio Nutria	McKinley	NM	Zuni Indian Reservation	2,969	1,202
San Diego	San Diego River	San Diego	CA	Capitan Grande Band of Diegueno Mission Indians	204	83
Hoover-Parker	Lake Havasu - Colorado River	San Bernadino/ Mohave	CA/AZ	Chemehuevi Indian Reservation	5,815	2,353
Santa Ana	Bautista Creek	Riverside	CA	Ramona Indian Reservation	4	2
<b>Total</b>					<b>66,963</b>	<b>27,100</b>

Compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) an increased number of additional section 7 consultations for new projects affecting newly designated critical habitat on tribal lands. Additional consultations would be conducted, beyond those that would be conducted without critical habitat designation, because Federal agencies would consult on activities in areas designated as critical habitat that previously they may not have considered to be occupied and/or because of the additional information, guidance, or clarification in the critical habitat revision; and (3) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

The likely effect of increasing the number of section 7 consultations would be the conservation or maintenance of flycatcher PBFs and PCEs. Indirect, potentially adverse impacts that could result from critical habitat designation on Tribal Trust lands would be: (1) increased Federal control and involvement in tribal land management by the tribes and pueblos whose lands would contain designated critical habitat stream segments; and (2) decreased control or ability by the tribes and pueblos to manage their lands for their own benefit.

Activities that currently occur or are anticipated to occur on Tribal lands within designated critical habitat for the flycatcher include, but are not limited to, the following:

- Hunting;
- Cultural uses;
- Development (housing, roads, infrastructure associated with tourism and recreation, utility transmission lines, gas wells and pipelines, etc.);
- Vegetation management (exotic/invasive plant removal and prescribed burns);
- Wildlife conservation activities;
- Wetland/riparian restoration activities;
- Agricultural and water use;
- Livestock grazing; and
- Flood control-related infrastructure and activities;

Additionally, the economies of tribes within the areas proposed as flycatcher critical habitat are poorer than their respective regional economies, making these communities particularly vulnerable to economic impacts associated with increased regulatory burden, where such burden truly exists. Future impacts resulting from flycatcher conservation efforts on tribal lands include administrative costs of section 7 consultations, surveys and monitoring of habitat, development and implementation of flycatcher management plans, modifications to development activities, and potential additional costs in time and money to implement project modifications to restoration activities and water projects.

One concern related to water resources, expressed in public comment by the Gila River Indian Community (GRIC), is whether designating the San Carlos Lake would adversely affect the delivery of water mandated to the GRIC through the operation of the San Carlos Indian Irrigation Project (SCIIP). While the precise impacts of designation of critical habitat are uncertain owing to the variable conditions of rainfall and subsequent water flows in a given year, the presence of

critical habitat in this area could trigger consultation between the Service and the U.S. Bureau of Indian Affairs for SCIIP operations, if such operations have the potential to adversely modify critical habitat. Conservation measures that may be required as a result of that consultation could include those that were recommended in a 2004 Biological Opinion for a water exchange with the Central Arizona Project, requested by the San Carlos Apache Indian tribe. Such measures include: research and monitoring, cowbird trapping, and providing the Service and the Bureau of Indian Affairs with a report at the end of the breeding season that documents flycatcher reproductive success and cowbird trapping activities. Additional conservation measures may include acquiring additional flycatcher habitat as part of a compensatory off-site mitigation strategy. With these measures, it is unlikely that the Service would determine adverse modification to flycatcher critical habitat from SCIIP operations. Therefore it is not anticipated that the Service would require the U.S. Bureau of Indian Affairs to change current SCIIP operations (IEc 2012; Service 2004b).

The Service's Economic Analysis estimates that the incremental economic impacts of critical habitat designation for the flycatcher on activities conducted on tribal lands would be \$770,000 over 20 years (or \$68,000 on an annualized basis, assuming a 7 percent discount rate). All of these costs are administrative in nature (IEc 2012).

### **3.9.2.3 Alternative B**

Alternative B would exclude the following tribal land segments from the final designation of flycatcher critical habitat under section 4(b)(2) of the Act. For a complete discussion of the basis for excluding each area, consult the proposed critical habitat designation (76 FR 50542-50629).

#### *Santa Ana Management Unit*

##### Ramona Band of Cahuilla, California

The Ramona Band of Cahuilla, California, occurs within the Santa Ana Management Unit, California. A proposed essential segment of Bautista Creek occurs on lands managed by the Ramona Band of Cahuilla.

#### *San Diego Management Unit*

##### La Jolla Band of Luiseno Indians

The La Jolla Band of Luiseno Indians has a segment of proposed flycatcher critical habitat along the San Luis Rey River within the San Diego Management Unit, in northern San Diego County, California. The La Jolla Tribe has developed a Southwestern Willow Flycatcher Management Plan (SWFMP).

##### Rincon Band of Luiseno Mission Indians of the Rincon Reservation

The Rincon Band of Luiseno Mission Indians land contains a proposed segment of flycatcher critical habitat along the San Luis Rey River within the San Diego Management Unit, in northern San Diego County, California. The Rincon Band of Luiseno Mission Indians has developed a SWFMP that addresses implementation of a variety of protective flycatcher habitat measures.

##### Pala Band of Luiseno Mission Indians and the Capitan Grande Band of Diegueno Mission Indians of California

The Pala Band of Luiseno Mission Indians and the Capitan Grande Band of Diegueno Mission Indians of California occur within the San Diego Management Unit, San Diego County, California. The Pala Band of Luiseno Mission Indian's Tribal Land occurs along a segment of proposed flycatcher critical habitat on the San Luis Rey River. A proposed essential segment of the San Diego River occurs on the land of the Capitan Grande Band of Diegueno Mission Indians of California (jointly managed by the Barona Group of Capitan Grande Band of Mission Indians and the Viejas [Baron Long] Group of Capitan Grande Band of Mission Indians).

#### *Salton Management Unit*

##### Iipay Nation of Santa Ysabel

The Iipay Nation of Santa Ysabel, California (formerly the Santa Ysabel Band of Diegueno Mission Indians of the Santa Ysabel Reservation), occurs along an essential segment of proposed flycatcher critical habitat on San Felipe Creek in the Salton Management Unit, San Diego County, California.

#### *Little Colorado River Management Unit*

##### Navajo Nation and Zuni Pueblo

The Navajo Nation and Zuni Pueblo contain segments of the Rio Nutria and Zuni River proposed as flycatcher critical habitat in McKinley County, New Mexico. Both river segments occur within the Little Colorado River Management Unit.

#### *Middle Colorado Management Unit*

##### Hualapai Tribe

Hualapai Tribal land contains a proposed flycatcher critical habitat segment of the Colorado River on the south side of the channel in the Middle Colorado Management Unit above Lake Mead in Mohave County, Arizona. The Hualapai Tribe has finalized a SWFMP that was adopted by the Hualapai Tribal Council.

#### *Hoover to Parker Dam Management Unit*

##### Fort Mojave Tribe

Fort Mojave Tribal land contains a proposed Colorado River segment of flycatcher critical habitat in the Hoover to Parker Dam Management Unit above Lake Havasu in Mohave County, Arizona. The Fort Mojave Tribe has finalized a SWFMP. In addition, flycatcher management on Tribal Land may work in conjunction with additional flycatcher management associated with the LCR MSCP.

##### Chemehuevi Tribe

Chemehuevi Tribal land contains a proposed Colorado River segment of flycatcher critical habitat along the west side of the channel in the Hoover to Parker Dam Management Unit adjacent to the Colorado River and Lake Havasu in Mohave County, Arizona. The Chemehuevi Tribe has finalized a SWFMP.

#### *Parker Dam to Southerly International Border Management Unit*

##### Colorado River Indian Tribes (CRIT)

The CRIT contains a proposed Colorado River segment of flycatcher habitat in the Parker Dam to Southerly International Border Management Unit in La Paz County, Arizona. The Colorado River Indian Tribes have finalized a SWFMP.

#### Quechan (Fort Yuma) Indian Tribe

Quechan Tribal land contains a proposed Colorado River segment of flycatcher critical habitat in the Parker Dam to Southerly International Border Management Unit near the City of Yuma in Yuma County, Arizona. The Quechan Tribe has completed a SWFMP.

#### *San Juan Management Unit*

#### Navajo Nation and Southern Ute Tribe

The Navajo Nation contains two different essential segments of the San Juan River in San Juan County, Utah, and San Juan County, New Mexico. Additionally, the Southern Ute Tribe contains an essential segment of the Los Pinos River in La Plata County, Colorado. All three of these river segments occur within the San Juan Management Unit.

#### *Verde Management Unit*

#### Yavapai Apache Nation

The Yavapai Apache Nation contains Verde River segments of proposed flycatcher critical habitat in the Verde Management Unit in Yavapai County, Arizona. The Yavapai Apache Nation has completed a SWFMP, which addresses and presents assurances for flycatcher habitat conservation.

#### *Upper Gila Management Unit*

#### San Carlos Apache Tribe

San Carlos Apache Tribe lands contain proposed flycatcher critical habitat upstream from San Carlos Lake, within the Upper Gila Management Unit in Gila County, Arizona. The San Carlos Apache Tribe has finalized a SWFMP.

#### San Carlos Reservoir (Lake)

The conservation space of San Carlos Reservoir has been withdrawn from the San Carlos Apache Reservation and is owned and operated by BIA. BIA owns the Reservoir land in fee title as the owner and operator of the San Carlos Irrigation Project, up to elevation 2535. The land is not owned in trust for the benefit of the San Carlos Apache Tribe; nor is the land owned in trust for the GRIC (even though the Reservoir is managed for and delivers water for the benefit of the GRIC) (Service 2012).

San Carlos Lake is being considered for exclusion from the final designation of critical habitat because of the significant benefits that would be realized by foregoing designation of critical habitat on this land. These benefits include continuation and strengthening of the Service's effective working relationships with these two tribes to promote conservation of the flycatcher and its habitat, as well as supporting its Tribal trust responsibilities with respect to water delivery and storage.

## *Upper Rio Grande Management Unit*

### San Ildefonso Pueblo

The San Ildefonso Pueblo contains proposed flycatcher habitat along the Rio Grande within the Upper Rio Grande Management Unit in Santa Fe County, New Mexico. The San Ildefonso Pueblo has conducted a variety of voluntary measures, restoration projects, and management actions to conserve the flycatcher and its habitat on their lands. Multiple-use practices of the river and riparian habitat resources are an important component of Tribal activities and culture, and as a result, the Pueblo has taken steps to manage all the components of the riparian habitat.

### Santa Clara Pueblo

The Santa Clara Pueblo contains proposed flycatcher critical habitat along the Rio Grande within the Upper Rio Grande Management Unit in Rio Arriba County, New Mexico. The Santa Clara Pueblo has conducted a variety of voluntary measures, restoration projects, and management actions to conserve the flycatcher and its habitat on their lands. Santa Clara Pueblo made a commitment to develop an integrated resources management plan to address multi-use, enhancement, and management of their natural resources.

### San Juan Pueblo (Ohkay Owingue)

The San Juan Pueblo contains proposed flycatcher critical habitat along the Rio Grande within the Upper Rio Grande Management Unit in Rio Arriba County, New Mexico. The San Juan Pueblo has conducted a variety of voluntary measures, restoration projects, and management actions to conserve the flycatcher and its habitat on their lands.

Designation of critical habitat under Alternative B would decrease the number of re-initiated section 7 consultations on tribal lands and decrease the number of additional section 7 consultations on tribal lands, when compared to Alternative A. The impacts to PCEs would be the same under Alternative B as Alternative A, as exclusion areas would include those areas containing critical habitat stream segments that are managed under Tribal Conservation Plans after completion, review, and implementation of flycatcher-specific management plans. The potential for the indirect adverse impacts described under Alternative A would be lower under Alternative B because of the fewer acres of critical habitat within Tribal Trust lands that are Federally managed. It is important to note that the USFWS policy regarding critical habitat on tribal lands is that natural resources are better managed under tribal authorities, policies, and programs than through Federal regulation.

In summary, the action alternatives would: (1) increase the number of re-initiated ESA section 7 consultations for ongoing projects in newly proposed areas where flycatchers have been detected; (2) increase the number of additional section 7 consultations for proposed projects affecting newly designated critical habitat on tribal lands; (3) maintain southwestern willow flycatcher critical habitat primary constituent elements (PCEs) on tribal lands; (4) increase the likelihood of greater expenditures of time and Federal funds of government agencies to develop measures to prevent both adverse effects and adverse modification to maintain critical habitat on tribal lands; and (5) increase the likelihood of greater expenditure of non-Federal funds by project proponents to complete section 7 consultations and to develop reasonable and prudent alternatives (as a result of adverse modifications) to maintain designated critical habitat.

The USFWS is presently receiving habitat management plans for the conservation of the flycatcher from tribes and pueblos. Based upon the evaluation of the habitat management plans developed by the tribes and pueblos and/or their partnership with the USFWS, tribal lands could be excluded from the final rule. The effects of designating additional exclusion areas on tribal lands would be similar to those described above, but to a greater degree. If agreed upon by the USFWS and tribes within the recovery area, excluding more acres of stream segments from critical habitat designation through tribal and pueblo habitat management and conservation plans would further reduce the numbers of re-initiated section 7 consultations for ongoing projects and new section 7 consultations for new projects and further reduce the potential for adverse economic impacts to tribes described under Alternative A.

### **3.10 Soil and Mineral Resources**

#### **3.10.1 Existing Conditions**

Soils in the areas proposed for flycatcher critical habitat are mostly of alluvial origin, meaning they were formed by sediments deposited by flowing water. The soils are of mixed particle size, ranging from sandy to coarse loamy to fine silt. The critical habitat areas generally have gradual slopes and lie within the floodplain, allowing for fine sediment deposits during floods from the streams within it (USDA 2011; USDA 2006).

Mineral resources that are present within the proposed critical habitat designation are varied across the region, occurring at past, current, or potential mining sites. The most common mineral resource occurrences include sand and gravel, copper, geothermal, gold, silica, and stone (USGS 2005). Mining operations contribute significantly to the economies of all states in which designated flycatcher critical habitat occurs (see the Economic Analysis for specific discussion). Sand and gravel mining operations occur or have occurred in some of the units in all six states containing proposed critical habitat. Copper and geothermal mining operations occur or have occurred in some of the Arizona units. Gold mining has occurred in some of the critical habitat areas in Arizona and Colorado. Silica and stone mining occurs or has occurred in some of the critical habitat areas in Arizona and California (USGS 2005).

#### *Consultations Since Previous Designation*

The Bureau of Land Management (BLM) requested consultation in 2007 for the flycatcher and a number of other species regarding the Arizona Strip Resource Management Plan. The Arizona Strip project included designated flycatcher habitat in the Bill Williams and Virgin Management Units. The resulting Biological Opinion (BO) advised in discretionary conservation recommendations that mineral resource exploration and development adjacent to occupied habitat could disturb the flycatcher from breeding, feeding, and/or sheltering activities. Disturbances could lead to reduced reproductive success, nest abandonment, failure to hatch or fledge young, and/or reduced fitness from loss of foraging efficiency. The Service recommended that the BLM encourage seasonal restrictions (April 1 to September 30) on mining operations within or adjacent to occupied flycatcher breeding habitat (Service 2007).

In the 2005 flycatcher critical habitat rule, degradation of watershed and soil characteristics are described as an example of possible effects of grazing to critical habitat. Flycatcher critical

habitat on the Salt River within the Roosevelt Management Unit lies within the Tonto National Forest. The US Forest Service (USFS) initiated consultation with the Service in 2007 on three grazing allotments in Tonto National Forest. Grazing potentially degrades the soil, therefore would likely cause adverse impacts to flycatcher critical habitat. The USFS attempted to avoid these impacts by including in their proposed action that cattle will not be allowed to graze in potential, suitable, or occupied habitat flycatcher habitat along the Salt River (Service 2009e).

### **3.10.2 Environmental Consequences**

Activities that could occur on or near critical habitat units that affect soil and mineral resources include: groundwater pumping, surface water diversion, river damming and water storage; livestock grazing and management; mining; agriculture; flood control; recreation developments and activities including off-road vehicle use, trail development, campground, and hiking use. The activities involving changes to water flow or availability including groundwater pumping, surface water diversion, river damming and water storage would impact the soils by changing their moisture and nutrient levels which are critical for the development, abundance, distribution, maintenance, and germination of the plants that grow into flycatcher habitat. Specifically regarding the operation of dams, natural levels of salt and other minerals are often artificially elevated in downstream flow and in downstream alluvial soils. At the dam site, the slowing of the water and increased surface area leads to an increase in evaporation of water, leaving the remaining water with higher concentrations salt and other minerals. These changes in soil chemistry can then affect plant community makeup. Dams also trap sediments, causing less sediments to be available for deposition in downstream areas. As described earlier, fine sediments are important to seed germination. Livestock grazing and management, off-road vehicle use, trail development, campground use, and hiking impact soils by compaction leading to decreased water infiltration, increased runoff, prevention of seedling germination, and removal of the fine sediment soil surface which is critical to the flycatcher habitat (Service 2002).

Several mines, primarily located outside of proposed critical habitat, draw surface water or utilize groundwater wells located in the vicinity of critical habitat for industrial purposes. In some areas, mining infrastructure crosses Federal lands in the vicinity of proposed critical habitat, and thus has a potential Federal nexus for section 7 consultation. In addition, mining facilities can require a variety of Federal permits, potentially generating a Federal nexus for consultation.

There are no hydrologic models available that assess the role of any specific mining facility's groundwater pumping or surface water diversions in determining stream flow or other hydrologic conditions within critical habitat. Therefore, because data on the effects of diversions of water for mining activities on the flycatcher and flycatcher habitat are limited, the potential impacts of flycatcher critical habitat on mining activities are difficult to project (IEc 2012).

#### **3.10.2.1 No Action**

Under the No Action Alternative, no changes would be made to the 2005 designation of critical habitat. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat. The number of potential consultations would continue to be the same as under

current conditions and these consultations would also encourage conservation measures that develop, enhance and/or maintain healthy riverine and riparian environments. As they relate to soils and minerals, such actions would likely include:

- U.S. Army Corps of Engineers—Bridge projects, stream restoration, vegetation management, urban development
- U.S. Bureau of Land Management—Fire suppression, land and resource management plans, livestock grazing and management plans, mining permits, renewable energy development
- U.S. Forest Service—Vegetation management, noxious weed treatments, fire-management plans, fire suppression, forest plans, livestock-grazing allotment management plans, mining permits
- U.S. Bureau of Reclamation –Transportation, storage, and delivery of water
- U.S. Department of Homeland Security – Border security operations
- U.S. Department of Transportation – Highway and bridge construction and maintenance
- U.S. Fish and Wildlife Service – Habitat conservation plans, safe harbor agreements, and National Wildlife Refuge planning (Service 2011a)

Consequently, the No Action Alternative would have no impact on soils and mineral resources, beyond those of any conservation measures resulting from the presence of existing critical habitat and associated requirements of section 7 of the ESA.

### **3.10.2.2 Alternative A**

Compared to the No Action Alternative, Alternative A would likely increase the number of section 7 consultations proportionally with the increase in stream miles to the critical habitat designation. The proposed designation under Alternative A is for 2,162 stream miles in 29 management units.

Overall, 51 mine sites fall within proposed critical habitat—24 in AZ, 11, in NM, 6 in CO, 7 in CA, and 3 in UT; more than half of these are sand and gravel operations (IEc 2012). The Arizona Department of Mines and Mineral Resources (ADMMR) reports that these sand and gravel mines are typically small operations that extract streambed material in or near river channels with perennially low water levels. This type of mining activity does not utilize large volumes of surface water. The Service maintains that although sand and gravel operations may disturb habitat over relatively small areas, they are unlikely to pose a major threat to the species. As a result, it is unlikely that sand and gravel mines will face significant constraints on their operations, despite their location within critical habitat.

Only six mine sites within proposed critical habitat are active producer sites. As described in more detail in the Economic Analysis, none of the sites is likely to encounter constraints on operations—particularly, water usage—due to designation of critical habitat (IEc 2012). Proposed stream reaches that are located adjacent to or which provide water to mining operations include the San Francisco, Gila, San Pedro, Big Sandy, and Verde Rivers, and Pinal Creek, all of which are considered to be occupied by the flycatcher. Of these segments, the San Francisco River, Lower Gila River, and Pinal Creek are proposed as critical habitat for the first time.

Some mining operations located outside of critical habitat use water that located within such habitat. The active mining operations that are known to utilize water drawn from proposed critical habitat are the Bagdad mine (Bill Williams MU), Tyrone Mine (Upper Gila MU), and Morenci Mine (San Francisco MU).

Actions in those areas considered to be occupied by the flycatcher would be subject to section 7 consultations even without the additional proposed critical habitat. However there are 12 river segments proposed as critical habitat within 7 different Management Units where flycatcher territories have not been detected since 1991 and therefore have not been the focus of section 7 consultations. These streams are listed in Table 2.1.

The effects of critical habitat designation on soil and mineral resources are expected to be beneficial. While the exact number of projects that may be subject to new or re-initiated consultations are unknown, any projects that do occur in the newly proposed area will be subject to conservation measures developed to reduce and minimize impacts to the PBFs and PCEs. Additional conservation efforts resulting from the increase in section 7 consultations will help reduce and minimize the effects to natural soil and mineral substrates.

Compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in an increased workload for action agencies and the Service to (1) conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) complete consultations for projects occurring along the 12 proposed habitat river segments where flycatcher territories have not been detected; (3) initiate new consultations for projects that did not consult previously because they were unaware of the recovery goals for river segments where territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

#### *New and Reinitiated Consultations*

Actions which could initiate new consultation include the following:

- U.S. Bureau of Land Management—Fire suppression, land and resource management plans, livestock grazing and management plans, mining permits, renewable energy development; and
- U.S. Forest Service—Vegetation management, noxious weed treatments, fire-management plans, fire suppression, forest plans, livestock-grazing allotment management plans, mining permits.

Projects on Federal land or requiring Federal permits along the 12 proposed habitat river segments where flycatcher territories have not been detected could now trigger consultation due to designation of critical habitat. The Paria River in UT is in the Powell Management Unit which currently does not have any critical habitat designated. This area is likely to be the subject of increased consultations. The main landowner in the Powell Unit is the Bureau of Land Management (BLM) so actions involving cattle grazing and recreation on their lands could initiate consultation and affect soil resources in this newly designated Management Unit. The Paria River area also includes sand and gravel deposits which have been mined in the past (USGS 2005). Any new mining activities on BLM land would be subject to section 7 consultation. The additional consultations would increase administrative costs to the Service, the action agencies, and any project proponent involved in the consultation process.

Reinitiated consultations are consultations that have been completed to analyze jeopardy to a listed species, but are re-opened to consider adverse modification to newly designated critical habitat. This would occur in areas where the flycatcher had been detected but which have not been designated as critical habitat. These streams are listed in section 3.2.2.2 (Land Use). The reinitiated consultations would increase administrative costs to the Service, the action agencies, and any project proponent involved in the consultation process. These streams include Federal lands managed by USFS, BLM, and USFWS; therefore, the same actions as mentioned above on these areas could result in reinitiated consultations. In addition, USFWS actions in the Ash Meadows Riparian Areas on the Ash Meadows National Wildlife Refuge could result in reinitiated consultations.

In addition there are certain stream segments that have enlarged critical habit areas, so consultation that has been conducted for one portion of a stream may need to be reinitiated to incorporate the larger critical habitat area. The Tonto National Forest Grazing Plan, as discussed previously, initiated consultation for critical habitat on the Salt River. The Roosevelt Lake critical habitat area that is proposed under Alternative A includes new areas within the Tonto National Forest that were excluded in the 2005 designation; therefore, Alternative A could cause consultation on this plan to be re-initiated.

#### *Addition of Adverse Modification Analysis to Future Consultations*

The consultation analyses for impacts on a listed species and impacts on critical habitat are similar in most respects because the health of a species is strongly linked to the health of its habitat. Where consideration of adverse modification is added to consultations on jeopardy to the species, the additional time required to complete consultations that previously did not have to consider habitat would increase administrative costs to the Service and to the action agencies. Implementing conservation measures resulting from those expanded consultations would also increase costs for action agencies. The outcomes cannot be specified in advance; however, based on past consultations, types of project modifications that may be required include, but are not limited to, are:

- Altering dam operations to more closely mimic the natural hydrograph;
- Reducing or retiring of other water consumptive stressors (such as water diversion or groundwater pumping) to offset impacts;
- Modify grazing operations through fencing, reconfiguration of grazing units, off-site water development, and seasons of use;
- Modify ORV management through fencing, signage, education, areas and timing of use;
- Improve the development of native riparian vegetation through reducing land-and water-management stressors; and
- Retain riparian vegetation. (Service 2011a)

In most cases, actions that are found not likely to jeopardize the species would also be found not likely to destroy or adversely modify critical habitat. However, where there are fewer flycatcher territories within a designated river segment, such a finding is possible. In these cases, potential project modifications would be similar to the above list.

In summary, the effects of critical habitat designation on soils and mineral resources are expected to be beneficial because increased section 7 consultations would likely reduce or

minimize adverse impacts to PBFs, PCEs and designated critical habitat. Adverse impacts would likely be minor, because: (1) few projects would be subject to new consultations based solely on the presence of newly designated critical habitat, because 21 of 29 of the proposed units are occupied by the southwestern willow flycatcher and were designated as critical habitat in 2005; (2) few additional consultations would be necessary for projects affecting unoccupied areas (the 12 such newly-designated stream segments), leading to conservation measures and potential additional project costs and delays; (3) it is unlikely that consultations would be reinitiated for projects that have previously consulted on critical habitat because of the similarities between the PCEs and PBFs described in the 2011 proposal and the 2005 critical habitat designation; (4) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis in areas occupied by the flycatcher; (5) though some additional conservation measures may be implemented to avoid adverse modification above those that would be necessary to avoid jeopardy on proposed critical habitat segments only sparsely occupied by flycatcher territories, this would likely be limited to portions of 8 of the 29 Management Units, where such conditions exist.

### **3.10.2.3 Alternative B**

For Alternative B (proposed units minus exclusions), the impacts associated with the designation of critical habitat would be similar to those identified for Alternative A. The exclusions are primarily private, Federal, and tribal lands associated with existing Habitat Conservation Plans (HCPs), conservation easements, other management plans for the area, and conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. These exclusions could reduce the economic impacts of designation in these areas by requiring fewer consultations overall. This would reduce administrative costs for the Service and the action agencies. For example, the Roosevelt Lake critical habitat, discussed in Alternative A as being expanded, would not be expanded in Alternative B. This is because the area is covered under the Salt River Project Roosevelt HCP. Therefore under Alternative B, the Tonto National Forest Grazing Plan would not require reinitiation of consultation. The areas that are excluded are expected to have protections already in place for the PCEs, which would reduce and minimize effects to soil and mineral resource. The overall impacts on soil and mineral resources would therefore still be characterized as beneficial.

## **3.11 Recreation**

### **3.11.1 Existing Conditions**

Recreational use is concentrated on Federal lands managed by the BLM, Forest Service, NPS, and BOR, as well as state and tribal lands. Water- and land-based recreational activities within the flycatcher recovery area include, but are not limited to, camping, swimming, bicycling, horseback-riding, hiking, sport-fishing, rock climbing, off-highway vehicle (OHV) use, hunting, bird watching, sightseeing, bicycling, river rafting, and personal watercraft use.

Table 3.9 displays recreational areas on public lands (Federal and non-Federal) included in existing critical habitat. All segments are also proposed in the new designation except the Little

Colorado—East Fork. All recreation areas containing existing critical habitat are included in the 2011 proposed designation.

**Table 3.9 Recreational Areas that contain Existing (2005) Critical Habitat**

<i>Critical Habitat Stream Segment</i>	<i>Recreational Area</i>	<i>Federal and/or State landowners</i>
<b>California</b>		
Bear Creek	San Bernardino NF	USFS
Santa Ynez River-Mono Creek	Los Padres NF	USFS
Isabella Lake	Sequoia NF	USFS
Santa Ysabel Creek	Cleveland NF; San Dieguito River Park	USFS; San Diego County
<b>Nevada</b>		
Muddy River	Overton State WMA	BLM; NV Fish & Game Commission
Virgin River	Overton State WMA**	BLM ; NV Fish & Game Commission
<b>Arizona</b>		
Lake Havasu-Bill Williams River	Rawhide Mountains Wilderness**	BLM
Little Colorado – East Fork (not proposed in 2011)	Apache-Sitgreaves NF	USFS
Little Colorado River	Apache-Sitgreaves NF	USFS
San Pedro River		BLM; State of AZ
Verde River	Prescott, Coconino, & Tonto NFs; Tuzigoot National Monument; Dead Horse Ranch State Park	USFS; NPS; Arizona State Parks;
Salt River	Tonto NF	USFS
<b>New Mexico</b>		
Rio Grande	Rio Grande Wild and Scenic River; Leasburg Dam, Percha Dam, and Caballo Lake State Parks, Wild River & Orilla Verded Rec. Areas, La Jolla and Bernalillo Waterfowl Management Areas	FWS; BLM, BOR; NM Dept of Game & Fish;
Rio Grande del Rancho	Carson National Forest	USFS
Elephant Butte Reservoir (full pool) – Rio Grande		NM Energy, Minerals, and Natural Resources Department, BLM

Riparian areas receive disproportionately high recreational use in the arid Southwest because of the shade, water, and/or aesthetic value(s). Riparian areas near urban areas receive even greater use than those in more remote locales. Increasing human populations, coupled with the attraction of limited riparian areas in the Southwest for recreation, make flycatcher habitat

vulnerable to this activity. Table 3.10 displays the population growth from 2000 to 2010 in the six-state study area; and projected population growth for 2030.

**Table 3.10 Past and Projected Population Growth in States with Proposed Critical Habitat, 2000-2030**

<i>State</i>	<i>2000</i>	<i>2010</i>	<i>2030 Projections Population</i>	<i>Percent Change, 2000-2010</i>	<i>Projected Percent Change, 2000-2030</i>
Arizona	5,130,632	6,392,017	10,712,397	24.5	108.7
California	33,871,648	37,253,956	46,444,861	9.98	37.1
Colorado	4,301,261	5,029,196	5,792,357	16.9	34.6
Nevada	1,998,257	2,700,551	4,282,102	35.1	114.3
New Mexico	1,819,046	2,059,179	2,099,708	13.2	15.4
Utah	2,233,169	2,763,885	3,485,367	23.7	54.8
<b>Total</b>	<b>49,354,013</b>	<b>56,198,784</b>	<b>72,789,792</b>	<b>13.8</b>	<b>47.4</b>

Source: U.S. Census Bureau, 2000, 2005, and 2010.

Table 3.11 illustrates recreational visitor use for 2000 through 2010 in national parks with both existing and proposed critical habitats. While population increases often correspond with increased demand of access to public lands for recreational purposes, the trend does not apply here: the populations of Arizona and Nevada grew fastest from 2000-2010 compared to the other four states in the study area; however Grand Canyon National Park, Tuzigoot National Monument, and Tumácori National Historic Park in Arizona all experienced a decrease in annual visits from 2000-2010. Similarly, Lake Mead National Recreation Area in Nevada also experienced a decrease during this same ten-year interval. While annual visits to National Parks in the flycatcher critical habitat decreased slightly overall, annual visits did increase at Mesa Verde National Park in Colorado.

Below-average water levels in lakes and reservoirs could reduce the number or limit the projected number of boaters and water-based tourism. Statistical analysis of tourism at Lake Powell on the Colorado River suggests that for every 1 percent drop in reservoir levels, visits fall by 5 percent. If numbers are comparable for other reservoirs in the Southwest, such as Lake Mead (NV) or Elephant Butte (NM), dry conditions would magnify decreases in tourism and economic impacts on local communities (Ponnalaru 2005).

**Table 3.11 Annual Visits to National Park Lands Located in Existing and Proposed Critical Habitat, 2000-2010.**

<i>National Park</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>Percent Change, 2000-2005</i>	<i>Percent Change, 2005-2010</i>	<i>Percent Change, 2000-2010</i>
<b>Arizona</b>						
Grand Canyon NP	4,460,228	4,401,522	4,388,386	-1.3	-1.4	-1.61
Tuzigoot NM	113,525	108,262	103,274	-4.6	-4.6	-9.0
Tumacácori NHP (newly proposed)	53,706	44,022	39,866	-18.0	-9.4	-25.7
Lake Mead NRA	8,755,005	7,692,438	7,080,758	-12.1	-7.9	-19.1
<b>Colorado</b>						
Mesa Verde NP	452,287	498,333	559,712	10.1	12.3	23.7
<b>Total</b>	<b>13,834,751</b>	<b>12,744,577</b>	<b>12,171,996</b>	<b>-0.1</b>	<b>0</b>	<b>-0.1</b>

Source: NPS 2011c.

The National Visitor Use Monitoring (NVUM) program provides science-based estimates of the volume and characteristics of recreation visitation to the National Forest System. A National Forest Visit is defined as the entry of one person upon a national forest to participate in recreation activities for an unspecified period of time. The most recent annual visitation data is presented in the Table 3.12 below.

**Table 3.12 Annual National Forest Visitation Estimates in Existing Critical Habitat**

<i>National Forest</i>	<i>National Forest Visits</i>
Gila (2005)	360,000
Cleveland (2009)	480,000
Tonto (2008)	4,801,000
Prescott (2007)	1,187,000
Rio Grande (2005)	613,000
Carson (2008)	901,000
Coronado (2007)	2,453,000
Angeles (2006)	3,181,000
Sequoia (2006)	686,000
Apache-Sitgreaves (2007)	1,521,000
Los Padres (2009)	924,000

<i>National Forest</i>	<i>National Forest Visits</i>
San Bernardino (2009)	2,443,000
<b>Total</b>	<b>18,363,000</b>

Source: USFS 2005-2009.

Table 3.13 displays annual use for all BLM-administered recreation lands in each of the six states in which critical habitat has been designated. Visitor use increased from 2000-2010 on BLM-administered lands in all states except Utah, where the number of visitor days decreased by 31 percent. However, from 2005-2010 the number of visitor days decreased in California, Nevada, New Mexico, and Utah. The number of visitor days did not change from 2005 to 2010 for the six states combined. This visitor data suggests that recreational use has intensified on public lands in the Southwest, but has plateaued since 2005.

**Table 3.13 Annual Use of Recreational Sites on BLM-administered Public Lands in Each State, in Visitor Days<sup>1</sup>, 2000–2010**

<i>State</i>	<i>2000</i>	<i>2005</i>	<i>2010</i>	<i>Percent Change, 2000-2005</i>	<i>Percent Change, 2005-2010</i>	<i>Percent Change, 2000-2010</i>
Arizona	1,076,000	13,958,000	14,204,000	11.9	1.7	<b>12.2</b>
California	10,610,000	17,246,000	17,181,000	62.5	-.37	<b>61.9</b>
Colorado	3,206,000	4,776,000	6,139,000	48.9	28.5	<b>91.4</b>
Nevada	4,110,000	5,560,000	4,571,000	35.2	-17.7	<b>11.2</b>
New Mexico	1,667,000	1,997,000	1,825,000	19.7	-8.6	<b>9.4</b>
Utah	7,812,000	5,757,000	5,363,000	-26.3	-6.8	<b>-31.3</b>
<b>Total</b>	<b>28,481,000</b>	<b>49,294,000</b>	<b>49,283,000</b>	<b>73.0</b>	<b>0.00</b>	<b>73.0</b>

Source: BLM 2000-2010.

<sup>1</sup>One Visitor Day represents an aggregate of twelve visitor hours to a site or an area.

Past impacts on recreational opportunities within the recovery area resulting from flycatcher conservation actions include: potential periodic inundation of the South Fork Wildlife Area (SFWA; less than 1,100 acres inundated upstream from Isabella Lake) by Isabella Lake and a prohibition on overnight camping and motorized vehicle travel in the SFWA in the Kern Management Unit, and closures within the Tonto National Forest that limit vehicle use and fires on both the Salt River and on Theodore Roosevelt Lake at the Tonto Creek end (Roosevelt Management Unit).

#### *Consultations Since Previous Designation*

During 1994–2004, section 7 formal consultations involving recreation activities on effects to the flycatcher have occurred for two actions, involving the NPS at Lake Mead NRA in Arizona/Nevada and the USACE in Los Angeles, California. An incidental take of the subspecies was anticipated at Lake Mead, with harm and loss of greater than 5% of occupied/suitable habitat due to harassment of breeding and migrating birds by recreationists.

Since the 2005 designation, there have been at least four formal consultations on recreation-related actions involving effects to the flycatcher. Two of the formal consultations were with the Forest Service, and the other two were with BLM.

In 2007 BLM requested consultation for the Arizona Strip Resource Management Plan in the Hoover-to-Parker Management Unit in Arizona, including the Lake Mead NRA on the Colorado River which is part of the proposed 2011 critical habitat. The Service issued a Biological Opinion (BO) stating that the proposed recreation (and vegetation) management plans would result in the failure of one nesting attempt every three years due to habitat loss and disturbance (Service 2007c). Specifically, noise and disturbance from OHVs creating or using undesignated routes in or near flycatcher habitat may disrupt breeding activities.

As such, the BO included the following reasonable and prudent measures and terms and conditions as necessary and appropriate to minimize take of SWWF due to recreational activities: BLM will rehabilitate all undesignated routes used by OHVs within riparian areas, or areas with the potential to support SWWF breeding habitat. This can include obliterating the beginnings and ends of undesignated routes so that the routes are not accessible or visible to the public. Conservation recommendations for the flycatcher and its habitat include:

- Continue to assist Lake Mead National Recreation Area other BLM offices in Utah, Nevada, and California in the development of regional planning efforts to implement the recovery plan; and in the integration of those plans with the Arizona Strip RMP.
- Develop environmental education and information materials on the flycatcher and other riparian species and make these materials available to the public at the ASDO office in St. George, Utah.

In 2008, the Service conducted an intra-Service section 7 consultation for the issuance of an incidental take permit associated with operations of Horseshoe and Bartlett dams and reservoirs by Salt River Project. The intra-Service Biological and Conference Opinion stated that the proposed modified operations are not likely to result in adverse modification of the flycatcher's designated critical habitat at Horseshoe Reservoir and upstream in the Verde Valley. While increased recreation and river use may cause short-term, adverse impacts to flycatcher nesting; noise and disturbance would be comparatively lower at Horseshoe since the use of waterskis, parasails, and personal watercraft is prohibited (Service 2008b).

The intra-Service Biological and Conference Opinion did not add to the mitigation and conservation measures included in the 2008 Habitat Conservation Plan, which is consistent with the flycatcher Recovery Plan by increasing the amount of protected habitat and the level of management of riparian habitat available for use by flycatchers over current levels in central Arizona. Mitigation measures include improving recreation plans and acquiring and managing at least 50 acres of riparian habitat along the Verde River adjacent to the Camp Verde Riparian Preserve, if possible. Additionally, a combination of fencing, patrolling, and community coordination/education will be applied in the SRP's management approach to minimize impacts from recreational use of the Verde River, including erecting and maintaining fences to protect the riparian corridor.

The 2005 Programmatic Biological and Conference Opinion concluded that Apache-Sitgreaves, Tonto, Carson, and Gila LRMPs would not likely to jeopardize the flycatcher because they provide protective measure for endangered species. For example, the Tonto NF cooperates with

the Salt River Project to implement mitigations from the Salt River Project Habitat Conservation Plan and conducts numerous annual boating trips down the Verde River in order to survey for flycatchers. Conservation recommendations with regards to recreational use include continuing to exclude activities such as OHVs that can impact flycatcher habitat (Service 2005h).

According to the Biological Assessment, inconsistent management of OHV in the region has caused resource damage in popular and remote dispersed areas across the region. Pursuant the 2005 Travel Management Rule (36 CFR 212, Subpart B, Designation of Roads, Trails, and Areas for Motor Vehicle Use), the National Forests in Arizona are currently developing an Environmental Impact Statement (EIS) which will establish a consistent plan for OHV use on the National Forests (USFS 2005). Apache-Sitgreaves, Carson, Gila, and Tonto, contain critical habitat and are at varying stages of the NEPA process.

As stated in the 2010 DEIS for Public Motorized Travel Management Plan on the Apache-Sitgreaves National Forest, the 2005 Biological Opinion determined that implementation of any proposed alternative in the DEIS would be consistent with the regionwide Biological Opinion (USFS 2010). Management directives for outdoor recreation included:

- Manage the recreation resource to provide opportunities for a wide variety of developed and dispersed recreation opportunities. Provide for developed site and dispersed visitor use;
- Maintain a variety of trails, considering people's needs. Includes foot, motorized, and challenge adventure opportunities, as well as opportunities for the handicapped.;
- Continue to integrate the recreation opportunity spectrum (ROS) system into the forests planning process to quantify recreation opportunity changes, guide forest management, and coordinate recreation with other resources; and
- Establish ORV use areas and closures as needed to meet demand and other resource objectives. Manage ORV use to provide ORV opportunities while protecting resources and minimizing conflicts with other users (USFS 2010).

### **3.11.2 Environmental Consequences**

Federal recreational management activities subject to formal section 7 consultations on several recreational sites could cause both adverse and beneficial effects to the flycatcher. Activities including land and resource, transportation, and recreational management and planning could cause beneficial impacts, while trail development and camping could cause adverse impacts.

Recreational management activities would produce short-term, adverse impacts to flycatchers and their habitat from riparian habitat disturbance, potential loss of breeding sites, harassment, and noise. However, implementation of these same management activities is expected to produce long-term beneficial impacts by reducing the potential impacts and risks of critical habitat loss.

#### **3.11.2.1 No Action**

Under the No Action Alternative, southwestern willow flycatcher critical habitat would remain the same as that designated in 2005. The number and types of potential consultations would

continue as expected, still incorporating mitigation and conservation measures and management approaches with regards to recreational activities.

Section 7 consultations would continue to analyze relevant travel, land, resource, recreation management plans on Federal, state, and tribal lands previously designated as flycatcher critical habitat. As they relate to recreation and management, such consultations would likely include:

- U.S. Bureau of Land Management -- resource management plans;
- U.S. Bureau of Reclamation -- transportation, storage, and delivery of water affecting recreational water bodies;
- U.S. Fish and Wildlife Service -- issuance of section 10 enhancement of survival permits, HCPs, and safe harbor agreements; National Wildlife Refuge planning; and
- U.S. Forest Service -- forest plans, travel management plan.

The largest share of these impacts would continue to occur in San Bernardino, Tonto, and Sequoia National Forests where past closures have resulted in a decrease in recreational use.

Therefore, the No Action Alternative would not result in any additional or expanded consultations and, as such, would not have any incremental impacts on recreational management beyond those impacts that currently occur from the 2005 critical habitat designations for the flycatcher and associated requirements of section 7 of the ESA.

### 3.11.2.2 Alternative A

Under Alternative A, additional stream segments in California, Nevada, Utah, Colorado, Arizona, and New Mexico have been proposed as critical habitat compared to the existing designation, as discussed in Section 2.3 and in further detail in the proposed rule.

Table 3.14 below displays new critical habitat segments (not included in the 2005 designation) located in recreational areas.

**Table 3.14 New Critical Habitat Segments in Federal or State Recreational Areas**

<i>New Critical Habitat Stream Segment</i>	<i>Recreational Area</i>	<i>Federal and/or State landowners</i>
<b>California</b>		
Canebrake Creek	Canebrake Ecological Reserve Resource Management Area	CA Dept. of Game & Fish
Owens River	Lower Owens River Conservation Area; Bishop Resource Management Area	L.A. Dept. of Water & Power, Inyo County; BLM
Mono Creek	Los Padres NF	USFS
Amargosa River	Kingston Range Wilderness; State Lands Commission	BLM; CA
Lake Piru-Piru Creek	Los Padres NF	USFS
Colorado River	Cibola NWR; Picacho State Recreation Area;	FWS; CA, BLM;

<i>New Critical Habitat Stream Segment</i>	<i>Recreational Area</i>	<i>Federal and/or State landowners</i>
	Colorado River Resource Mgmt. Area*	
Imperial Reservoir – Colorado River	Imperial NWR Resource Mgmt. Area	FWS, BLM
San Diego River	Mission Trails Regional Park	San Diego County;
Bautista Creek	San Bernardino NF	USFS; State;
San Gabriel River	Angeles NF	USFS
Santa Clara River	Angeles NF; McGrath State Beach	BLM ; CA
<b>Nevada</b>		
Pahranagat River	Pahranagat NWR; Key Pittman Wildlife Mgmt. Area	FWS; Nevada Department of Wildlife, BLM
Frenchy Lake – Pahranagat River	Key Pittman Wildlife Mgmt. Area	Nevada Department of Wildlife
Nesbit Lake – Pahranagat River	Key Pittman Wildlife Mgmt. Area	Nevada Department of Wildlife
Ash Meadows NWR Water Features	Ash Meadows NWR	FWS
Carson Slough	Ash Meadows NWR	FWS
<b>Arizona</b>		
Colorado River	Cibola, Havasu, Imperial NWR; Picacho State Recreation Area; Buckskin Mountain State Park	FWS; State of AZ; BLM; BOR;
Lake Havasu – Colorado River	Bill Williams NWR; Lake Havasu State Park Cattail Cove State Park	FWS ; State of AZ ; BLM
Lake Mead-Colorado River	Grand Canyon NP; Lake Mead National Recreation Area	NPS
Roosevelt Lake – Salt River	Tonto NF	USFS, USBR
Roosevelt Lake – Tonto Creek	Tonto NF	USFS, USBR
Cienega Creek	Las Cienegas National Conservation Area	BLM
Empire Gulch	Las Cienegas National Conservation Area	BLM
San Francisco River – North	Apache-Sitgreaves NF	USFS
San Francisco River – West	Apache-Sitgreaves NF	USFS
<b>Utah</b>		
Paria River	Grand Staircase-Escalante National Monument	BLM
<b>New Mexico</b>		
San Francisco River – East	Gila NF	USFS
Rio Grande	Sevilleta & Bosque del Apache NWR; Rio Grande Wild and Scenic	FWS, BLM, BOR NM Game & Fish

<i>New Critical Habitat Stream Segment</i>	<i>Recreational Area</i>	<i>Federal and/or State landowners</i>
	River; Leasburg Dam, Percha Dam, Caballa Lake State Parks, Wild River & Orilla Verded Rec. Areas, La Jolla and Bernalillo Waterfowl Management Areas	
Elephant Butte Reservoir (full pool) – Rio Grande	Elephant Butte Lake State Park	NM Energy, Minerals, and Natural Resources Department, BLM
<b>Colorado</b>		
Rio Grande	Alamosa NWR; Rio Grande and Home Lake WMAs; Rio Grande River Corridor ACEC	FWS; CO Division of Wildlife;  BLM

Compared to the No Action Alternative, Alternative A (all proposed units, no exclusions) would result in (1) an increased workload for action agencies and the Service to conduct re-initiated consultations for ongoing actions in newly proposed areas where flycatchers have been detected; (2) consultations for new projects occurring along the 12 proposed stream segments where flycatcher territories have not yet been detected since 1991; (3) new consultations from project proponents that previously did not consult due to a lack of awareness of the recovery goals for some river segments in the management units where southwestern flycatcher territories are known; and (4) possible project modifications to avoid adverse modification of critical habitat in areas where a significant alteration of habitat is proposed.

On Federal lands, or non-Federal lands where a Federal nexus exists through funding or permitting, additional Section 7 consultations could lead to additional limitations, restrictions, modifications, or prohibitions in recreational areas. However, the quality of many recreational values—for example, in bird watching, hiking, and sightseeing--would be preserved and potentially enhanced with conservation, mitigation, and management measures. Based on past impacts to recreational opportunities within the flycatcher recovery area, additional critical habitat designations could potentially create minor adverse impacts from limitations and restrictions on camping, horseback riding, and OHV use.

*New and Reinitiated Adverse Modification Consultations*

Because impacts to PBFs and PCEs that occur within designated critical habitat stream segments are closely tied to adverse effects to the flycatcher, activities that would require consultation for critical habitat are primarily the same activities that currently require consultation for the species. Designation of critical habitat raises awareness of the species presence in an area, so project proponents who have not requested consultations for actions in previously designated areas that may affect the species may decide to do so. Based on previous activity in designated units, such project proponents would include the Forest Service, Bureau of Land Management, and National Park Service, although the specific locations of these types of projects in critical habitat are not known at this time.

Reinitiated consultations are consultations that have been completed for impacts to the species, but which might need to be re-opened to consider the likelihood of destruction or adverse modification to critical habitat. As it relates to recreation management, such consultations could include:

- Travel, Forest, and Land and Resource Management Plans —USFS, NPS, USFWS; and
- General Management Plans—NPS, USFWS.

All 12 of the National Forests located in the 2005 designation would also be included in the 2011 proposed designation, though additional stream segments may cross different or additional ranger districts within a National Forest. Travel management plans on the Carson National Forest, for example, are analyzed by ranger district or groups of ranger districts and therefore additional consultations may be needed. Because of the similarities between the flycatcher habitat described in the 2011 proposal and the 2005 critical habitat designation, the Service believes that projects already evaluated for critical habitat effects would not require re-initiated consultation.

Critical habitat is proposed in twelve river segments where flycatcher territories have not been detected post-1991 (76 FR 50560-50561). Any future proposed action with a Federal nexus could trigger section 7 consultation. These stream segments are listed in Table 2.1. Deep, Castaic, and Willow creeks, Big and Little Tujunga canyons, Ventura and West Fork Mohave rivers, and the West Fork Little Colorado and Santa Cruz rivers are privately owned or unclassified. Any future proposed projects with a Federal nexus would trigger evaluation for the flycatcher, but since little is known about recreational activities on these creeks and river segments it is difficult to evaluate potential impacts.

According to the 2008 Water Quality Monitoring Report, Temescal Creek meets the California state non-contact recreation standard, meaning boating is allowed but swimming is not (FOTC 2008). Current recreational activities include walking and biking, with a total of 34 recreationists over a 1-year survey period. The Riverside County Parks and Open Space District indicates there are no immediate plans to construct bicycle paths (separate from traffic) along Temescal Creek due to a lack of funding; and no water contact recreation use facilities are planned for the creek. Finally, an online database search concluded no potential probable future recreational uses. While Temescal Creek would be subject to new consultations, they are unlikely due to low levels of recreational use (CDM 2009).

#### *Addition of Adverse Modification Analysis to Future Consultations*

Breeding flycatchers are known to occur in critical habitat proposed at Paria River, which runs through the Grand Staircase-Escalante National Monument. As such, the Bureau of Land Management could engage in consultations on the flycatcher and critical habitat for future plans related to recreational activities that could impact the designated Paria River segment, such as hiking, backpacking, camping, horseback riding, and OHV use at the Grand Staircase-Escalante National Monument. In addition, while the flycatcher has not been known to occur specifically at Mono Creek in Los Padres National Forest, it has been known to occur in Los Padres National Forest. Thus, this National Forest has already been subject to section 7, but might also enter into adverse modification consultations due to the designation of Mono Creek as critical habitat.

The flycatcher is known to occur on seven proposed river segments in eight National Wildlife Refuges (Cibola, Pahranaagat, Bill Williams, Imperial, Havasu, Sevilleta, Bosque del Apache, and Alamosa were excluded from the 2005 designation since their CCPs, MSCPs, and/or management plans were deemed sufficient for habitat conservation). OHV use is prohibited at Pahranaagat, Ash Meadows, and Havasu NWRs, and permitted on designated trails and roads in Cibola, Imperial, and Alamosa NWRs. Waterskiing is allowed on the Colorado River in the Cibola NWR. Vehicles are allowed on the auto tour route at the Bosque del Apache NWR, but this route is closed during the winter. While the majority of the Sevilleta NWR is not open to the public, those parts that are open allow OHV use. Cibola, Imperial, Alamosa, Bosque del Apache, and Sevilleta would be the most likely to enter into consultations on critical habitat, because they allow OHV use, especially Bosque del Apache, which is in the process of developing a CCP for the Refuge.

BLM's 2010 San Luis Resource Area Travel Management Plan limited OHV use to designated roads and trails on the Rio Grande River Corridor, which includes the Rio Grande River Corridor ACEC (BLM 2010). BLM could enter into adverse modification consultations for future recreation-related projects at or near this proposed Rio Grande river segment.

The additional consultations and time to also consider adverse modification would increase administrative costs to the Service and to the action agencies. Implementing further conservation measures resulting from those additional consultations, such as enforcing newly prohibited use of OHV or re-designating roads/trails, would also increase costs for action agencies.

Outcomes of consultations for critical habitat include additional conservation measures designed to maintain flycatcher PCEs. While these outcomes cannot be specified in advance, based on past consultations the types of additional management actions that may be required include:

- Revising travel, forest, land and resource, general, and recreational management plans;
- Mapping, surveying, and monitoring flycatcher habitat and preparing reports; and
- Retaining riparian vegetation.

Future incremental impacts associated with changes in recreational activity are expected to be confined to areas where flycatcher territories have not previously been detected. Those proposed streams include the Castaic Creek, Big and Little Tujunga Canyon (Angeles National Forest), Ventura River, and Paria River (Grand Staircase Escalante-National Monument) that may be used for recreation. However, recreational activities in these areas are generally limited therefore no incremental economic impacts to recreation are forecast (IEc 2012).

In summary, the effects of critical habitat designation on recreational management activities are expected to be minor and adverse because (1) few projects would be subject to new consultations based solely on the presence of designated critical habitat (2) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis; and (3) very few if any additional conservation measures would be proposed to address critical habitat, beyond those already proposed in jeopardy consultations. In addition, conservation measures developed by the project proponent or resulting from increased section 7 consultations could benefit the PBFs and PCEs within designated critical habitat.

### 3.11.2.3 Alternative B

Alternative B includes all the segments identified in Alternative A except those lands proposed for exclusion as detailed in the proposed rule. Table 3.15 displays stream segments recommended for exclusion, and the recreation areas they contain:

**Table 3.15 Recreation Areas on Public Lands within Areas Recommended for Exclusion**

<b>Stream segments considered for exclusion</b>	<b>Recreation Area</b>
Owens River	Lower Owens River Conservation Area, Bishop Resource Management Area
Bautista Creek	San Bernardino NF
Santa Ysabel Creek (lower)	Cleveland NF; San Dieguito River Park
South Fork Kern River South Fork Kern River – Isabella Lake	South Fork Kern River Wildlife Area; Sequoia NF
Virgin River	Overton State WMA
Colorado River (Lake Mead)	Grand Canyon NP; Lake Mead NRA
Pahranagat River	Key Pittman Wildlife Mgmt. Area
Muddy River	Overton WMA
Bill Williams River - Alamo Lake	Bill Williams NWR
Colorado River—two segments	Cibola, Havasu, Imperial NWRs; Picacho State Recreation Area; Buckskin State Park
Verde River—Horseshoe Lake	Tonto NFs
Gila River – San Carlos Lake	Apache-Sitgreaves NF
Roosevelt Lake – Tonto Creek; Roosevelt Lake – Salt River	Tonto NF
Rio Grande (NM)	Elephant Butte Reservoir
Rio Grande (CO)	Alamosa NWR; Rio Grande and Home Lake WMAs; Rio Grande River Corridor ACEC

Under Alternative B, the impacts associated with the designation of critical habitat would be similar to those identified for Alternative A, but less severe. This alternative would reduce costs for management related to recreational activities. Exclusions are meant to avoid redundancy and therefore increase efficiency, by reducing the number of consultations required. This alternative would still be expected to produce similar beneficial impacts to recreational management activities as Alternative A, since the excluded areas provide conservation benefit to recreational

values. Adverse impacts, though reduced in Alternative B, would still be characterized as minor, since some incremental restrictions and limitations on recreational activities could still occur.

### 3.12 Socioeconomic Resources

As discussed above in section 3.1.2 Methodology, a separate analysis was conducted by Industrial Economics Incorporated to assess the potential economic effects of measures to protect flycatcher and its habitat in the proposed critical habitat areas (IEc 2012). The Economic Analysis attempts to quantify separately the dollar impacts of conservation activities related to the flycatcher, assuming both the presence of (called “incremental impacts”) and the absence of (called “baseline impacts”) a designation of critical habitat. This basis of comparison is different from that used in the Environmental Assessment, in which the basis for comparison is required by regulation to include a “No Action Alternative” and the other action alternative(s). In the case of the flycatcher, the No Action Alternative is defined as the alternative that would be implemented if the Service did not implement either of the proposed revisions. That course of action would lead to continuation of the existing circumstance--the 2005 designation.

Where appropriate, information from the economic analysis has been incorporated into this Environmental Assessment, and is summarized in this section. Note, however, that the dollar impacts summarized herein address those impacts that are attributable, directly or indirectly, to the designation of all critical habitat, not just the proposed changes from 2005 to 2011. This means that the economic impacts cited here and throughout this EA overstate the impacts that would result from instead comparing the proposed revisions to the No Action Alternative—the 2005 designation.

#### 3.12.1 Existing Conditions

Table 3.16 summarizes the population and income levels of counties containing proposed critical habitat. Arizona has the highest proportion of its population living within counties containing designated flycatcher critical habitat (96%); Colorado has the lowest (1.8%).

**Table 3.16 Socioeconomic Profile of Counties Containing Proposed Critical Habitat**

<i>State</i>	<i>County</i>	<i>Population Density (persons/sq. mile, 2010)</i>	<i>Population (2010)</i>	<i>% of Statewide Population (2010)</i>	<i>% Change (2000-2010)</i>	<i>Per Capita Income (2010 dollars)</i>	<i>% Below Poverty Level (2006-2010)</i>
<b>Arizona</b>	<b>State Total</b>	<b>56.3</b>	<b>6,392,017</b>	<b>100%</b>	<b>24.6%</b>	<b>25,680</b>	15.3%
	Yavapai	26.0	211,033	3.3	26.0	25,527	13.7
	Graham	8.0	37,220	0.58	11.1	15,644	20.0
	Gila	11.2	53,597	.84	4.4	12,294	34.4
	Pima	106.7	980,263	15.3	16.2	25,093	16.4
	Santa Cruz	38.3	47,420	.74	23.6	16,209	25.2
	Cochise	21.3	131,346	2.1	11.5	23,010	15.7
	Greenlee	4.6	8,437	.13	-1.3	21,281	13.5
	Apache	6.4	71,518	1.1	3.0	12,294	34.4
	La Paz	4.6	20,489	.32	3.9	21,165	20.3

	Maricopa	414.9	3,827,371	59.9	24.2	27,816	13.9
	Mohave	15.0	200,186	3.1	29.1	21,523	16.1
	Pinal	70.0	375,770	5.9	24.6	21,716	13.5
	Yuma	35.5	195,751	3.0	22.3	18,418	20.9
Aggregate of Counties			6,160,401	96.3%			15.6%
<b>New Mexico</b>	<b>State Total</b>	<b>17.0</b>	<b>2,059,179</b>	<b>100%</b>	<b>13.2</b>	<b>\$22,966</b>	<b>18.4%</b>
	Catron	0.5	3,725	0.2	5.1	\$20,895	15.3
	Cibola	6.0	27,213	1.3	6.3	\$14,712	24.0
	Dona Ana	55.0	209,233	10.1	19.8	\$18,315	24.5
	Sierra	2.9	11,988	0.6	-9.7	\$16,667	22.5
	Grant	7.4	29,514	1.4	-4.8	\$21,164	14.8
	Hidalgo	1.4	4,894	0.2	-17.5	\$17,451	22.6
	McKinley	13.1	71,492	3.5	13.2	\$12,932	33.4
	Mora	2.5	4,881	0.2	-5.8	\$22,035	11.9
	Rio Arriba	6.9	40,246	2.0	-2.3	\$19,913	19.7
	San Juan	23.6	130,044	6.3	23.6	\$20,725	20.8
	Santa Fe	75.5	144,170	7.0	13.2	\$32,188	14.4
	Sierra	2.9	11,988	0.6	-9.7	\$16,667	22.5
	Socorro	2.7	17,866	0.9	-1.2	\$17,801	26.8
	Taos	15.0	32,937	1.6	9.9	\$22,145	17.0
	Valencia	71.8	76,569	3.7	15.7	\$19,955	19.4
Aggregate of Counties			816,760	39.7%		n/a	21.3%
<b>Colorado</b>	<b>State Total</b>	<b>48.5</b>	<b>5,029,196</b>	<b>100%</b>	<b>16.9%</b>	<b>\$30,151</b>	<b>12.2%</b>
	Alamosa	21.4	15,445	0.3	3.2	\$18,820	24.0
	Conejos	6.4	8,256	0.2	-1.7	\$17,541	17.7
	Costilla	2.9	3,524	0.0	-3.8	\$16,525	28.4
	La Plata	30.3	51,334	1.0	16.8	\$29,836	10.2
	Rio Grande	13.1	11,982	0.2	-3.5%	\$17,199	17.1
Aggregate of Counties			90,541	1.8		n/a	14.9
<b>California</b>	<b>State Total</b>	<b>239.1</b>	<b>37,253,956</b>	<b>100%</b>	<b>9.98%</b>	<b>\$29,188</b>	<b>13.7%</b>
	Imperial	41.8	174,528	0.5	22.6	\$16,395	21.4
	Inyo	1.8	18,546	.0.0	3.3	\$26,762	11.9
	Kern	103.3	839,631	2.3	26.9	\$20,10	20.6
	Los Angeles	239.1	9,818,605	26.4	3.1	\$27,344	15.7
	Mono	4.7	14,202	0.0	10.5	\$27,321	12.0
	Orange	3,807.7	3,010,232	8.0	5.8	\$34,017	10.1
	Riverside	303.8	2,189,641	5.8	41.7	\$24,431	13.4
	Santa Barbara	155.0	423,895	1.1	6.1	\$29,731	14.3
	San Bernardino	101.5	2,035,210	5.5	19.1	\$21,867	14.8
	San Diego	735.8	3,095,313	8.3	10.0	\$30,715	12.3
	Ventura	446.7	823,318	2.2	9.3	\$32,348	9.2%
Aggregate of Counties			22,443,121	60.2%		n/a	14.1%
<b>Nevada</b>	<b>State Total</b>	<b>24.6</b>	<b>2,700,551</b>	<b>100%</b>	<b>35.1%</b>	<b>\$27,589</b>	<b>11.9%</b>
	Clark	247.3	1,951,269	72.3	41.8	\$27,422	11.7
	Lincoln	0.5	5,345	0.2	28.3	\$18,148	10.6
	Nye	2.4	43,946	1.6	35.3	\$22,687	18.9
Aggregate of Counties			2,000,560	74.1%		n/a	21.3%
<b>Utah</b>	<b>State Total</b>	<b>33.6</b>	<b>2,763,885</b>	<b>100%</b>	<b>23.7%</b>	<b>\$23,139</b>	<b>10.8%</b>
	Kane	1.8	7,125	0.3	17.8	\$25,155	9.9
	San Juan	1.9	14,746	5.3	2.3	\$15,150	25.8
	Washington	56.9	138,115	4.9	52.9	\$21,378	11.3

Aggregate of Counties		159,986	5.8%		n/a	12.6%
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Source: U.S. Census Bureau State & County QuickFacts, 2010.

Table 3.17 summarizes the size of economic sectors within counties containing proposed critical habitat, by payroll dollars. Key sectors within each state's proposed habitat are in **bold**.

**Table 3.17 Annual Payroll within Counties Containing Proposed Critical Habitat, by Industry (2009)**

Industry	Annual Payroll (Thousands)					
	Arizona	California	New Mexico	Utah	Colorado	Nevada
Forestry, Fishing, Hunting, & Agriculture	\$27,348	\$279,836	\$7,418	\$103	\$12,565	-
Mining	\$316,687	\$1,018,043	\$279,710	\$4,653	\$40,017	\$16,756
Utilities	\$785,423	\$78,909	\$16,295	D	\$10,705	D
Construction	\$5,809,470	\$18,708,728	<b>\$497,367</b>	\$112,994	<b>\$93,943</b>	<b>\$3,443,468</b>
Manufacturing	<b>\$7,487,768</b>	<b>\$41,420,055</b>	\$201,128	\$77,922	\$27,851	\$943,378
Wholesale Trade	\$5,096,975	<b>\$29,501,790</b>	\$239,615	\$59,024	\$42,575	\$1,161,842
Retail Trade	<b>\$7,047,002</b>	\$24,210,802	<b>\$863,482</b>	<b>\$177,730</b>	<b>\$123,845</b>	<b>\$2,483,946</b>
Transportation & Warehousing	\$2,962,602	\$11,365,099	\$157,305	\$97,308	\$19,693	\$1,062,535
Information	\$2,939,252	\$22,702,070	\$102,852	\$23,130	\$18,151	\$609,189
Finance and Insurance	<b>\$7,055,462</b>	<b>\$27,378,115</b>	\$336,644	\$49,461	\$62,675	\$1,425,970
Real Estate	\$1,544,061	\$9,098,433	\$112,491	\$18,872	\$16,656	\$905,232
Professional, scientific, & technical services	<b>\$6,898,176</b>	<b>\$46,100,200</b>	<b>\$480,635</b>	\$70,018	\$72,969	<b>\$2,280,400</b>
Management of companies/ enterprises	\$2,911,727	\$13,367,038	\$112,700	-	-	\$905,232
Administrative & Support & Waste Management & Remediation	\$5,654,322	\$17,135,879	\$164,077	\$62,325	\$34,705	\$1,592,175
Educational Services	\$1,779,928	\$6,806,385	\$114,767	\$7,830	\$4,212	\$223,769
Health Care and Social Assistance	<b>\$13,206,275</b>	<b>\$45,547,323</b>	<b>\$1,462,533</b>	<b>\$265,875</b>	<b>\$180,142</b>	<b>\$3,188,385</b>
Arts, entertainment, and recreation	\$1,309,733	\$9,693,032	\$91,713	\$12,003	\$9,427	\$565,076
Accommodation and food services	\$2,481,448	\$14,259,423	\$462,060	\$94,829	\$83,258	<b>\$6,782,426</b>
Other services	\$2,032,360	\$8,955,641	\$216,917	\$40,670	\$26,683	\$597,538
<b>Total for all</b>	<b>\$79,258,632</b>	<b>\$349,885,917</b>	<b>\$6,335,036</b>	<b>\$1,210,555</b>	<b>\$924,040</b>	<b>\$28,667,531</b>

<i>Industry</i>	<i>Annual Payroll (Thousands)</i>					
	<i>Arizona</i>	<i>California</i>	<i>New Mexico</i>	<i>Utah</i>	<i>Colorado</i>	<i>Nevada</i>
<b>sectors</b>						

Source: U.S. Census Bureau, 2009 County Business Patterns (NAICS)

D: Withheld to avoid disclosing data for individual companies. Data are included in higher level totals

### **3.12.2 Environmental Consequences**

#### **3.12.2.1 No Action**

Under the No Action Alternative, no changes would be made to the 2005 designation of critical habitat. The section 7 consultation process would continue as presently conducted without the additional 38 percent increase in Management Units and 44 percent increase in stream miles of critical habitat. The number of potential consultations would be expected to remain the same as under current conditions and these consultations would also encourage conservation measures that enhance and maintain healthy and native riparian ecosystems. Consultations with potential socioeconomic impacts would be conducted primarily on lands managed by USFS and BLM, or for permits issued by those agencies, Bureau of Reclamation, the U.S. Army Corps of Engineers, and FWS. As it relates to activities with potential socioeconomic consequences, these would include consultations for:

- Mining permits;
- Energy development;
- Water Resources development;
- Recreation Planning (sportfish management and travel management activities);
- Habitat restoration—stream restoration, vegetation management;
- Grazing and livestock management; and
- Construction/development activities—transportation, infrastructure, residential.

Consultations for these activities would likely continue with similar frequency under the No Action Alternative. The outcomes of these consultations can include conservation measures that serve to limit the natural resource impacts, as described elsewhere throughout this document. These conservation measures may include specific modifications to water resource management, construction practices, or resource development activities, which may increase operational and/or administrative costs to action agencies or private parties applying for permits. These impacts of the No Action Alternative would continue to be minor, based on the consultation history for typical actions.

#### **3.12.2.2 Alternative A**

The likely effect of increasing the number of section 7 consultations would be conservation or maintenance of flycatcher PBFs and PCEs by limiting, restricting, or modifying proposed economic activities affecting critical habitat, because “may affect” determinations for proposed activities analyzed through the section 7 process could require reasonable and prudent alternatives, and would include conservation measures to conserved designated critical habitat. Direct impacts of designation on socioeconomic resources could include impacts to small entities

from making project modifications or implementing conservation measures on projects subject to new, re-initiated, or expanded section 7 consultations, and the incremental costs of such consultations to the Service, Federal agencies, or project proponents.

Indirect impacts faced by project proponents, land managers and landowners could include the following:

- *Time Delays*--Both public and private entities may experience incremental time delays for projects and other activities due to requirements associated with the need to reinitiate the section 7 consultation process and/or compliance with other laws triggered by the designation. To the extent that delays result from the designation, they are considered indirect, incremental impacts of the designation.
- *Regulatory Uncertainty* --The Service conducts each section 7 consultation on a case-by-case basis and issues a biological opinion on formal consultations based on species- and site-specific information. As a result, government agencies and affiliated private parties who consult with the Service under section 7 may face uncertainty concerning whether project modifications will be recommended by the Service and what the nature of these modifications will be. This uncertainty may diminish as consultations are completed and additional information becomes available on the effects of critical habitat on specific activities. Where information suggests that this type of regulatory uncertainty stemming from the designation may affect a project or economic behavior, associated impacts are considered indirect, incremental impacts of the designation.
- *Stigma*--In some cases, the public may perceive that critical habitat designation may result in limitations on private property uses above and beyond those associated with anticipated project modifications and regulatory uncertainty described above. Public attitudes about the limits or restrictions that critical habitat may impose can cause real economic effects to property owners, regardless of whether such limits are actually imposed. All else equal, a property that is designated as critical habitat may have a lower market value than an identical property that is not within the boundaries of critical habitat due to perceived limitations or restrictions. As the public becomes aware of the true regulatory burden imposed by critical habitat, the impact of the designation on property markets may decrease. To the extent that potential stigma effects on markets are probable and identifiable, these impacts are considered indirect, incremental impacts of the designation.

Table 3.18 summarizes the potential economic impacts of the proposed designation by category of activity (IEc 2012). The present value of potential economic impacts (using a 7% discount rate) ranges from \$11 million to \$19 million over the 20-year time period, equal to an annual impact of \$0.92M to \$1.7M. This potential impact represents a maximum of 0.5% of the combined Gross Domestic Product for the six states of \$2.73 trillion (BEA, 2010).

**Table 3.18 Total Potential Economic Impacts of Proposed Critical Habitat Designation**

<i>Activity</i>	<i>Present Value</i>		<i>Percentage of total impacts</i>	
	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>

<i>Activity</i>	<i>Present Value</i>		<i>Percentage of total impacts</i>	
	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
Water*	\$1,450,000	\$9,620,000	13.3%	47.11%
Transportation (Roads, Dams, Bridges)	\$5,800,000	\$5,800,000	53.26%	28.39%
Development (Residential)	\$807,000	\$807,000	7.41%	3.95%
Grazing	\$2,160,000	\$3,530,000	19.83%	17.26%
Tribal	\$770,000	\$770,000	7.0%	3.75%
Recreation	\$0	\$0	0.0%	0.0%
<b>Total</b>	<b>\$11,000,000</b>	<b>\$20,000,000</b>	<b>100%</b>	<b>100%</b>
<p>* Impacts to water management activities represent present value impacts over a thirty-year period (2012-2041). All other impacts are calculated over a twenty-year period (2012-2031).  <b>Note:</b> Totals may not sum due to rounding.</p>				

This impact of at most 0.0007% of combined state GDPs can be considered minor overall, though individual proponents or affected entities could experience project-specific impacts that could be considered moderate but not significant, as shown in Table 3.19.

In addition to potentially adverse economic impacts, the Economic Analysis identifies potential economic benefits to critical habitat designation, which could derive from:

- *Improved water quality*--Implementation of a storm water pollution prevention plan and sedimentation controls may reduce adverse impacts to downstream water quality. Improved water quality may reduce water treatment costs and have human or ecological health benefits.
- *Decreased development in flood prone areas*--Flycatcher conservation efforts may lead to less development in flood prone areas resulting in some benefit to society.
- *Property value benefits*--Open space preservation or decreased density of development resulting from flycatcher conservation may increase adjacent or nearby property values.
- *Aesthetic benefits*--Social welfare gains may be associated with enhanced aesthetic quality of the habitat. Preferences for aesthetic improvements may be measured through increased willingness-to-pay to visit a habitat region for recreation or increased visitation.
- *Educational benefits*--Surveying and monitoring of project sites for the flycatcher confers educational benefits in that more is known about the species and where populations exist. This knowledge could help direct future conservation efforts.
- *Public safety benefits*--Imposing or enforcing speed limits for water craft in areas near flycatcher habitat may result in a reduction in boating accidents resulting in injuries or property damage. (IEc 2012).

Because no consensus exists in the economic literature on precisely how these benefits can be quantified in monetary terms, they are described but not estimated in the Economic Analysis (IEc 2012).

### *Impacts to Small Entities*

The Economic Analysis includes an analysis of the distributional impacts of the proposed critical designation on small entities and the energy industry. Table 3.19 (next page) presents the results of the threshold analysis developed to support the Service's determination regarding whether the proposed rule will have a significant economic impact on a substantial number of small entities, as required by the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA). This analysis is intended to improve the Service's understanding of the potential effects of the proposed rule on small entities and to identify opportunities to minimize these impacts in the final rulemaking.

The most significant costs on a per entity basis arise from the implementation of conservation activities, such as surveying, purchasing mitigation lands, preserving land on-site, and managing the habitat. Small entities also may participate in section 7 consultation as a third party (the primary consulting parties being the Service and the Federal action agency). It is therefore possible that the small entities may spend additional time considering critical habitat during section 7 consultation for the flycatcher. Additional incremental costs of consultation that would be borne by the Federal action agency and the Service are not relevant to this screening analysis as these entities (Federal agencies) are not small. Refer to the Economic Analysis for a full discussion of the assumptions and results of the study.

#### **3.12.2.3 Alternative B**

Under Alternative B, the impacts to economic efficiency and distribution from critical habitat designation would be similar to but lesser than Alternative A, as designation of critical habitat under this alternative would decrease the number of re-initiated and new section 7 consultations. Alternative B would exclude, exempt, or remove approximately 1,464 km (910 mi) from critical habitat designation. Compared to Alternative A, Alternative B would probably have fewer adverse economic impacts because it could achieve flycatcher subspecies conservation goals, including conservation or maintenance of critical habitat PCEs within exclusion areas through management of HCPs, without increasing the number of re-initiated and new section 7 consultations. Reducing the number of section 7 consultations would reduce the indirect adverse economic impacts associated with the costs to complete those consultations.

**TABLE 3.19 Impacts on Small Entities**

<i>ACTIVITY</i>	<i>Type of impacts</i>	<i>Affected small entities<sup>1</sup></i>	<i>Total present value impacts<sup>2</sup></i>	<i>Present value impacts excluding federal costs<sup>3</sup></i>	<i>Annual incremental impacts<sup>4</sup></i>
<i>[A]</i>	<i>[B]</i>	<i>[C]</i>	<i>[D]</i>	<i>[E]</i>	<i>[F]</i>
<b>Water Management</b>	Project modification and admin. costs	Luna Irrigation Co.	\$29,000 to \$94,000	\$12,000 to \$77,000	\$93,000
<b>Grazing</b>	Project modification and admin. costs	3	\$1.4 to \$2.8 million	\$34,000 to \$61,000	
	Admin. costs only	29	\$720,000	\$160,000	
<b>Development</b>	Land value loss and admin. costs	1	\$300,000	\$200,000	
	Admin. costs only	65	\$510,000	\$120,000	
<b>Oil and Gas</b>	Admin. Costs only	7	\$11,000	\$2,200	

**Notes:**

1. See Column [C] of Exhibit A-2.
2. As estimated in Chapters 3 through 5.
3. This estimate excludes the additional incremental costs of consultation that would be borne by the Federal agencies; these entities (Federal agencies) are not small.
4. Present value impacts as presented in Column [E] are annualized over twenty years for grazing and development activities. Land value losses for development are not annualized because these losses are a one-time loss.
5. Revenue information is not available for the two water projects; therefore we assume their annual revenue of \$7 million. For grazing, average revenues were developed using the USDA, National Agricultural Statistics Service, National Agricultural Statistics Service, Volume 1, Chapter 2: County Level Data, Table 1. County Summary Highlights: 2007 and Table 11. County Summary Highlights: 2002. For development, weighted average annual revenues are estimated using Risk Management Associates, *Ratio Benchmarks 2010 to 2011*, 2010. Revenue levels are discussed in greater detail in the text of this report. All values are rounded.

2 Source: Industrial Economics, 2012.

3 **Table 3.20 Percent Minority and Poverty Populations within Counties**

<i>State</i>	<i>State Black or African American (%)</i>	<i>Blacks or African Americans in Counties with proposed Critical Habitat (%)</i>	<i>State American Indian and Alaska Native (%)</i>	<i>American Indian and Alaska Natives in Counties with Proposed Critical Habitat (%)</i>	<i>State Asians (%)</i>	<i>Asians in Counties with Proposed Critical Habitat (%)</i>	<i>State Native Hawaiian and Other Pacific Islander (%)</i>	<i>Native Hawaiian and Other Pacific Islander in Counties with Proposed Critical Habitat (%)</i>
<b>AZ</b>	4.1	4.2	4.6	3.0	2.8	2.5	0.2	6.7
<b>CA</b>	6.2	6.5	1.0	0.9	13.0	11.6	0.4	0.3
<b>CO</b>	4.0	0.6	1.1	4.1	2.8	.6	0.1	0.1

### **3.13 Environmental Justice**

As required by Executive Order 12898, an agency action must be evaluated to determine if any disproportionately high and adverse health or environmental effects would occur on minority or low-income populations from implementation of the Proposed Action or alternatives.

#### **3.13.1 Existing Conditions**

Table 3.20 (previous page) displays the minority and poverty level populations in counties with proposed critical habitat, in comparison to their state levels overall. All six states have slightly higher poverty rates within the aggregated counties containing designated critical habitat than the state average overall. This is most pronounced in Nevada.

In addition, five of the six states (all but Utah) have higher than average proportions of Hispanic residents.

#### **3.13.2 Environmental Consequences**

Wherever a Federal agency action may have particular consequences for socioeconomic resources or human health and safety, a potential for environmental justice impact could exist. As it relates to environmental justice impacts, such actions could involve consultations on:

- Mining permits;
- Energy development;
- Water Resources development;
- Recreation Planning (sportfish management and travel management activities);
- Habitat restoration—stream restoration, vegetation management;
- Grazing and livestock management; and
- Construction/development activities—transportation, infrastructure, residential.

Any environmental justice impacts of such actions would be localized in nature and could be addressed by the action agency more effectively at the site-specific level. The potential for differential and disproportionate impacts to minority populations or low-income populations would increase in those areas where proposed actions are located near individual residential communities in which populations of concern for environmental justice effects are found in greater numbers. Given the low human populations in designated riparian habitats, and the fact that the Service has specifically chosen to avoid designation in developed areas, there would likely be few instances where disproportionate natural resource impacts could be created.

However, the potential for economic impacts that disproportionately effect low income or minority communities exists for the types of activities listed above, to the extent that there are employment and payroll impacts of reductions on economic activity, and those impacts are concentrated in the minority or low income communities. Since no specific projects are mandated or authorized by this designation of critical habitat, and the designation does not directly restrict land use or land management activities, it is not possible to predict whether such impacts will in fact occur. However, it is likely that any such impacts would be at most minor, in the context of the entire designation, because: (1) the economic impacts associated with

individual projects or actions would be relatively small; and (2) there would be only a small number of projects throughout the designation which would create such impacts.

## **3.14 Oil and Gas Development**

### **3.14.1 Existing Conditions**

The oil and gas industry contributes significantly to the economies of San Juan County, Utah, and La Plata County, Colorado.

The proposed area of critical habitat in San Juan County consists of an approximately 8,200-acre unit along the San Juan River. Of this area, 62 percent is owned by the Navajo Nation, about 27 percent by the Federal government (managed by BLM), and another 10 percent by private landowners. The San Juan River unit is located over the Paradox Basin, which is a significant exploration area for oil, with some prior exploration for natural gas (IEc 2012). Mineral rights to the primary operating oil field are owned by the Navajo Nation. There are 11 existing wells in the areas of proposed critical habitat on the San Juan River. Of these wells, five are on the Navajo Reservation and six are on Federal land managed by BLM. The wells were drilled from 1960 to 2002 (a test well that resulted in no production). Currently, five of these wells are abandoned, five are plugged and abandoned, and one is a water injection well. No oil has been recovered from these wells since 1999 (IEc 2012). In addition, multiple petroleum, natural gas, and CO<sub>2</sub> pipelines run through the southwestern portion of San Juan County. Three of these converge near the easternmost portion of the proposed critical habitat.

The proposed area of critical habitat in La Plata County, Colorado, consists of an approximately 4,080-acre unit on the Los Pinos River, which is located in the San Juan Basin, the second largest natural gas reserve in the United States (IEc 2012). Sixty-four percent of this area of critical habitat is owned by the Southern Ute; the rest is privately owned. In comments on the Service's proposed designation, the La Plata County Energy Council noted that the County contains more than 3,300 active natural gas wells, many of which are located along the Los Pinos River (La Plata 2011). Currently, seven drilled wells fall within critical habitat on the Los Pinos River; three of these are producing, one is dry and abandoned, and three are shut-in.

#### *Consultations Since Previous Designation*

The only previous flycatcher consultations concerning energy development have been jeopardy consultations, occurring in 1998 and 2000. Both concerned pipeline maintenance and construction actions, and both resulted in a determination of "no jeopardy" to the species.

Federal and tribal land managers on whose land oil and gas development has occurred have a range of protections in place that serve to avoid or minimize impacts to the flycatcher. BLM's Resource Management Plan (RMP) for the Monticello Field Office includes the following stipulations for oil and gas activities occurring in flycatcher habitat (BLM 2008):

- Surveys would be required prior to operations unless species occupancy and distribution information is complete and available;
- Activities require monitoring throughout the duration of the project;

- Water production would be managed to ensure maintenance or enhancement of riparian habitat;
- Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat;
- Activities would maintain a 300-ft buffer from suitable riparian habitat year-round
- Activity within 0.25 miles of occupied breeding habitat would not occur during the breeding season (May 1 to August 15);
- Ensure that water extraction or disposal practices do not result in change of hydrologic regime that would result in loss or degradation of riparian habitat; and
- Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent land.

The Service's Biological Opinion for this RMP included the following recommended conservation measures that apply to oil and gas activities (Service 2008g):

- Minimize noise disturbance near suitable and potentially suitable flycatcher habitat, including discouraging the use of loud equipment near breeding locations;
- Restore or maintain perennial surface flows and shallow groundwater in suitable flycatcher habitats and areas targeted for restoration of suitable habitat;
- Avoid habitat altering activities in riparian areas; and
- Unavoidable disturbances of riparian habitats suitable for flycatchers will be restored (pre-disturbance conditions or better) to provide adequate habitat for the species.

In addition, the tribal landowners have adopted conservation measures to protect the flycatcher:

- Navajo Nation Department of Fish and Wildlife maintains a Navajo Endangered Species List, which lists the flycatcher as Endangered (“a species or subspecies whose prospects of survival or recruitment are in jeopardy”) (NNHP 2012). Its species “account” suggests that conservation actions include surveying during breeding season, year-round avoidance or alteration of suitable habitat surrounding known breeding sites, and avoidance of activity within a quarter-mile radius of potential habitat during the breeding season.
- The Southern Ute tribe generally avoids drilling in riparian areas. In 2009, the BLM conducted a “Programmatic Environmental Assessment (PEA) for 80-acre Infill Oil & Gas Development” for the Tribe, for which they consulted with the Service. The PEA contains conservation measures for flycatcher and its habitat. According to the PEA, the Tribe conducts annual surveys on the Reservation, and as of 2007, identified six breeding territories on the Los Pinos River. The PEA contains a number of species-specific conservation measures, best management practices, and other protections for riparian areas similar to those identified above.

### **3.14.2 Environmental Consequences**

Initial geophysical exploration for oil and gas involves use of All-Terrain Vehicles (ATVs) and vehicles to lay the geophones and rill the shot holes for charges, or “thumpers” to create the sound waves. Exploration for oil and coal bed natural gas may also include drilling more than

one well. Surface disturbance during the exploration phase of drilling includes the construction of roads, well pads, reserve pits, and other facilities.

Development of oil and gas fields includes construction pads, storage tanks, storage tank batteries, oil and gas processing facilities and necessary pipeline, compressor engines and power line rights-of-way. Methods to dispose of residual water from oil and gas production include subsurface re-injection, direct surface discharge, and discharge into a containment pond or pit. Chemically polluted water may be treated before surface discharge or may be reinjected.

The associated noise and visual disturbances from such development could affect the behavior of flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or removal could decrease the availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. Soil disturbances could increase erosion, adversely affect soil stability, and increase sediment deposits. Pollutants released into the area may affect flycatchers, prey populations, and vegetation. As a result of these impacts, there could be decreases in nest initiation or nesting success and decreased adult and nestling/fledgling fitness. Implementation of the conservation measures described above should greatly minimize these potential impacts.

#### **3.14.2.1 No Action**

Oil and gas developers consult regularly with the Service throughout the permitting and design process for a new well to implement project modifications that will avoid impacts in these areas. Given the protections and project modifications resulting from prior consultations, adopting the No Action Alternative would not be expected to result in any future oil and gas consultations.

#### **3.14.2.2 Alternative A**

Oil and gas activities occurring on Federally-owned (BLM) or tribally-owned surface lands, or areas where private surface rights overlap Federal mineral rights, could require consultation with the Service. Additionally, construction of oil and gas pipelines that intersect proposed streams reaches could result in filling of wetlands or releases of material into waterways during pipeline construction or maintenance, for which a 404 permit may be required from the U.S. Army Corps of Engineers.

In the proposed critical habitat unit along the San Juan River in Utah, the Service does not anticipate future drilling activity to occur, due to the drilling history, lack of production from existing wells and land management actions limiting activity in riparian areas (the drilling and production history of the area, including maps that show overlap with proposed habitat, are detailed more fully in the accompanying Economic Analysis). In addition, only small portions of the proposed river segment overlaps producing oil fields. On Federal lands within the unit, there is a “No Surface Occupancy” (NSO) stipulation on all oil and gas leases in riparian areas, and new surface disturbance will require a 100-meter setback from riparian areas. Areas identified as NSO would require that access to oil and gas deposits comes by directional drilling from outside of the boundaries of the NSO area. In addition, pipeline construction and maintenance activities with a Federal nexus could trigger consultations.

Along the Los Pinos River unit in Colorado, the two major landowners are the Southern Ute Indian Tribe and unidentified private landowners. According to the PEA described above, the Southern Ute currently plan to allow a total of 770 80-acre infill wells to be drilled from existing and new well sites within the Reservation before 2029, five of which are likely to be drilled in the near future in riparian habitat. These wells will be co-located on existing well pads in order to reduce surface disturbance. The Tribe also expects that within the next 20 years, future pipeline construction may intersect critical habitat (IEc 2012). On the private lands north of the Southern Ute Reservation, potential exists for future oil and gas development in the region, but there are no Federal subsurface rights for oil or gas within critical habitat. Absent such a Federal nexus, no section consultations with the Service would be triggered for new well development. In addition, as in Utah, pipeline construction or maintenance activities that intersect critical habitat could trigger consultations.

These areas where oil and gas development could occur are already subject to conservation and avoidance measures, stipulations, and land management requirements being implemented by BLM, the Navajo Nation, and the Southern Ute tribes as described above. Therefore, it is unlikely that any additional project modifications would be triggered by the designation of critical habitat. There would be incremental administrative and time delay costs associated with the designation of critical habitat where oil and gas development could occur.

The Economic Analysis conducted for this proposed designation estimates the present value of incremental administrative costs of consultation at \$33,000, using a seven percent discount rate. This is equivalent to an annualized cost of \$2,900 per year.

In summary, the effects of critical habitat designation oil and gas development and operations activities are expected to be minor and adverse because (1) few projects would be subject to new consultations based solely on the presence of designated critical habitat (2) any reasonable and prudent alternatives developed under jeopardy analysis would not likely be changed substantially with the addition of adverse modification analysis; and (3) very few if any additional conservation measures would be proposed to address critical habitat, beyond those already proposed in jeopardy consultations. In addition, conservation measures developed by the project proponents or resulting from incremental section 7 consultations could benefit the PBFs and PCEs within designated critical habitat.

### **3.14.2.3 Alternative B**

The areas containing oil and gas fields and accompanying infrastructure on tribal lands (separate stream segments, both within the San Juan Management Unit on Navajo Nation and Southern Ute lands,) are being considered for exclusion under Alternative B. If these areas are excluded, the only areas with potential oil and gas activity within remaining critical habitat would be private lands along the Los Pinos River, north of the Southern Ute lands. On these private lands, potential exists for future oil and gas development in the region, but there are no Federal subsurface rights for oil or gas within critical habitat. Absent such a Federal nexus, no section consultations with the Service would be triggered for new well development. Therefore, under this Alternative, no new or expanded consultations for oil and gas development would be expected, and thus no impacts from designation of critical habitat.

## Cumulative Impacts

The Council on Environmental Quality regulations define cumulative effects as “the impact on the environment which results from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR §1508.7).

In the context of critical habitat, cumulative impacts could be created if critical habitat designations for multiple species affecting the same natural and human resources. Table 3.21 identifies Management Units for the flycatcher designation which contain designated habitat that has already been designated as critical habitat for other species. Actions that could have cumulative impacts would include: (1) section 7 consultation outcomes and subsequent effects on other species; (2) the effects of designated critical habitat for other species; and (3) the effects of land management plans.

**Table 3.21 Management Units with Designated Flycatcher Critical Habitat that Overlaps with Other Species Critical Habitat**

Management unit	Other species with overlapping critical habitat
Amargosa	Amargosa vole, Ash Meadows Amargosa pupfish, Ash Meadows blazingstar, Ash Meadows gumplant, Ash Meadows ivesia, Ash Meadows milk-vetch, Ash Meadows naucorid, Ash Meadows speckled dace, Ash Meadows sunray, spring-living centauray
Bill Williams	Bonytail chub
Hoover-Parker	Bonytail chub razorback sucker
Little Colorado	Mexican spotted owl
Middle Rio Grande	Rio grande silvery minnow
Mojave	Arroyo toad
Owens	Owens tui chub
Parker-Southerly International Boundary	Razorback sucker
Roosevelt	Razorback sucker
San Diego	Arroyo toad, coastal California gnatcatcher, least Bell's vireo, Otay tarplant, Quino checkerspot butterfly, Thread-leaved brodiaea
San Francisco	Gila chub, Mexican spotted owl
San Juan	Colorado pikeminnow, razorback sucker
Santa Ana	Arroyo toad, least Bell's vireo, San Bernardino Merriam's kangaroo rat, Santa Ana sucker
Santa Clara	Arroyo toad, California condor, California red-legged frog, least Bell's vireo, Santa Ana sucker, tiderwater goby, Western snowy plover
Santa Cruz	Gila chub
Santa Ynez	Arroyo toad, California red-legged frog, least Bell's vireo
Upper Gila	Gila chub, razorback sucker
Verde	Razorback sucker
Virgin	Desert tortoise, Virgin River chub, woundfin

*Land Use*--The designation of critical habitat would likely result in new and reinitiated consultations, project modifications, and conservation measures based on critical habitat alone. No past species consultations related to land management projects have resulted in “adverse modification” findings for flycatcher critical habitat. Based on this consultation history, the Service anticipates that future consultations for critical habitat would likely result in minor to moderate project modifications. Therefore, when considering other present and future consultations and land management plans, this critical habitat designation will likely contribute minor cumulative impacts, given the number and nature of additional project modifications anticipated.

*Vegetation*-- Designation of critical habitat would result in some new or reinitiated consultations, project modifications or conservation measures based on newly proposed critical habitat alone. Past consultations for the flycatcher have resulted in project modifications that have not altered or damaged vegetation as described above, though some measures have resulted in beneficial impacts to vegetation through conservation strategies. Future consultations that could affect vegetation in critical habitat would mostly occur for habitat restoration or management activities, but could also include development activities or other land management plans, which could result in minor project modifications that may affect vegetation. The proposed critical habitat includes most of the critical habitat listed in 2005, and no findings of adverse modification have been reached for projects or plans that could affect these areas. Past species consultations related to vegetation projects have all resulted in no “adverse modification” findings and, based on this consultation history, the Service anticipates that future consultations for critical habitat would likely result in minor project modifications. Therefore, when considering other present and future consultations and land management plans, this critical habitat designation will likely contribute only minor cumulative impacts, given the small number and limited nature of additional project modifications anticipated.

*Wildlife*--Designation of critical habitat would result in some new or reinitiated consultations, project modifications or conservation measures based on newly proposed critical habitat alone. Past consultations for the flycatcher have resulted in project modifications that have not adversely affected wildlife and wildlife management plans, and in some cases measures have resulted in beneficial impacts to wildlife. Future consultations that could affect wildlife in critical habitat would occur for habitat restoration, land management, and development activities, which could result in minor project modifications that may affect wildlife and wildlife management plans, but these affects are likely to be mostly beneficial given that project modifications tend to focus on habitat-level activities that benefit wildlife in general. The proposed critical habitat includes most of the critical habitat listed in 2005, and section 7 consultations have been conducted on these areas and have resulted in project modifications that have not adversely affected vegetation or management plans that involve vegetation. Past species consultations regarding wildlife have all resulted in no “adverse modification” findings and, based on this consultation history, the Service anticipates that future consultations for critical habitat would likely result in minor project modifications. Therefore, when considering other present and future consultations and wildlife plans this critical habitat designation will likely contribute only minor cumulative impacts, given the small number and limited nature of additional project modifications anticipated.

*Fire Management*--Designation of critical habitat would result in some new and reinitiated consultations, with project modifications or conservation measures for fire management plans, based on newly proposed critical habitat alone. No previous species consultations on Federal lands have resulted in determinations of adverse modification, especially because fire management is beneficial to the flycatcher. No reasonable or prudent alternatives have been required for fire management plans or activities, though projects have incorporated actions that help prevent impacts, such as brush removal and controlled burning outside of the flycatcher breeding season. However, new consultations in territories where flycatchers have not been detected could result in timing limitations to fire management activities. Consultation for adverse modification has been conducted on existing critical habitat and, based on the fire management consultation history, future consultation for land management or habitat restoration activities in critical habitat areas would likely result in minor project modifications. On private and state land, designation of critical habitat does not limit fire management programs, except where a Federal license, permit, or funding may be sought or required or collaboration with state and local fire agencies occur. Therefore, this critical habitat designation will likely contribute only minor cumulative impacts to fire management activities, given the small number and limited nature of additional project modifications anticipated.

*Water Resources*--The designation of critical habitat would result in new and reinitiated consultations, project modifications, and conservation measures based on critical habitat alone. Past species consultations related to water resource projects have all resulted in findings of no adverse modification and, based on this consultation history, the Service anticipates that future consultations for critical habitat would likely result in minor project modifications. Future projects that could produce impacts to water resources would be conducted by agencies with responsibility for collecting, storing, and transporting water, habitat management, development, and fire management. With the expected project modifications, these projects are expected to have no more than moderate impacts on water resources. Therefore, when considering other present and future consultations and water management activities, this critical habitat designation will likely contribute at most moderate cumulative impacts, given the relatively small number and limited nature of additional project modifications anticipated.

*Livestock Grazing*--Designation of critical habitat would result in some new or reinitiated consultations, project modifications or conservation measures based on newly proposed critical habitat alone. Past species consultations on Federal land have resulted in project modifications that have not eliminated or fundamentally changed livestock grazing, as described above. Since the proposed critical habitat includes most of the critical habitat listed in 2005, adverse modification consultations have been conducted on these areas and have resulted in project modifications that have also not eliminated or fundamentally changed livestock grazing. Future consultations with potential impacts to grazing within critical habitat areas could be conducted by Federal land managers who grant grazing permits, and could result in minor project modifications to livestock grazing.

The Service is aware there may be concerns from private ranchers about the cumulative impact of this designation on ranching activities. On some grazing allotments on Federal land, riparian areas could be excluded from grazing either year-round or seasonally, impacting private ranchers. In most cases, recommendations by Federal agencies to change the permitted or authorized AUMs in flycatcher habitat areas result from multiple considerations, including the

flycatcher, other endangered species, other regulatory considerations, current forage availability, general health of the riparian corridor, and weather conditions. In the past, BLM and USFS have also tried to avoid reductions in AUMs by offsetting increases in the number of head during non-flycatcher breeding months or by changing grazing management schemes to avoid excluded riparian corridors. On private land, designation of critical habitat does not limit livestock grazing, except where a Federal license, permit, or funding may be sought or required. Therefore, when considering future consultations on livestock grazing, this designation will contribute only minor cumulative impacts given the small number and limited nature of additional project modifications anticipated and implementation of avoidance measures by the USFS and BLM.

*Construction/Development*--Designation of critical habitat would result in some new and reinitiated consultations, with project modifications or conservation measures for construction projects, based on newly proposed critical habitat alone. Past species consultations on Federal lands have resulted in project modifications that have not eliminated or fundamentally changed construction projects. Also, consultation for adverse modification has been conducted on 2005 listed critical habitat. Based on the consultation history for construction projects, future consultation by agencies on development projects would likely result in minor project modifications. On private land, designation of critical habitat does not limit construction project, except where a Federal license, permit, or funding may be sought or required. When considering past, present and foreseeable future activities, this critical habitat designation will contribute only minor cumulative impacts to construction and development given the limited nature of additional project modifications anticipated.

*Tribal Trust Resources*--The designation of critical habitat may result in new consultations, project modifications, and conservation measures based on critical habitat alone. Past species consultations related to projects in tribal trust areas have resulted in findings of no adverse modification and, based on this consultation history, the Service anticipates that future consultations for critical habitat would likely result in minor project modifications. Therefore, when considering other present and future consultations and land management plans, this critical habitat designation will likely contribute only minor cumulative impacts, given the small number and limited nature of additional project modifications anticipated.

*Soil & Mineral Resources*--Designation of critical habitat may result in new consultations, project modifications, and conservation measures based on critical habitat alone. Past species consultations related to projects that could affect soils and mineral resources have resulted in findings of no adverse modification. Future actions that could affect soil resources include development, habitat restoration, water projects, and other land management activities and, based on the consultation history, the Service anticipates that future consultations for critical habitat would likely result in minor project modifications. The effects of critical habitat designation on soils and mineral resources are expected to be beneficial because increased section 7 consultations would likely have beneficial, conservation-related effects to PBFs and PCEs and designated critical habitat. Adverse impacts would likely be minor, because of the conservation measures that accompany or result from consultations.

*Recreation*--The designation of critical habitat would result in some new and reinitiated consultations, project modifications, and conservation measures. Past consultations related to recreational activities have all resulted in findings of no adverse modification. Future actions

that could impact recreation would include land management activities or designation of critical habitat for other species. Based on the consultation history, however, the Service anticipates that future consultations for critical habitat would likely produce negligible to minor project modifications. Therefore, when considering other present and future consultations for recreation-related management planning, this critical habitat designation would likely contribute negligible to minor and beneficial cumulative impacts, given the small number and limited nature of additional project modifications anticipated.

*Socioeconomics*-- Cumulative socioeconomic impacts could occur to the extent that critical habitat designations for other species have already resulted in limitations on economic activity or land uses, and if the proposed designation resulted in new restrictions. The largest economic impact could potentially be felt from impacts to water management activities at Elephant Butte Reservoir in the Middle Rio Grande Management Unit if it were required to change its operations to avoid adverse modification of critical habitat. Overall, cumulative impacts in the other Management Units are likely to be at most minor, however, because any modifications or conservation measures recommended for the flycatcher in these units would likely already be implemented to avoid jeopardy to the species, and therefore they would not represent impacts of designating critical habitat. Where designation impacts recreation, grazing, road construction or other development, cumulative economic impacts are possible when considering past and present consultation outcomes, but would likely be minor, as discussed in corresponding sections.

*Environmental Justice*-- It is likely that any environmental justice impacts would be at most minor because the economic impacts associated with individual projects or actions would be relatively small, and there would be only a small number of projects throughout the designation which would create such impacts. Given that incremental impacts from the proposed designation are minor, the cumulative impacts, when considering past, present, and reasonably foreseeable future actions, would likewise be expected to be minor, at most.

*Oil and Gas Development*—Cumulative impacts to oil and gas development could be felt if the designation, when added to other land use restrictions or land use management activities in these areas with developable resources, limited the scale or volume of development activity, or rendered such activity uneconomic by causing increases in delays or costs. However, Federal and tribal lands in the San Juan Management Unit, where oil and gas development and infrastructure are located, are already subject to avoidance and mitigation measures that have been developed over time, mostly in previous consultations with the Service. Therefore, as discussed above, project modifications are unlikely to result from these consultations, beyond those already embedded in existing conservation measures. The incremental effect of this designation is therefore likely to contribute only minor cumulative impacts, at most.

## **Relationship Between Short-Term and Long-Term Productivity**

Proposed designation of critical habitat is a programmatic action that would not impact short-term or long-term productivity.

## **Irreversible and Irretrievable Commitment of Resources**

NEPA requires a review of irreversible and irretrievable effects that result from the Proposed Action. Irretrievable effects apply to losses of use, production, or commitment of non-renewable natural resources caused by the action. Irreversible effects apply primarily to the use of non-renewable resources, such as minerals or cultural resources, or to those resources that are only renewable over long periods of time, such as soil productivity and forest health. Irreversible effects can also include the loss of future opportunities in the area of impact. The types of impacts caused by the designation of critical habitat for the flycatcher—new, reinitiated, and expanded consultations, additional conservation measures, and potential project modifications-- would not result in lost production or use of non-renewable natural resources. There would be no loss of future opportunities resulting from designation of critical habitat, because designation does not limit activities on private land that are not authorized, funded, or permitted by a Federal agency.

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## CHAPTER 4

### ANALYSIS OF SIGNIFICANCE

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The primary purpose of preparing an environmental assessment under NEPA is to determine whether a proposed action would have significant impacts on the human environment. If significant impacts may result from a proposed action, then an environmental impact statement is required (40 CFR §1502.3). Whether a proposed action exceeds a threshold of significance is determined by analyzing the *context* and the *intensity* of the proposed action (40 CFR §1508.27).

Context refers to the setting of the proposed action and potential impacts of that action. The context of a significance determination may be society as a whole (human, national), the affected region, the affected interests, or the locality. Intensity refers to the severity of the impacts.

Under regulations of the Council of Environmental Quality (CEQ), which is responsible for ensuring compliance with NEPA, intensity is determined by considering 10 criteria (CFR 40 §1508.27[b]): (1) beneficial and adverse impacts; (2) the degree of impacts on health and safety; (3) impacts on the unique characteristics of the area; (4) the degree to which the impacts would likely be highly controversial; (5) the degree to which the proposed action would impose unique, unknown, or uncertain risks; (6) the degree to which the proposed action might establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration; (7) whether the proposed action is related to other actions, which cumulatively could produce significant impacts; (8) the degree to which the proposed action might adversely affect locales, objects, or structures eligible for listing in the National Register of Historic Places; (9) the degree to which the proposed action might adversely affect an endangered or threatened species or its habitat, as determined to be critical under the ESA of 1973; and (10) whether the proposed action threatens a violation of Federal, state, or local law.

The context of short- and long-term impacts of the proposed designation of flycatcher critical habitat includes stream segments that encompass parts of 49 counties within 5 states—CA, NV, UT, AZ, and NM--in 29 Management Units clustered within 6 Recovery Units. Impacts of critical habitat designation at these scales would be minor.

1. *Potential impacts to environmental resources, both beneficial and adverse, would be minor or moderate in all cases.* Analyses of impacts of critical habitat designation on sensitive resources within stream segments proposed as flycatcher critical habitat were conducted and discussed in Chapter 3 of this EA, and it was determined that designation of critical habitat would have both adverse and/or beneficial impacts on those resources. These analyses concluded that the adverse impacts of critical habitat designation would not be significant.
2. *There would be no or negligible impacts to public health or safety from the proposed designation of critical habitat* Wildland fire suppression and wildland fire management within WUI areas would not be significantly impeded by the designation of critical habitat. To the extent that a construction project has a public safety benefit (road or bridge construction or repairs, for example), delays resulting from consultations on

adverse modification could lead to public safety risks, which would need to be addressed on an individual project basis. Any risks remaining after avoidance or mitigation would be expected to be negligible.

The Service also considered potential effects to public health and safety regarding potential modifications to Department of Homeland Security (DHS), Customs and Border Patrol operations along the U.S.-Mexico border. Only one of the proposed segments, in the occupied Parker to Southerly International Boundary Management Unit, reaches within a quarter-mile of the U.S.-Mexico border near Yuma, AZ, where the Colorado River forms the border. The Service considered whether border control activities could be impacted by the designation. No previous consultations have involved the area close to the border within this unit, and the immediate area that could potentially be impacted by nearby border control activities does not contain essential habitat. Therefore, any proposed border control actions close to designated habitat would be expected to have limited effects on the habitat of the species and, if section 7 consultation occurred, it would most likely result in a "not likely to adversely affect" the species or critical habitat.

3. *Impacts on unique characteristics of the area would be negligible.* Five designated Wild and Scenic River segments are part of the proposed critical habitat designation (see Section 1.8.1). Activities proposed by the Federal land managers in these areas would only be those specifically intended to improve the health of these riparian ecosystems, and thus they would be anticipated to help recover or sustain the PCEs along these segments. Therefore any adverse impacts to critical habitat would be negligible at most.
4. *Potential impacts to the quality of the environment are not likely to be highly controversial.* Impacts are not likely to be highly controversial because, as the analysis of impacts of critical habitat designation has concluded, the quality of the environment would not be significantly modified from current conditions. This analysis was based on past consultations, past impacts of flycatcher conservation on activities within the flycatcher recovery area, and the likely future impacts from flycatcher conservation. Past section 7 consultations within designated critical habitat would likely be re-initiated. New activities would result in section 7 consultations. New consultations in unoccupied flycatcher territories would be conducted. A number of activities, including livestock grazing, wildland fire suppression and prevention programs, exotic vegetation management, and recreation would likely have some flycatcher-conservation-related constraints or limitations imposed on them.

Impacts to water management and resource activities are not expected to be highly controversial because, as discussed in the analysis of impacts on water resources, the constraints on current water management activities are expected to be limited.

It is also noted here, however, that designation of critical habitat for the southwestern willow flycatcher has been historically subject to controversy, as described in Section 1.1. Most recently, the Service was sued by the Center for Biological Diversity over its 2005 critical habitat rule, and on July 13, 2010, the Service agreed to redesignate critical habitat. The resulting settlement left the existing critical habitat designation from 2005 in

effect, and required that the Service deliver a final rule for new revised critical habitat to the **Federal Register** by July 31, 2012.

The Service believes that, with the combination of exclusions and voluntary conservation measures in place for most water projects, the likely impacts of the proposed designation would not be highly controversial. The Service understands that, given the prior history of designation, some level of controversy may result.

5. *The impacts do not pose any uncertain, unique, or unknown risks.* Critical habitat has been designated for the species since 1995, and the nature of the potential impacts are clear from the actual felt impacts of on-the-ground projects, consultations, and modifications. The proposed designation may cause minor changes in the location and frequency of impacts, but not to their nature or their severity.
6. *The designation of critical habitat by the Service for the conservation of endangered species is not a precedent-setting action with significant effects.* The agency has designated critical habitat for numerous other species and, of course, for the southwestern willow flycatcher itself. Therefore, designating critical habitat for flycatchers is not a precedent-setting action.
7. *There would not be any significant cumulative impacts* because, as described above in Section 3, the cumulative impacts would be limited to section 7 consultation outcomes and subsequent effects on other species, the effects of designated critical habitat for other species, and the effects of land management plans.
8. *This critical habitat designation is not likely to affect sites, objects, or structures of historical, scientific, or cultural significance* because any such potential impacts would be addressed by Federal and state laws enacted to protect and preserve these resources.
9. *The proposed designation of critical habitat for flycatcher would have long-term, beneficial effects for this endangered subspecies.* The purpose of the Proposed Action is to re-designate critical habitat for the flycatcher, a subspecies listed as endangered under the ESA. Critical habitat designation would have long-term, beneficial, conservation-related impacts on the flycatcher subspecies' survival and recovery through maintenance of PCEs.
10. *Proposed critical habitat designation would not violate any Federal, state, or local laws.* This re-designation of critical habitat was agreed to pursuant to a settlement agreement with the Center for Biological Diversity, as described above.

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## **CHAPTER 5**

### **PREPARERS AND CONTRIBUTORS**

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This environmental assessment was prepared by Mangi Environmental Group under contract to the U.S. Fish and Wildlife Service, Region 2. The economic analysis was prepared by Industrial Economics, Inc., under contract to U.S. Fish and Wildlife Service, Washington Office.

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## CHAPTER 6

### REFERENCES

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- Animal and Plant Health Inspection Service (APHIS). 2010. Memo to PPQ State Plant Health Directors from Alan Dowdy, Director of Invertebrate and Biological Control Programs announcing moratorium for biological control of salt cedar using tamarisk leaf beetle. U.S. Department of Agriculture, Plant Protection and Quarantine, Emergency and Domestic Programs, Riverdale, MD. Accessed online October 2010 at [http://www.peer.org/docs/usda/6\\_22\\_10\\_USDA\\_leaf\\_beetle\\_notice.pdf](http://www.peer.org/docs/usda/6_22_10_USDA_leaf_beetle_notice.pdf)
- Arizona Department of Environmental Quality (ADEQ). 2006. *TMDL Implementation Plan for Nitrogen and Escherichia coli. Tonto Creek & Christopher Creek, Gila County, Arizona*. Accessed February 15, 2012 at: <http://www.azdeq.gov/environ/water/assessment/download/tonto.pdf>.
- Arizona Department of Water Resources (ADWR). 2011. Surface Water Rights. Accessed October 2011 at <http://www.azwater.gov/AzDWR/SurfaceWater/SurfaceWaterRights/default.htm>.
- . 2009. Letter requesting reinitiation of section 7 consultation for biological control of tamarisk using the tamarisk-defoliating leaf beetle. Accessed online October 2011 at [http://www.biologicaldiversity.org/species/birds/southwestern\\_willow\\_flycatcher/pdfs/2009\\_0515-APHIS-to-USFWS-CONSULTATION.pdf](http://www.biologicaldiversity.org/species/birds/southwestern_willow_flycatcher/pdfs/2009_0515-APHIS-to-USFWS-CONSULTATION.pdf)
- California Department of Water Resources (CADWR). 2011. Groundwater Management. Accessed October 2011 at <http://www.water.ca.gov/groundwater/gwmanagement/index.cfm>.
- CDM. 2009. Camp Dresser and McKee Inc. (CDM) and Risk Sciences, Inc., 2009. Santa Ana Watershed Project Authority, Use Attainability Analysis Technical Report (Draft). 2009. Accessed December 2011 at [http://www.sawpa.org/documents/LatestPosts/Draft%20UAA%20Tech%20Report\\_Temescal%20Creek%20October%202009.pdf](http://www.sawpa.org/documents/LatestPosts/Draft%20UAA%20Tech%20Report_Temescal%20Creek%20October%202009.pdf)
- Colorado Division of Water Resources (CODWR). No Date. Water Rights. Accessed October 2011 at <http://water.state.co.us/SurfaceWater/SWRights/Pages/default.aspx>.
- County of Santa Barbara. 2008. *Santa Barbara County Integrated Regional Water Management Program*. Accessed November 2011 at <http://www.countyofsb.org/pwd/pwwater.aspx?id=16852>.
- County of Santa Barbara. 2007. *Water Supply*. Accessed November 2011 at <http://www.countyofsb.org/pwd/pwwater.aspx?id=3574>.

- Environmental Protection Agency (EPA). 2011. Wetlands Definitions. Accessed October 2011 at <http://water.epa.gov/lawsregs/guidance/wetlands/definitions.cfm>.
- ERO, 2008. ERO Resources Corporation and Salt River Project. Habitat Conservation Plan Horseshoe and Bartlett Reservoirs. Accessed 2011 at <http://www.fws.gov/southwest/es/arizona/Documents/HCPs/Horseshoe/Attachment%201%20-%20Horseshoe-Bartlett%20HCP%20March%202008.pdf>.
- Federal Emergency Management Agency (FEMA). 2010. Procedure Memorandum 64 – Compliance with the Endangered Species Act (ESA) for Letters of Map Change. Accessed October 2011 at <http://www.fema.gov/library/viewRecord.do?id=4312>.
- FOTC, 2008. Friends of Temescal Creek, 2008. *Friends of Temescal Creek, Water Quality Monitoring*. Accessed December 2011 at [http://www.temescalcreek.org/news/FOTC%20Report\\_min.pdf](http://www.temescalcreek.org/news/FOTC%20Report_min.pdf).
- Glenn, E.P., and P.L. Nagler. 2005. Comparative ecophysiology of *Tamarix ramosissima* and native trees in western U.S. riparian zones. *Journal of Arid Environments* 61:419-446
- Heil, K., and S. O’Kane. 2005. Catalog of the Four Corners Flora: Vascular Plants of the San Juan River Drainage Arizona, Colorado, New Mexico, Utah. 9<sup>th</sup> Ed. Accessed online October 2011 at <http://www.sanjuancollege.edu/documents/Herbarium/FourCornersFlora.pdf>
- Industrial Economics, Inc. (IEc). 2012. *Final economic analysis of critical habitat designation for the southwestern willow flycatcher*. Prepared by Industrial Economics, Inc., Cambridge, Massachusetts. Submitted to Division of Economics, U.S. Fish and Wildlife Service, Arlington, Virginia.
- Lester, J. 2002. Livestock Grazing on Federal Lands. Accessed June 2011 at <http://www.colorado.edu/economics/morey/8545/student/livestock/grazing.htm>.
- Memorandum of Understanding (MOU). 2006. Memorandum of Understanding Among the U.S. Bureau of Reclamation, The U.S. Fish and Wildlife Service, The New Mexico Interstate Stream Commission, the Southwest New Mexico Water Planning Group or its successor, and the New Mexico Office of the Governor-to create the Gila-Francisco Coordinating Committee. Accessed November 2011 at <http://www.ose.state.nm.us/PDF/ISC/BasinsPrograms/GilaSanFrancisco/GSFCC-MOU-2006-03-24.pdf>.
- Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). 2010. Endangered Species Habitat Restoration Issues in the Middle Rio Grande. Accessed online September 2012 at <http://www.middleriogrande.com/LinkClick.aspx?fileticket=suJviBHUO2I%3D&tabid=263&mid=659>.

- Middle Rio Grande Endangered Species Collaborative Program (MRGESCP). 2010. MRGESCP Website. Accessed online September 2012 at <http://www.mrgesa.com/Default.aspx?tabid=176>.
- National Wild Turkey Federation. 2010. North American Wild Turkey Management Plan. Accessed online October 2011 at <http://www.nwtf.org/NAWTMP/>
- Navajo Nation Heritage Program. 2012. Navajo Endangered Species List. Accessed April 2012 at [http://nnhp.ndfw.org/nnhp\\_nesl.pdf](http://nnhp.ndfw.org/nnhp_nesl.pdf).
- Nevada State Division of Water Rights (NDWR). 2011. Nevada Water Law. Accessed October 2011 at <http://water.nv.gov/waterrights/waterlaw/>.
- New Mexico Interstate Stream Commission. 2010. Memorandum: Arizona Water Settlement Act Project Proposals – Internal Review of Proposals – Submitted at Nov, 22. 2010 ISC Meeting. Accessed November 2011 at [http://www.awsaplanning.com/Archives\\_files/2010%20December%20Gila%20memo%20-%20projects.pdf](http://www.awsaplanning.com/Archives_files/2010%20December%20Gila%20memo%20-%20projects.pdf).
- New Mexico Office of the State Engineer (NMOSE). 2011. Welcome. Accessed October 2011 at <http://www.ose.state.nm.us/index.html>.
- National Park Service (NPS). 2011a. Survey of Historic Sites and Buildings—Old Mission Dam. Accessed December 2011 at [http://www.cr.nps.gov/history/online\\_books/explorers/sitec7.htm](http://www.cr.nps.gov/history/online_books/explorers/sitec7.htm)
- . 2011b. Montezuma Castle Tuzigoot National Monuments. General Management Plan and Environmental Assessment. Accessed November 19, 2012 at <http://www.nps.gov/moca/parkmgmt/upload/MOCA-TUZI-Presentation-Plan.pdf>
- . 2011c. National Park Service Public Use Statistics Office. 2011. *Annual Park Visitation (All Years): Death Valley NP, Joshua Tree NP, Lake Mead NRA, Mesa Verde NP, Tumacácori NHP, Tuzigoot NM, Yosemite NP*. Accessed December 2011 at <http://www.nature.nps.gov/stats/viewReport.cfm>.
- Pima. No Date. Pima County, AZ Threatened and Endangered Species Factsheets: Southwestern willow flycatcher. Accessed online October 2011 at <http://www.pima.gov/cmo/sdcp/species/fsheets/swf.html>
- Poff, N.J. et al. 2009. The Natural Flow Regime; A Paradigm for river conservation and restoration. *Bioscience* 47(11): 769-784.
- San Diego County Water Authority. No Date. Regional Water Facilities Master Plan. Accessed November 2011 at <http://www.sdcwa.org/rwfmp>.

- Shafroth, et al., 2010. P.B. Shafroth, C.A. Brown, and D.M. Merritt, eds., Saltcedar and Russian olive control demonstration act science assessment: U.S. Geological Survey Scientific Investigations Report 2009–5247, 143 pp.
- Sogge, M.K., Ahlers, Darrell, and Sferra, S.J. 2010. A natural history summary and survey protocol for the Southwestern Willow Flycatcher: U.S. Geological Survey Techniques and Methods 2A-10, 38 p.
- Stromberg, J.C., Chew, M. K., Nagler, P.L., and E.P. Glenn. 2009. Changing Perceptions of Change: The Role of Scientists in *Tamarisk* and River Management. *Restoration Ecology* 17(2): 177-186.
- United States Army Corps of Engineers (ACE). 2006. X Diamond Ranch Little Colorado River Riparian Enhancement Project U.S. Corps of Engineers File Number; 2006-00204-DE.
- . 2010. National Inventory of Dams. Accessed November 2011 at <http://geo.usace.army.mil/pgis/f?p=397:12:783536276189834>.
- U.S. Bureau of Economic Analysis, data released on 6/7/2011, accessed February 15, 2012, at: <http://www.bea.gov/regional/gdpmap/GDPMap.aspx>
- U.S. Bureau of Land Management (BLM). 2000. *Estimated Recreational Use of Public Lands Administered by the BLM, Fiscal Year 2005*. Accessed December 2011 at [http://www.blm.gov/public\\_land\\_statistics/pls00/index.html](http://www.blm.gov/public_land_statistics/pls00/index.html)
- . 2005. *Estimated Recreational Use of Public Lands Administered by the BLM, Fiscal Year 2005*. Accessed December 2011 at [http://www.blm.gov/public\\_land\\_statistics/pls05/pls4-1\\_05.pdf](http://www.blm.gov/public_land_statistics/pls05/pls4-1_05.pdf).
- . 2008. *Resource Management Plan, Monticello Field Office, Appendix B: Stipulations Applicable to Oil and Gas Leasing and Other Surface-Disturbing Activities*. November 2008. Accessed April 2012 at [http://www.blm.gov/pgdata/etc/medialib/blm/ut/monticello\\_fo/planning/rod\\_approved\\_rm\\_p.Par.91038.File.dat/Monticello%20Appendices.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/ut/monticello_fo/planning/rod_approved_rm_p.Par.91038.File.dat/Monticello%20Appendices.pdf).
- . 2010. *Estimated Recreational Use of Public Lands Administered by the BLM, Fiscal Year 2005*. Accessed December 2011 at [http://www.blm.gov/public\\_land\\_statistics/pls05/pls4-1\\_10.pdf](http://www.blm.gov/public_land_statistics/pls05/pls4-1_10.pdf).
- . 2010. Environmental Assessment Record, San Luis Resource Area Travel Management Plan. CO-500-20050016-EA.
- . 2011. The Taylor Grazing Act. Accessed June 2011 at [http://www.blm.gov/wy/st/en/field\\_offices/Casper/range/taylor.1.html](http://www.blm.gov/wy/st/en/field_offices/Casper/range/taylor.1.html).

- U.S. Bureau of Reclamation (USBR).2007a. Pueblo of San Felipe Bosque Restoration Final Environmental Assessment. Accessed online  
[http://www.usbr.gov/uc/albuq/envdocs/ea/habRest/FINAL\\_EA.pdf](http://www.usbr.gov/uc/albuq/envdocs/ea/habRest/FINAL_EA.pdf).
- . 2007b. City of Albuquerque Habitat Restoration Project Final Environmental Assessment. Accessed online September 2012 at  
[http://www.usbr.gov/uc/albuq/envdocs/ea/habRest/FINAL\\_EA.pdf](http://www.usbr.gov/uc/albuq/envdocs/ea/habRest/FINAL_EA.pdf).
- . 2008. Santo Domingo Tribe – Endangered Species Habitat Improvement Project- Phase III Environmental Assessment. Accessed online September 2012 at  
<http://www.usbr.gov/uc/albuq/envdocs/ea/santo-dom/eshabproj/phase3/index.html>.
- U.S. Census Bureau (Census). *Census 2000 Summary File 2 (SF 2): Arizona, California, Colorado, Nevada, New Mexico, Utah*. Accessed December 2011 at  
[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?\\_afpt=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?_afpt=table).
- . 2005. *Interim Projections of the Total Population for the United States and States: April 1, 2000 to July 1, 2030*. Accessed December 2011 at:  
<http://www.census.gov/population/www/projections/files/SummaryTabA1.pdf>.
- . 2010. 2010 Census Interactive Population Search: *Arizona, California, Colorado, Nevada, New Mexico, Utah*. Accessed December 2011 at  
<http://2010.census.gov/2010census/popmap/ipmtext.php?fl=04>.
- U.S. Department of Agriculture (USDA). 2005. Program for Biological Control of Saltcedar (Tamarix spp) in Thirteen States. June 2005 Environmental Assessment. Accessed online March 2012 at [http://www.aphis.usda.gov/plant\\_health/ea/downloads/salteafonsi.pdf](http://www.aphis.usda.gov/plant_health/ea/downloads/salteafonsi.pdf)
- . 2006. Digital General Soil Map of U.S. Accessed October 2011 at  
<http://SoilDataMart.nrcs.usda.gov/>
- . 2011. NRCS Official Soil Series Description Query Facility. Accessed October 2011 at  
<https://soilseries.sc.egov.usda.gov/osdnamequery.asp>
- . 2012. Management Plans by Species; Saltcedar. Accessed online March 2012 at  
<http://www.invasivespeciesinfo.gov/plants/controlplans.shtml#sc>.
- United States Fish & Wildlife Service (Service). 2000. Status, Ecology, and Conservation of the Southwestern Willow Flycatcher. General Technical Report RMRS-GTR-60. Accessed online October 2011 at [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr060.pdf](http://www.fs.fed.us/rm/pubs/rmrs_gtr060.pdf)
- . 2002. Final Recovery Plan, Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Department of the Interior, U.S. Fish and Wildlife Service, Region 2, Albuquerque, New Mexico.
- . 2004a. Biological and Conference Opinion for the BLM Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management. Accessed online October 2011 at

- [http://www.fws.gov/southwest/es/arizona/Documents/Biol\\_Opin/030210\\_BLM\\_FireUse.pdf](http://www.fws.gov/southwest/es/arizona/Documents/Biol_Opin/030210_BLM_FireUse.pdf)
- . 2004b. Biological Opinion on the Bureau of Reclamation's Approval of Water Exchange by the San Carlos Apache Tribe for Retention in San Carlos Reservoir Accessed online September 2012 at [http://www.fws.gov/southwest/es/arizona/.../040077\\_SanCarlos\\_Water.pdf](http://www.fws.gov/southwest/es/arizona/.../040077_SanCarlos_Water.pdf).
  - . 2005. Designation of Critical Habitat for the Southwestern Willow Flycatcher – Final Environmental Assessment. September 2005.
  - . 2005a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Final Rule. 50 CFR Part 17. 70 FR 60886-61009.
  - . 2005b. Biological Opinion for the Saltcedar Removal and Riparian Restoration Project within the Amargosa River Drainage. Consultation No. 1-8-03-F-42
  - . 2005c. Programmatic Biological and Conference Opinion: The Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands of the Southwestern Region. Accessed online October 2011 at [http://www.biologicaldiversity.org/programs/public\\_lands/forests/pdfs/BO\\_20050610\\_FS\\_LRMP.pdf](http://www.biologicaldiversity.org/programs/public_lands/forests/pdfs/BO_20050610_FS_LRMP.pdf)
  - . 2005d. Intra-Service Formal Consultation and Conference Opinion on the Issuance of Recovery Permits for the Endangered Southwestern Willow Flycatcher for Scientific Purposes and/or Enhancement of Propagation or Survival (TE-100579). Accessed online October 2011 at [http://www.fws.gov/southwest/es/arizona/Documents/Biol\\_Opin/050331\\_Verde10a1a.pdf](http://www.fws.gov/southwest/es/arizona/Documents/Biol_Opin/050331_Verde10a1a.pdf)
  - . 2005e. Programmatic Biological and Conference Opinion on the Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands of the Southwestern Region. 2-22-03-F-366. Accessed at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.
  - . 2005f. 26 Bar Grazing Allotment Biological and Conference Opinion. 02-21-04-F-0355. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.
  - . 2005g. Final Economic Analysis of Critical Habitat Designation for the Southwestern Willow Flycatcher.
  - . 2005h. Reinitiation of Consultation for the City of Mesquite's Post-Flood Actions and 2005 Runoff Season Food Control Measures, Virgin River, Clark County, Nevada and Mohave County, Arizona. Consultation No. 1-5-05-F-457

- . 2005i. Programmatic and Biological Conference Opinion: The Continued Implementation of the Land and Resource Management Plans for the Eleven National Forests and National Grasslands of the Southwestern Region. Consultation 2-22-03-F-366.
- . 2006a. Biological Opinion for the Proposed Tamarisk Removal, Hazardous Fuels Treatment, and Boundary Fence Construction at Tumacácori National Historical Park. Accessed October 2011 at [http://www.fws.gov/southwest/es/arizona/Documents/Biol\\_Opin/050829\\_Tumacacori.pdf](http://www.fws.gov/southwest/es/arizona/Documents/Biol_Opin/050829_Tumacacori.pdf)
- . 2006b. Biological Opinion for Morelos Diversion Dam Channel Capacity Restoration Project. 02-21-01-F-0383. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.
- . 2006c. Biological Opinion for the proposed replacement of the 8th Avenue Bridge over the Gila River in Safford, Graham County, Arizona. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>
- . 2006d. Biological Opinion for Cotton Lane Bridge, Bank Stabilization, and Habitat Modification at the Gila River. 02-21-04-F-0255. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.
- . 2006e. Biological Opinion for the Proposed Construction of the Florence-Kelvin Bridge over the Gila River in Pinal County, Arizona. 22410-2006-F-0429. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>
- . 2007a. Final Biological Opinion for the Arizona Strip Resource Management Plan. U.S. Fish and Wildlife Service Consultation No. 22410-2007-F-0463.
- . 2007b. Voigt Grazing Allotment Biological Opinion. 22410-2003-F-0298. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>
- . 2007c. Biological Opinion for the Arizona Strip Resource Management Plan. Accessed October 2011 at [http://www.fws.gov/southwest/es/arizona/Documents/Biol\\_Opin/020277\\_R1\\_AZStripRMP.pdf](http://www.fws.gov/southwest/es/arizona/Documents/Biol_Opin/020277_R1_AZStripRMP.pdf)
- . 2008a. Request for Formal and Informal Consultation on the Meadow Valley Wash Salt Cedar Control Project, Lincoln County, NV. Consultation No. 84320-2008-F-0163
- . 2008b. Intra-Service Biological and Conference Opinion – Issuance of a Section 10(1)(1)(B) Permit to Salt River Project for Incidental Take of Threatened and Endangered Species Associated with Operation of Horseshoe and Bartlett Reservoirs. AESO/SE 22410-2003-F-0430. Accessed November 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.
- . 2008c. U.S. Fish and Wildlife’s Intra-Service Biological and Conference Opinion on Issuance of an Enhancement of Survival Permit (TE-083686-0) to the Arizona Game and

- Fish Department. Accessed November 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.
- . 2008d. U.S. Fish and Wildlife's Biological Opinion on the Effects of Actions Associated with the Biological Assessment for the elephant butte Reservoir Temporary Channel Maintenance Project. Accessed November 2011 at [http://www.fws.gov/southwest/es/NewMexico/ES\\_bio\\_op.cfm](http://www.fws.gov/southwest/es/NewMexico/ES_bio_op.cfm)
- . 2008e. Programmatic Biological Opinion, Informal Consultation, and Technical Assistance for Implementation of Actions Proposed in the Ely Proposed Resource Management Plan, Lincoln, White Pine, and Portions of Nye Counties, Nevada. 84320-2008-F-0078.
- . 2008f. Bonytail Chub current distribution map. Accessed online February 2012 at [http://www.fws.gov/southwest/es/arizona/Documents/Redbook/Redbook%20Maps/bonytail\\_chub.pdf/](http://www.fws.gov/southwest/es/arizona/Documents/Redbook/Redbook%20Maps/bonytail_chub.pdf/)
- . 2008g. Biological Opinion for BLM Resource Management Plan, Monticello Field Office, Consultation Number 08-F-0068 6-UT-08-F-024. Accessed April 2012 at [http://www.blm.gov/pgdata/etc/medialib/blm/ut/monticello\\_fo/ planning/rod\\_approved\\_r mp.Par.70450.File.dat/Monticello%20Biological%20Opinion.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/ut/monticello_fo/ planning/rod_approved_r mp.Par.70450.File.dat/Monticello%20Biological%20Opinion.pdf).
- . 2009a. Final Biological Opinion for Livestock Grazing in Southwestern Willow Flycatcher Habitat in Meadow Valley Washington. Consultation No. 84320-2009-F-0341.
- . 2009b. Final Gunnison River Basin Programmatic Biological Opinion. Accessed online October 2011 at [http://www.seleniumtaskforce.org/images/GU\\_PBO\\_Final\\_Final\\_12-4\\_09.pdf](http://www.seleniumtaskforce.org/images/GU_PBO_Final_Final_12-4_09.pdf)
- . 2009c. Biological Opinion on the Effects of Actions Associated with the Piscicide Project on the Upper West Fork Gila River. Accessed online October 2011 at [http://www.fws.gov/southwest/es/newmexico/documents/BO/2008-0143\\_Final\\_WF\\_Gila\\_rotene\\_BO.pdf](http://www.fws.gov/southwest/es/newmexico/documents/BO/2008-0143_Final_WF_Gila_rotene_BO.pdf)
- . 2009d. Biological Opinion on the Ongoing Grazing for Three Allotments on the Tonto National Forest. 22410-2007-F-0218.
- . 2009e. Biological Opinion for the Rainbow Canyon Highway Reconstruction Project in Lincoln County, Nevada. 84320-2009-F-0038.
- . 2009f. *Final Comprehensive Conservation Plan and Environmental Impact Statement Summary – August 2009, Desert National Wildlife Refuge Complex (Ash Meadows, Desert, Moapa Valley, and Pahranaagat National Wildlife Refuges)*. Accessed December 2011 at [http://www.fws.gov/desertcomplex/pdf/01\\_FinalCCP-EIS\\_Summary\\_20090814.pdf](http://www.fws.gov/desertcomplex/pdf/01_FinalCCP-EIS_Summary_20090814.pdf).
- . 2010a. Biological Opinion for the Proposed Greenwood Community Grazing Allotment Permit Renewal. Accessed October 2011 at <http://www.fws.gov/southwest/es/arizona/Biological.htm>.

- . 2010b. Biological Opinion for the Proposed US 70 Gila River Bridge at Bylas. FWS/R2/ES-TE/045708.
  - . 2010c. Biological Opinion for the US 70 San Carlos River Bridge. 22410-F-2009-0281.
  - . 2011a. Incremental Effects Memorandum for the Economic Analysis of the Proposed Rule to Re-Designate Critical Habitat for the Southwestern Willow Flycatcher (*Empidonax traillii exitmus*). October 2011.
  - . 2011b. Final Biological Opinion for Restoration of the Gila River at Apache Grove. U.S. Fish and Wildlife Service Consultation No. 22410-2010-F-0487).
  - . 2011c. Environmental conservation online system: Endangered species by county. Accessed online October 2011 at <http://ecos.fws.gov/ecos/indexPublic.do>
  - . 2011d. Biological and Conference Opinion for Wildlife and Sport Fish Restoration Funding of Arizona Game and Fish Department's Statewide and Urban Fisheries Stocking Program for 2011-2021. Accessed online October 2011 at [http://www.fws.gov/southwest/Federal\\_assistance/PDFs/Titletableofcontents.pdf](http://www.fws.gov/southwest/Federal_assistance/PDFs/Titletableofcontents.pdf)
  - . 2011e. All Habitat Conservation Plan Documents for the Southwestern Willow Flycatcher. Accessed November 2011 at <http://ecos.fws.gov/speciesProfile/profile/displayAllDocuments!hcp.action?socode=B094>
- U.S. Forest Service (USFS). 2000. Status, Ecology, and Conservation of the Southwestern Willow Flycatcher. General Technical Report RMRS-GTR-60. Accessed online October 2011 at [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr060.pdf](http://www.fs.fed.us/rm/pubs/rmrs_gtr060.pdf)
- . 2005a. *National Visitor Use Monitoring, Annual Visitation Estimate: Gila National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A03006/Round2?filename=Visitation&format=PortableDocFormat>.
  - . 2005b. *National Visitor Use Monitoring, Annual Visitation Estimate: Rio Grande National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A02009/Round2?filename=Visitation&format=PortableDocFormat>.
  - . 2005c. *National Visitor Use Monitoring, Annual Visitation Estimate: Sequoia National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A05013/Round2?filename=Visitation&format=PortableDocFormat>.
  - . 2006. *National Visitor Use Monitoring, Annual Visitation Estimate: Angeles National Forest*. Accessed December 2011 at

- <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A05001/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2007a. *National Visitor Use Monitoring, Annual Visitation Estimate: Apache-Sitgreaves National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A03001/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2007b. *National Visitor Use Monitoring, Annual Visitation Estimate: Coronado National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A03005/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2007c. *National Visitor Use Monitoring, Annual Visitation Estimate: Prescott National Forest*. Accessed December at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A03009/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2008a. *National Visitor Use Monitoring, Annual Visitation Estimate: Carson National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A03002/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2008b. *National Visitor Use Monitoring, Annual Visitation Estimate: Los Padres National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A05007/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2008c. *National Visitor Use Monitoring, Annual Visitation Estimate: Tonto National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A03012/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2009a. *National Visitor Use Monitoring, Annual Visitation Estimate: Cleveland National Forest*. Accessed December 2011 at <http://apps.fs.usda.gov/nrm/nvum/results/Report.aspx/Export/VE01/A05002/Round2?filename=Visitation&format=PortableDocFormat>.
- . 2010. Southwestern Region. *Draft Environmental Impact Statement for Public Motorized Travel Management Plan, Apache-Sitgreaves National Forest*. Accessed December 2011 at [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5209759.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5209759.pdf).
- U.S. Geological Survey (USGS). 2005. Mineral Resources Data System. Accessed October 2011 at <http://tin.er.usgs.gov/mrds/>
- . 2006. GIS 1:2,000,000-Scale Hydrologic Unit Boundaries.
- . 2009. Estimated Use of Water in the United States in 2005. Accessed October 2011 at <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>.

----. 2011. What does a Southwestern Willow Flycatcher look like? Southwestern Willow Flycatcher Site. Accessed online October 2011 at <http://sbsc.wr.usgs.gov/cprs/research/projects/swwf/cprsmain.asp>

----. 2012. Information Memorandum for the Director: Consideration of San Carlos Reservoir for exclusion from final designation of critical habitat for southwestern willow flycatcher, October 19, 2012.

Utah Division of Water Rights (UDWR). 2010. Distribution by Water Right Priority. Accessed October 2011 at <http://www.waterrights.utah.gov/basics/032210.asp>.

## Appendix A

### Regional Maps of Proposed Critical Habitat, by Landownership (Alternative A)

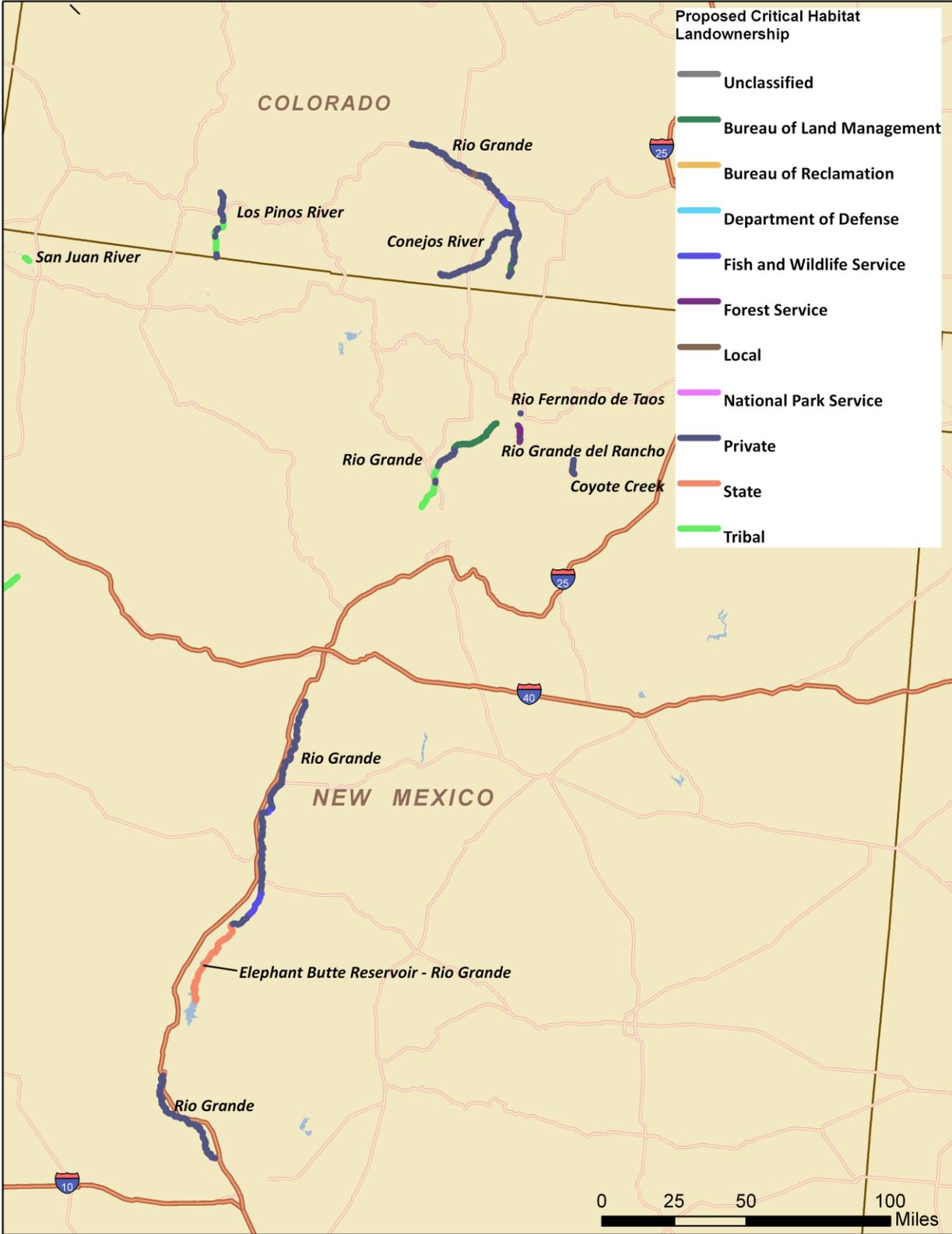
**Figure A-1. Western portion of proposed critical habitat designation, by landownership**



Figure A-2. Central portion of proposed critical habitat designation, by landownership



**Figure A-3. Eastern portion of proposed critical habitat designation, by landownership**



## Appendix B

### Characteristics of Major Dams and Reservoirs within Flycatcher Newly Proposed Designated Critical Habitat

**Characteristics of Major Dams and Reservoirs within Flycatcher Newly Proposed Designated Critical Habitat**

Management Unit	Water Body	Covered by a Habitat Conservation Plan (HCP) or Section 7 Biological Opinion (BO)	Facility Name	County, State	Owner Type	Owner/Operator	Primary Purpose	Storage Capacity (af)	Hydropower-Installed Capacity
<b>Basin and Mojave Recovery Unit</b>									
<b>Mojave</b>	West Fork Mojave River	Not Covered	Mojave Dam	San Bernardino, CA	Federal	USACE - CESPL	Flood Control	179400	
<b>Owens</b>	Owens River	Not Covered (LA Dept. of Water and Power Management Plan)	Long Valley	Mono, CA	Local Government	City of Los Angeles	Hydroelectric	183465	Yes
		Not Covered (LA Dept. of Water and Power Management Plan)	Tinemaha	Inyo, CA	Local Government	City of Los Angeles	Water Supply	16405	
		Not Covered (LA Dept. of Water and Power Management Plan)	Pleasant Valley	Inyo, CA	Local Government	City of Los Angeles	Hydroelectric	3825	Yes
<b>Coastal California Recovery Unit</b>									
<b>San Diego</b>	San Diego	City of San Diego MSCP and County of San Diego MSCP	El Capitan	San Diego, CA	Local Government	City of San Diego	Water Supply	112800	
	San Dieguito	County of San Diego MSCP	Hodges Lake	San Diego, CA	Local Government	City of San Diego	Water Supply	93000	
	Santa Ysabel	County of San Diego MSCP	Sutherland	San Diego, CA	Local Government	City of San Diego	Water Supply	29000	
	Sweetwater River	City of San Diego MSCP and County of San Diego MSCP	Sweetwater Main	San Diego, CA	Public Utility	Sweetwater Authority	Irrigation, Water Supply	27700	
	Sweetwater River	City of San Diego MSCP and County of San Diego MSCP	Palo Verde	San Diego, CA	Private	Palo verde Ranch Homeowners	Irrigation, Water Supply, Recreation	730	
	Sweetwater River	County of San Diego MSCP	Lake Loveland	San Diego, CA	Public Utility	Sweetwater Authority	Irrigation, water supply	25400	

	Canada Gobernadora	Orange County Southern NCCP/HCP	Portola	Orange, CA	Public Utility	Santa Margarita Water District	Irrigation	586	
	Temecula Creek	Riverside County MSHCP	Vail	Riverside, CA	Public Utility	Rancho California Water District	Irrigation	51000	
<b>Santa Clara</b>	Big Tujunga	Not Covered	Big Tujunga No. 1	Los Angeles, CA	Local Government	Los Angeles County Department of Public Works	Flood Control	5750	
	Piru Creek	Not Covered	Santa Felicia	Ventura, CA	Local Government	United Water Conservation District	Water Supply	88000	Yes
	San Gabriel	Not Covered	San Gabriel	Los Angeles, CA	Local Government	Los Angeles County Flood Control District	Hydroelectric	45832	Yes
	San Gabriel	Not Covered	Morris	Los Angeles, CA	Local Government	Los Angeles County Flood Control District	Water Supply	27500	
	San Gabriel	Not Covered	Santa Fe Dam	Los Angeles, CA	Federal	USACE - CESPL	Flood Control	45409	
	Castaic Creek	Not Covered	Castaic	Los Angeles, CA	State	California Department of Water Resources	Irrigation	323700	
	Castaic Creek	Not Covered	Elderberry Forebay	Los Angeles, CA	Local Government	City of Los Angeles	Water Supply	32500	Yes
	San Gabriel	Not Covered	Whittier Narrows Dam	Los Angeles, CA	Federal	USACE - CESPL	Flood Control	66702	
<b>Gila Recovery Unit</b>									
<b>Hassayampa/Agua Fria</b>	Gila River	Not Covered	Painted Rock Dam	Maricopa, AZ	Federal	USACE - CESPL	Flood Control	4831500	
<b>Roosevelt</b>	Salt River	Salt River Project Roosevelt Lake Habitat Conservation Plan	Theodore Roosevelt	Maricopa, AZ; Gila, AZ	Federal	USBR	Irrigation	3432408	
<b>Verde</b>	Verde River	Salt River Project Horseshoe/Bartlett HCP, BO	Bartlett	Maricopa, AZ	Federal	USBR	Water Supply	249693	

		Salt River Project Horseshoe/Bartlett HCP, BO	Horseshoe	Maricopa, AZ	Federal	USBR	Water Supply	214372	
<b>Upper Gila</b>	Gila River	Not Covered	Coolidge	Gila, NM	Federal	BIA	Irrigation	912500	
<b>Lower Colorado Unit</b>									
<b>Bill Williams</b>	Bill Williams	BO	Alamo Dam and Reservoir	La Paz, AZ	Federal	USACE - CESPL	Flood Control	1409000	
<b>Hoover to Parker Dam</b>	Colorado River	Lower Colorado Multi-Species Conservation Plan	Parker	San Bernardino, CA; Yuma, AZ	Federal	USBR	Water Supply	180000	Yes
			Davis	Mohave, AZ	Federal	USBR	Hydroelectric	1592300	
			Simplot Tailings	Clark, NV	Private	Simplot Silica Products	Tailings	6370	
<b>Middle Colorado</b>	Colorado River	Lower Colorado Multi-Species Conservation Plan	Hoover Dam	Clark, NV; Mohave, AZ	Federal	USBR	Water Supply	18369	Yes
<b>Pahranagat</b>	Muddy River	Not Covered	Bowman Dam	Clark, NV	Private	Muddy River Irrigation District	Irrigation	4060	
<b>Parker Southerly</b>	Colorado River	Lower Colorado Multi-Species Conservation Plan	Imperial Diversion	Imperial, CA; Yuma AZ	Federal	USBR	Irrigation	160000	
<b>Rio Grande Recovery Unit</b>									
<b>Middle Rio Grande</b>	Rio Grande	Not Covered	Elephant Butte	Sierra, NM	Federal	USBR	Flood Control	2593255	Yes
	Rio Grande	Not Covered	Caballo	Sierra, NM	Federal	USBR	Irrigation	379210	Yes
	Rio Grande	Not Covered	Green Canyon	Sierra, NM	Local Government	Caballo Soil and Water Conservation District	Flood Control	6400	
	Conejos River	San Luis Valley HCP	Platoro Reservoir	Conejos, CO	Federal	USBR	Irrigation	67790	
<b>Upper Colorado Recovery Unit</b>									
<b>San Juan</b>	Los Pinos River	Not Covered	Vallecito	La Plata, CO	Federal	USBR	Irrigation	136200	Yes
	San Juan	Not Covered	Navajo	San Juan, NM	Federal	USBR	Irrigation	1986600	
	San Juan River (Citizen Ditch)	Not Covered	Bloomfield Dam Bo. 1	San Juan, NM	Local Government	City of Bloomfield	Water Supply	140	

	San Juan River (Citizen Ditch)	Not Covered	El Paso Natural Gas Dam No. 2	San Juan, NM	Private	El Paso Natural Gas Company		205	
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**Source: Service, 2011; and USACE, 2010**

## Appendix C

### Tribal Areas Containing Proposed Critical Habitat

Management Unit	Complex	Water Body	County	State	Indian Reservation Name	PCH Area within Reservation		Newly Designated 2011	Considered for Exclusion (Alt B)
Parker-Southerly International Boundary	Colorado River	Colorado River	La Paz/San Bernardino/Riverside	AZ/CA	Colorado River Indian Tribes	14,052	5,687	x	x
Hoover-Parker	Colorado River	Colorado River	Mohave/Clark/San Bernardino	AZ/NV/CA	Fort Mojave Indian Reservation	6,556	2,653	x	x
Parker-Southerly International Boundary	Colorado River - south	Colorado River	Yuma/Imperial	AZ/CA	Quechan (Fort Yuma) Indian Reservation	1,400	567	x	x
Middle Colorado	Colorado River - Mead	Lake Mead - Colorado River	Mohave	AZ	Indian Reservation	1,752	709	x	x
Middle Gila/San Pedro	San Pedro River	San Pedro River	Pinal	AZ	Indian Allotments	185	75		
Verde	Verde River - upper	Verde River	Yavapai	AZ	Camp Verde Indian Reservation	36	14		x
San Juan	San Juan River -	San Juan	San Juan	NM	Navajo Indian	525	212	x	x

	east	River			Reservation				
San Juan	San Juan River - west	San Juan River	San Juan	UT	Navajo Indian Reservation	5,098	2,063	x	x
Little Colorado	Zuni River	Zuni River	Cibola	NM	Ramah Navajo Indian Reservation	543	220	x	x
Upper Gila	Gila River - mid San Carlos	San Carlos Lake-Gila River	Pinal	AZ	San Carlos Indian Reservation	7	3		x
Upper Gila	Gila River - mid San Carlos	San Carlos Lake - Gila R	Pinal	AZ	San Carlos Indian Reservation	21,845	8,840	x	x
Upper Rio Grande	Rio Grande - upper	Rio Grande	Rio Arriba	NM	San Ildefonso Indian Reservation	1,095	443		x
Upper Rio Grande	Rio Grande - upper	Rio Grande	Rio Arriba	NM	San Juan Indian Reservation	1,982	802		x
Upper Rio Grande	Rio Grande - upper	Rio Grande	Rio Arriba/Sante Fe	NM	Santa Clara Indian Reservation	1,760	712		x
San Juan	Los Pinos	Los Pinos	La Plata	CO	Southern Ute	2,629	1,064	x	x

	River	River			Reservation				
Verde	Verde River - upper	Verde River	Yavapai	AZ	Yavapai Apache Indian Reservation	185	75		x
Little Colorado	Zuni River	Zuni River	McKinley	NM	Zuni Indian Reservation	3,571	1,445	x	x
Little Colorado	Rio Nutria	Rio Nutria	McKinley	NM	Zuni Indian Reservation	2,969	1,202	x	x
San Diego	San Diego River - east	San Diego River	San Diego	CA	Capitan Grande Band of Diegueno Mission Indians	204	83	x	x
Hoover-Parker	Colorado River	Lake Havasu - Colorado R	San Bernardino/Mohave	CA/AZ	Chemehuevi Indian Reservation	5,815	2,353	x	x
San Diego	San Luis Rey River - east	San Luis Rey River	San Diego	CA	La Jolla Indian Reservation	212	86		x
San Diego	San Luis Rey River - west	San Luis Rey River	San Diego	CA	Pala Indian Reservation	326	132		x
Santa Ana	Bautista Creek	Bautista Creek	Riverside	CA	Ramona Indian Reservation	4	2	x	x

San Diego	San Luis Rey River - east	San Luis Rey River	San Diego	CA	Rincon Indian Reservation	85	34		x
Salton	San Felipe Creek	San Felipe Creek	San Diego	CA	Iipay Nation of Santa Ysabel	22	9		x
Total						72,857	29,484		

## Appendix D

### Responses to Public Comments on Draft Environmental Assessment

## Southwestern Willow Flycatcher—Proposed Critical Habitat

### Responses to Public Comments on Draft Environmental Assessment—December 2012

	Docket ID #	Commenter	Document Location		Resource Issue	Comment	Response
			Page	Line			
1	0193	DOI— Bureau of Reclamation	60	14- 17, 22-23	Vegetation	The referenced article does not state unequivocally that tamarisk is considered to use more water than native and a good deal of disagreement exists on this issue....All statements regarding water use by tamarisk should be removed.	The discussion of tamarisk now reads: “Although tamarisk can provide good habitat for the flycatcher, it has replaced native vegetation in many streams in the Southwest. While tamarisk has been hypothesized to use more water than native vegetation, a review of the research literature shows that tamarisk has greater salt tolerance, drought tolerance, resistance to water stress, and fire tolerance than native trees. Contrary to previous reviews, the current evidence does not support the conclusion that tamarisk has unusually high evapotranspiration rates or leaf area index that would allow it to desiccate [dry out] water courses (Glenn and Nagler, 2005). This finding is supported by a more recent review conducted by the U.S. Geological Survey in cooperation with the Bureau of Reclamation and the USDA Forest Service, which found that “contemporary studies of evapotranspiration that use state-of-the-art measurement techniques suggest that native species (for example, cottonwood or willow) transpire about the same or more water than nonnative species” (Shafroth et al.,

						<p>2010).  Tamarisk also produces dry leaf, stem, and branch litter that does not decay quickly, creating conditions that can increase fire hazards and alter natural fire regimes (see Section 3.6, Fire Management). The dry brush litter that does not decay quickly increases fire frequency and severity. In addition, recent evidence points to altered water regimes from actions such as damming, diversion, and groundwater pumping that favor tamarisk over native species by creating landscape conditions that simultaneously allow tamarisk to persist and prevent native trees from flourishing. This means that human-caused factors are creating an environment in which tamarisk thrives and native vegetation cannot prosper (Stromberg et al. 2009; University of Arizona, 2008; Shafroth et al. 2008). Recent research shows that the salt-tolerant tamarisk grows well in high salinity environments, and is incidentally found there because of its salt tolerance (Glenn &amp; Nagler, 2005), rather than itself increasing the salinity of soils. These saline soils are caused by land management practices that prevent regular overbank flooding (Glenn &amp; Nagler, 2005).”</p>
2			20	43	Historic structures	<p>The Old Trails Bridge lies near Topock, AZ. It would be useful to have a site description for the bridge that is less general than “halfway between Yuma, AZ and the Utah</p> <p>Service has added the following detail: “A single 600-ft span supports the 800-ft bridge, located several hundred feet south of Interstate 40 where it crosses</p>

					border.”	the Colorado River at Topock, AZ.”	
3			31	16, 19	Text omitted	The publication dates for the July 12, 2012 NOA were not updated in the Draft EA	References to the NOA will be changed to reflect 77 FR 41147-41162.
4			67	27	Fisheries	This section should not focus on just the Colorado River fisheries, as several other river systems such as the Rio Grande have conflicting uses between the fisheries and SWWF....It does not represent the full issues associated with conflicts between existing fish such as the silvery minnow and the SWWF.	Along the Rio Grande River, proposed flycatcher critical habitat overlaps with critical habitat for the Rio Grande silvery minnow ( <i>Hybognathus amarus</i> ), which is only found in the section of the Rio Grande between Cochiti dam and Elephant Butte Reservoir (MRGESCP, 2003). Both the flycatcher and silvery minnow have experienced loss of habitat from stream modifications along the river system that include agriculture development, water diversion, impoundments, and livestock grazing (MRGESCP, 2003). Because of potential conflicting interests between current and future water users and protected species, a collaborative group called the Middle Rio Grande Endangered Species Collaborative Program was developed. This group consists of local, regional, tribal, and federal organizations whose goals are to alleviate jeopardy for the protected species while still providing for current and future water users (MRGESCP, 2010). The Bureau of Reclamation has overseen several restoration projects, funded by MRGESCP, to enhance habitat for both the silvery minnow and the flycatcher. . Several groups including the Santa Domingo tribe (USBR, 2008), the Pueblo of San Felipe

							(USBR, 2007a), and the City of Albuquerque (USBR, 2007b) have been funded to remove non-native plants and refurbish habitats along the Rio Grande. These projects provide proper water flow and bank stabilization for the silvery minnow while also creating native habitat structure for the flycatcher.
5	0167	Cherry Creek Cattle Co.				As holders of the grazing permit for the Dagger Allotment in the Tonto NF...there is no evidence to indicate that grazing poses a threat to the species....We have yet to be shown a case in which cattle have negatively affect the bird's welfare. Instead, there are case studies that demonstrate that the willow flycatcher actually benefits from the presence of water improvements and insect populations that are a result of grazing activity. An example is a study of the U Bar ranch in the Gila River Valley, where the highest density of the species was with grazing present.	The Recovery Plan for the flycatcher (2002) discusses the issues, impacts, and evidence regarding the compatibility of grazing with flycatcher life history. As the Environmental Assessment states on p. 94, "The Service believes that carefully managed and closely monitored light-to-moderate levels of grazing within critical habitat during the non-growing season may be compatible with flycatcher recovery." The U-Bar Ranch, located in the Cliff/Gila Valley in Grant County, NM, was identified as having features essential to the conservation of the southwestern willow flycatcher. Since the mid-1990s, the U-Bar Ranch has been the focus of studies and research by the Forest Service's Rocky Mountain Research and Experiment Station in Albuquerque NM. The number of territories detected has fluctuated between approximately 110 and 210 territories. The U-Bar exists at approximately 1372 m (4500 feet) above sea level. Dense stands of boxelder trees are found along irrigation

							<p>canals. As a result, nearly 75 percent of the flycatcher territories are found nesting in the canopies of these boxelders, approximately 60 feet above the ground. Nowhere else throughout this subspecies range are southwestern willow flycatchers found nesting at this elevation, in this type of environment, in these types of trees, at this density. The combination of anthropogenic influence, elevation, and boxelder canopy structure has helped create unique situation that is beneficial for nesting flycatchers. The result of these southwestern willow flycatcher studies has fostered the maintenance and management of one of the three largest known breeding populations. As a result of the stewardship demonstrated by the U-Bar Ranch and the commitment to future management of this population and its habitat, we are excluding the U-Bar Ranch from southwestern willow flycatcher critical habitat (see final rule under <i>Land and Resource Management Plans, Conservation Plans, or Agreements Based on Conservation Partnerships, Upper Gila Management Unit 76 FR XXXXX</i>).</p>
6	0216	Gila River Indian community				<p>Comments are on the Economic Analysis, but they go to the question of whether the Gila River in the Hassayampa/Agua Fria unit extends onto GRIC lands.</p>	<p>The Service's designation does not include lands of the Gila River Indian Community.</p>
7	0196	Gila River Indian				<p>With respect to the critical habitat designation or exclusion of the [San Carlos] Reservoir on</p>	<p>Added to Water Resources and Tribal Resource Sections: One concern related</p>

		Community				<p>the [Gila River Indian] Community, the Service must acknowledge the ownership and operation of the Reservoir by the BIA for the benefit of the Community, and in this context, reevaluate its considerations of the impacts of the critical habitat designation and the exclusions proposed in Alternative B at the very least on Water Resources, Tribal Trust Resources, Socioeconomics, and Environmental Justice</p>	<p>to water resources, expressed in public comment by the Gila River Indian Community (GRIC), is whether designating the San Carlos Lake would adversely affect the delivery of water mandated to the GRIC through the operation of the San Carlos Irrigation District (SCID). While the precise impacts of designation of critical habitat are uncertain owing to the variable conditions of rainfall and subsequent water flows in a given year, the presence of critical habitat in this area could trigger re-initiation of consultation between the Service and the U.S. Bureau of Indian Affairs for SCID operations, if such operations have the potential to adversely modify critical habitat.</p> <p>Conservation measures that may be required as a result of that consultation could include those that were recommended in a 2004 Biological Opinion for a water exchange with the Central Arizona Project, requested by the San Carlos Apache Indian tribe: research and monitoring, cowbird trapping, and providing the Service and the Bureau of Indian Affairs with a report at the end of the breeding season that documents flycatcher reproductive success and cowbird trapping activities. Additional conservation measures may include acquiring additional flycatcher habitat as part of a compensatory off-</p>
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						<p>site mitigation strategy. With these measures, <u>and</u> based on the outcomes of previous consultations and the potential limits on the discretion of the action agency to alter dam operations, it is not anticipated that the Service would make a determination of adverse modification to flycatcher critical habitat from SCID operations. Therefore it is not anticipated that designation of critical habitat would lead the Service to require that the U.S. Bureau of Indian Affairs change current water flows (IEc 2012; Service 2004b).</p>
8					<p>The Service fails to provide any meaningful analysis of how the Proposed Rule will impact water delivery obligations under the San Carlos Project Act, which requires that the Reservoir “provid[e] water for the irrigation of lands allotted to the Pima Indians on the GilaRiver Reservation</p>	<p>With these measures, it is unlikely that the Service would determine adverse modification to flycatcher critical habitat from SCIIP operations. Therefore it is not anticipated that the Service would require the U.S. Bureau of Indian Affairs to change current SCIIP operations</p>
9			26		<p>Section 2.1 should be revised to take into account the relationship that the Community has with the BIA concerning water releases from the Reservoir, based on the Service’s consultation process with the Community.</p>	<p>Added to section 3.6.1.1: “The Coolidge Dam was built between 1924 and 1928, and is owned and operated by the Bureau of Indian Affairs as part of the San Carlos Indian Irrigation Project (SCIIP), for purposes of providing irrigation to the Gila River Indian Community (GRIC) and the San Carlos Irrigation and Drainage District (SCIDD). The maximum storage capacity of Coolidge Dam is 869,000 acre-feet. The flows between Coolidge Dam and the Ashurst-Hayden Diversion</p>

							<p>Dam are appropriated to GRIC and SCIDD. All diversions of Gila River water are regulated under the 1953 Globe Equity 59 Decree. The Gila Water Commissioner is appointed by the U.S. District Court to administer the Decree, which controls use of the waters of the Gila River in the reach from above Virden, NM to its confluence with the Salt River west of Phoenix. Under the Decree, approximately 60 percent of the water goes to GRIC, while the remaining 40 percent goes to SCIDD. SCIDD provides water to a variety of private landowners and municipalities for irrigation purposes on approximately 50,000 acres, including the communities of the Casa Grande and Florence Valleys. The U.S. Bureau of Indian Affairs would be the Federal action agency for water resource actions involving San Carlos Lake and operation of the Coolidge Dam.”</p>
10			81			<p>Section 3.6 should be revised to take into account the BIA’s obligation to provide water releases to the Community under the San Carlos Project Act.</p>	<p>Section 3.6 is revised as noted in previous comment.</p>
11			109,111			<p>Section 3.9 should be revised to address the potential impact of designating the Reservoir as critical habitat on the Community, and to the extent that any Management Plan provides the basis for exclusion, that Management Plan should be issued by the BIA.</p>	<p>No GRIC lands are designated as critical habitat under either Alternative.</p> <p>The Service has revised the text on the basis for exclusions in section 3.9.2.3 as follows:</p> <ul style="list-style-type: none"> <li>Deleted reference to the San Carlos Apache Mgmt Plan as the basis for</li> </ul>

						<p>excluding San Carlos Reservoir (Lake)</p> <ul style="list-style-type: none"><li>• Added: <u>“San Carlos Reservoir (Lake)</u> The conservation space of San Carlos Reservoir has been withdrawn from the San Carlos Apache Reservation and is owned and operated by BIA. BIA owns the Reservoir land in fee title as the owner and operator of the San Carlos Irrigation Project, up to elevation 2535. The land is not owned in trust for the benefit of the San Carlos Apache Tribe; nor is the land owned in trust for the GRIC (even though the Reservoir is managed for and delivers water for the benefit of the GRIC) (Service 2012). San Carlos Lake is being considered for exclusion from the final designation of critical habitat because of the significant benefits that would be realized by forgoing designation of critical habitat on this land. These benefits include continuation and strengthening of the Service’s effective working relationships with these two tribes to promote conservation of the flycatcher and its habitat, as well as supporting its Tribal trust responsibilities with respect to water delivery and storage.”</li></ul>
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12					<p>The Service completely failed to identify the Community’s Reservation on Table 3.8, listing “Tribal Areas in Newly Proposed Critical Habitat Segments,” and the related discussion in Section 3.9 on Tribal Trust Resources regarding impacts on tribal lands included as proposed critical habitat. The Service must identify and evaluate the impact that a critical habitat designation on the Reservation would have on the Community as a Tribal Trust Resource, and Section 3.9, including Table 3.8, should be revised to include a discussion of those impacts.</p>	<p>Table 3.8 only includes tribes on whose land critical habitat is designated. Section 3.9 discusses the potential impact of GRIC on designating the SC Reservoir, as noted in the response to comment #7 above.</p>
13			143-144		<p>a) Because the Community is an environmental justice population, the Service must consider the disproportionate impact that the Proposed Rule might have on the Community, given the fact that the Service is proposing to designate critical habitat on the Community’s Reservation and the important link between actions at the Reservoir and water deliveries to the Community. Accordingly, the Service should revise Section 3.13 (Environmental Justice) to include an environmental justice analysis of its Proposed Rule on the Community.</p> <p>b) Furthermore, to the extent that the Service did not take the Community’s population into account in Table 3.20 (Percent Minority and Poverty Populations within Counties containing Critical Habitat (2010)), the Service should revise the Table to include the Community’s population for the State of Arizona. Similarly, because the</p>	<p>Neither Alternative considered in the EA includes GRIC lands within designated critical habitat.</p> <p>a) With respect to the designation of San Carlos Lake in Alternative A, the Service has added discussion of the conservation measures that could result from consultations on operations of SCIDD (see comment #7 above). Based on the conclusion that reductions in water delivery are unlikely to occur, we would not expect impacts that raise environmental justice concerns.</p> <p>b) Table 3.20 is based on U.S. Census data for Arizona and County Quickfacts. It should therefore reflect all American Indian populations.</p>

						Service has not identified or evaluated the critical habitat designation on the Community's Reservation along the Lower Gila River, the Service must include in its Environmental Justice evaluation the potential disproportionate impact that such a designation would have on the Community as an environmental justice population.	
14	0178	NM Dept of Agriculture				NMDA suggests that FWS provide an analysis that recognizes the agricultural industry	The impact envisioned in the comment letter relates to the availability of irrigation water. While the Economic Analysis does not include a chapter specifically titled "agriculture," Chapter 3 of the Economic Analysis discusses potential impacts on water management, including irrigation diversions, in great detail. We do not anticipate changes in the amount of water available as a result of the listing or designation. Rather, the water projects have historically obtained Incidental Take Permits by completing HCPs that generally involve acquiring mitigation lands and various management activities. Because changes in flow are not anticipated, impacts to downstream agricultural users are not anticipated.
15			155	7		NM disagrees with the statement that "potential impacts to the quality of the environment are not likely to be highly controversial" suggests this: "potential impacts...may result in varying degrees of controversy."	The EA acknowledges prior controversy (p. 155 lines 21-27). The Service believes that, with the combination of exclusions and voluntary conservation measures in place for most water projects, the likely impacts of the proposed designation would not be highly controversial. The Service understands that, given the prior history

							of designation, some level of controversy may result.
16	0197	Salt River Project				The document does not adequately identify and analyze the incremental difference between Alternative B and the No Action Alternative (the 2005 designation) for both positive and negative impacts. Instead it describes various plans, programs, voluntary measures, restoration projects and management actions that provide some of the basis for area exclusions. Some of these activities provide only conservation assurances, while others have more defined conservation accomplishments. The document fails to analyze these activities in a manner that allows the analysis of differences between Alternative B and what was designated as critical habitat in 2005. The document simply does not distinguish well enough between these actions.	A table summarizing Alt B stream segments proposed for exclusion, including those added in the July 12 FR notice, has been added. The Summary Table of Impacts (Table 2.4, p. 36) summarizes the impacts of both Alternatives.
17						Impacts based on biological effects, such as benefits to the flycatcher anticipated under the different actions, are not well developed. For example, the document describes areas proposed for exclusion under Alternative B that have some type of conservation or management plan to protect habitat, but there is no discussion as to why designating critical habitat in these habitat areas will provide any additional benefit to the species or its habitat.	Areas proposed for exclusion are those that meet the definition of critical habitat but that have sufficient and enforceable conservation plans and protections in place so as to aid in conservation and recovery of the species without requiring designation as critical habitat. For these areas, the Service has determined that the benefits of inclusion in critical habitat designation are outweighed by the benefits of exclusion of these areas from critical habitat.
18						The document concludes that “potential impacts to environmental resources, both beneficial and adverse, would be minor or moderate in all cases.” (p. 42) However, the	Add to section 3.6.2.2: “It should be noted that, while the list above provides the range of potential project modifications, the history of previous

					<p>discussion related to the addition of adverse modification analysis in future Section 7 consultations lists, as potential project modifications, the following:</p> <p><i>“Alteration of dam operations to more closely mimic the natural hydrograph; Reducing or retiring of other water consumptive stressors (such as water diversion or groundwater pumping) to offset impacts” (p. 121).</i></p> <p>These activities have the potential to have significant impacts, and the effects of these types of project modifications are not well developed or acknowledged in the document.</p>	<p>consultations suggests that none to date have required changes to water operations for flycatcher such that downstream flow to water users has been affected. Due to the extensive history of management of flycatcher through mitigated incidental take, this Environmental Assessment assumes that, in areas where flycatcher territories have been detected, water managers will pursue an ITP or statement for current operations as part of an HCP or section 7 biological opinion.</p> <p>In addition, management agencies have asserted in some cases that they lack legal discretion to release water for flycatcher management purposes. For example, in <i>Defenders of Wildlife v. Norton</i>, the Federal district court held that U.S. Bureau of Reclamation (USBR) lacked discretion to provide water for species in the Colorado Delta because USBR was precluded from changing Colorado River operations by the Colorado River compact (<i>Defenders of Wildlife v. Norton</i>, 257 F. Supp. 2d 53 (D.D.C. 2003)). Other court cases addressing section 7 consultation between USBR and the Service have upheld the use of off-site mitigation, as is often contemplated in incidental take permits (ITPs) for the flycatcher, and allowed USBR to raise the level of the lake above existing flycatcher habitat</p>
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						<p>(<i>Southwest Center v. U.S. Bureau of Reclamation</i>, 143 F.3d 515, (9<sup>th</sup> Cir. 1998) and <i>Southwest Center for Biological Diversity v. U.S. Bureau of Reclamation</i>, 6 F. Supp. 2d 1119 (D.Az. 1997). Based on these findings, it appears unlikely that flycatcher conservation efforts will result in changes in dam operations beyond those conservation activities outlined in an ITP. Therefore, the list of possible project modifications above must be read in conjunction with the earlier judicial opinions and consultation history which help define the most likely consultation outcomes.”</p> <p>The summary at the end of Section 3.6.2.2 explains the rationale for why adverse impacts would be expected to be moderate. We have added this point to the summary: “(1) the majority of previous completed section 7 consultations covering significant water management and operations, with and without critical habitat, have resulted in no or only minor no or only minor alterations to dam operations or retiring of water consumptive stressors;”</p>
19						<p>There is an inconsistency between the Draft EA and the Draft Economic Analysis in how the modification of reservoir operations is dealt with as a potential measure to offset adverse modification of critical habitat. On page 3-1 of the Draft Economic Analysis, it cites a Solicitor’s Opinion that alteration of</p> <p>The new text in section 3.6.2.2, as given in the previous response, establishes a more consistent treatment between the two documents of alteration of dam operations as a possible consultation outcome.</p>

						dam operations are “not realistic for several reasons, including the fact that management agencies may lack legal discretion to release water for flycatcher management purposes, as well as a history of legal decisions upholding section 7 consultations allowing the raising of lake levels to be offset by off-site mitigation.” This issue should be dealt with consistently across both documents.	
20			41	Table 3.1		Suggest adding USDA and NPS to list of agencies likely to enter into section 7 consultations with FWS under the No Action Alternative	The U.S. Forest Service is the Federal bureau within the U.S. Department of Agriculture that would be likely to consult with the Service, and this agency is already listed. We have added the National Park Service to this list and noted other places in the environmental assessment where actions by the National Park Service could be considered in section 7 consultations for flycatcher critical habitat.
21			57			On page 57, under section 3.2.2.3, the last paragraph in that section (beginning with line 24) is contradictory to the second paragraph (beginning with line 13). It is unclear which alternative (A or B) is being discussed in the last paragraph. This paragraph is titled “Alternative B,” however the contents reflect arguments and descriptions of Alternative A.	The first sentence of the final paragraph will add the word “both”, to read: “In summary, both action alternatives...”
22			130	Table 3.14		Under Arizona stream segments “Roosevelt Lake – Salt River” and “Roosevelt Lake – Tonto Creek, please add the U.S. Bureau of Reclamation (“Reclamation”) in the column titled “Federal and/or State Landowners.” Although the Tonto National Forest manages recreation on these lands, they are	This correction has been made

						Reclamation withdrawn lands.	
23	0181	Santa Clara Pueblo				BIA should be mentioned among potential consulting agencies.	Added to section 3.9.1: “ the Secretarial Order provides for the role of Bureau of Indian Affairs (BIA) in the section 7 consultation process: in addition to circumstances where BIA is the agency proposing an action, BIA also has a role to play where another federal agency is proposing an action that may affect tribal rights or tribal trust resources. In such cases, the Service shall notify the affected tribe(s) and either provide for (where the action agency is another agency of the Department of Interior) or encourage (if the action agency is outside DOI) participation of the BIA in the consultation process.”
24			108	Table 3.7		Table needs to be corrected. The population numbers in the table encompass more than just the Pueblo proper. The actual pueblo population is 2,600 enrolled members.	The Service has incorporated this number and included a footnote noting the specific population numbers cited by commenter.
25				Sec 3.13	Environmental Justice	The Draft EA views environmental justice impacts only through a macro lens. ..environmental justice impacts must be assessed by looking at those impacts on us as a separate, unique people, and not solely within the context of the entire...designation.	The EA acknowledges the potential for localized environmental justice impacts, stating (p. 143), “the potential for economic impacts that disproportionately effect low income or minority communities exists for the types of activities listed above, to the extent that there are employment and payroll impacts of reductions on economic activity, and those impacts are concentrated in the minority or low income communities. Since no specific projects are mandated or authorized by this designation of critical habitat, and

							the designation does not directly restrict land use or land management activities, it is not possible to predict whether such impacts will in fact occur. However, it is likely that any such impacts would be at most minor, in the context of the entire designation, because: (1) the economic impacts associated with individual relevant projects or actions would be relatively small; and (2) there would be only a small number of projects throughout the designation which would create such impacts.
26	0188	Best Best & Krieger on behalf of several water districts				The Service's NEPA analysis contradicts the DEA's treatment of water projects as mostly 'baseline' impacts on grounds that they are already subject to Section 7 consultations. The DEA must analyze all economic impacts resulting from "reinitiated" consultations referred to in the Environmental Assessment.	See response to comment 18,
27	0238	Riverside County Flood Control and Water Conservation District				The designation of critical habitat within existing flood control facilities would result in potential risks to public health and safety...the proposed critical habitat would likely delay, if not compromise, the District's ability to maintain existing flood control facilities. Federal funding related to flood control facility repairs could be significantly delayed as well. If flood control facilities are not properly maintained or repaired when damaged, public health and safety could be put at risk and the potential impacts have not been addressed in the EA.	The channel maintenance activities described in the District's letter are covered activities within a long-term maintenance agreement that is currently being finalized between the CA DFG and the District, as part of the implementation of the WRC-MSHCP. On June 22, 2004, the Service issued a single incidental take permit under section 10(a)(1)(B) of the Act to 22 permittees under the Western Riverside County MSHCP to be in effect for a period of 75 years (Service 2004). The Service anticipates the proposed actions will affect the southwestern willow flycatcher, including the loss of up to 23

						<p>percent of the modeled habitat for this species in the plan area (Service 2004, p. 227). Within the Plan, and through implementation of the Riparian/Riverine Areas and Vernal Pools policy, we anticipate no loss of occupied southwest willow flycatcher habitats or areas otherwise determined to have long-term conservation value for the species (Service 2004, p. 227). We concluded in our biological opinion (Service 2004b, p. 227) that implementation of the Plan, as proposed, was not likely to jeopardize the continued existence of the southwestern willow flycatcher. Our determination was based on our conclusion that based on the low level of impact anticipated to individuals of this species and because the impacts associated with loss of the southwestern willow flycatcher's modeled habitat, when viewed in conjunction with the protection and management of the MSHCP Conservation Area, are not anticipated to result in an appreciable reduction in the numbers, reproduction, or distribution of this subspecies throughout its range (Service 2004, p. 227).</p> <p>Species-specific conservation objectives are included in the Western Riverside County MSHCP for southwestern willow flycatcher. The MSHCP Conservation Area will include at least 4,282 ha (10,580 ac) of flycatcher</p>
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						<p>habitat (breeding and migration habitat) including six core areas of high-quality habitat and interconnecting linkages, including essential segments of the Santa Ana River, San Timoteo Creek, and Temecula Creek (including Vail Lake). The plan aims to conserve 100 percent of breeding habitat for the flycatcher, including buffer areas 100 m (328 ft) adjacent to breeding areas. In addition, the Western Riverside County MSHCP requires compliance with a Riparian and Riverine Areas and Vernal Pool policy that contains provisions requiring 100 percent avoidance and long-term management and protection of breeding habitat not included in the conservation areas, unless a Biologically Equivalent or Superior Preservation Determination can demonstrate that a proposed alternative will provide equal or greater conservation benefits than avoidance.</p> <p>The Service completed an internal consultation on the effects of the plan on the flycatcher and its habitat that is found within the plan boundaries, and determined that implementation of the plan provides for the conservation of the species because it provides for the conservation of breeding and migration flycatcher habitat, the conservation of dispersal habitat and adjacent upland areas, surveys for undiscovered populations, and the maintenance and</p>
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							potential restoration of suitable habitat areas within the conservation area. For these reasons, even if proposed areas covered by the WRC MSHCP were not excluded, designation would not lead to incremental effects on habitat management within covered areas.
28						Table 3.4 does not include the Federally listed Santa Ana River woolly-star. The proposed critical habitat within the Santa Ana River floodplain could result in habitat management decisions in favor of riparian flycatcher habitat, but to the detriment of alluvial fan sage scrub species and the woolly-star conservation objectives into the WRC-MSHCP.	The river processes that encourage native plant growth and succession for flycatchers would be expected to benefit other native plants and wildlife as well. As a result, there should not be a conflict. Riparian areas are dynamic and there are open spaces along rivers where soils are not conducive to woody plant growth, and other plants are more geared towards growing there. Side tributaries with open washes are not within our proposed designation, with the exception of areas immediately at the confluence.
29						Flood control systems could be adversely affected by the proposed critical habitat if the Section 7 consultation results in requirements to conserve dense riparian woodlands in areas needed for channel capacity or in areas where such vegetation conflicts with federal levee maintenance requirements for vegetation free zones. Requirements to acquire and/or create dense riparian habitat to mitigate impacts to critical habitat could delay the timing and the ability of local agencies to fund flood control maintenance activities putting neighboring communities at risk of flooding.	Added to Section 3.6.6.2: "Flood control systems could be adversely affected by the proposed critical habitat designation if a section 7 consultation resulted in requirements to conserve dense riparian woodlands in areas needed for channel capacity or in areas where such vegetation conflicts with federal levee maintenance requirements for vegetation free zones. Requirements to acquire and/or create dense riparian habitat to mitigate impacts to critical habitat could delay the timing and the ability of local agencies to fund flood

							control maintenance activities putting neighboring communities at risk of flooding.
30						The EA analysis of Alternative A is based only on additional stream segments [compared to 2005 designation]. This approach may under-estimate adverse impacts of Alternative A	The No Action Alternative consists of areas designated in 2005. This comports with the requirements of the National Environmental Policy Act (NEPA) to analyze the impacts if none of the proposed actions were taken. Alternative A is defined as the addition of newly proposed critical habitat segments, and the analysis consists of the incremental impact of designating those segments. The sections on Cumulative Impacts consider the impacts of these segments when added to those of past, present, and reasonably foreseeable future actions.
31						The EA appears to be based on the incorrect assumption that suitable or occupied flycatcher habitat occurs across the entirety of mapped floodplains and recovery management units, and that Section 7 consultations would currently be required within the entire mapped floodplains/ management units. Most floodplains and management units (e.g. Santa Ana River) include various habitat types such as unvegetated open channel areas and areas that are not known to be occupied. If included in the critical habitat, these areas would be subject to Section 7 consultations, further unnecessarily delaying critical flood control maintenance activities.	The EA analyzes impacts based on the methodology, assumptions and definitions of critical habitat found in the proposed rule, beginning on 76 FR 50554. This section includes discussion of migratory habitat, lateral extent, and mapping, as they relate to coverage of areas within each management unit.
32						EA Section 3.6.2.3 incorrectly concludes that	For the reasons described above, the

					<p>Alternative B impacts would be similar to Alternative A. Alternative B would result in the exclusion of the existing Santa Ana River Levee system from critical habitat and avoid the adverse impacts that a critical habitat designation would likely have upon the levees. The EA should accurately describe the full extent of the reduced potential adverse impacts provided by Alternative B.</p>	<p>Service believes there would be minimal impacts on flood control activities within the Santa River levee system; therefore, excluding the area in Alternative B would not appreciably reduce the specific impacts compared to inclusion of these segments.</p>
33					<p>Section 3.12.2.2 of the EA does not address all the potential adverse Socioeconomic consequences of Alternative A, which would not exclude any of the proposed critical habitat units. Alternative A would include the existing Santa Ana River Levee system in the critical habitat area. This would result in possible delays in Section 404 Permits for levee maintenance activities as well as Section 7 conservation measures to provide riparian vegetation conflicting with federal levee certification and maintenance requirements. As a result, the levees may be decertified and approximately 3,300 acres of land (approximately 10,000 residents) would be placed in a FEMA flood hazard area and required to purchase flood insurance policies for federally secured mortgages. The potential flood insurance cost should be estimated and included in the analysis of Alternative A. The flood insurance cost burden within low-income areas protected by the levees could be especially severe.</p>	<p>The Service believes that the flood control rating for the levees would not be affected by the designation because Service policy and precedent demonstrate that maintenance activities necessary to protect against the loss of life or property are not precluded by the Act. The Endangered Species Act does not expect species conservation to take precedence over protection of human life or property. For example, 16 USC 1536(p) allows for emergency actions to be taken without section 7 consultation in the event of an “emergency situation which does not allow the ordinary procedures of this section to be followed.” Examining the section 7 consultation history for the Santa Ana sucker related to flood control operations at Cogswell Dam shows that flood protection projects (such as sediment control) have been allowed to continue even when critical habitat was designated for the sucker at that location. The Service believes that section 7 consultation is unlikely to result in the alteration or maintenance of</p>

							an existing levee to such a degree as to adversely impact human safety. Thus, economic impacts that potentially could result from a catastrophic flood event, such as loss of life or property value, are not quantified, because management actions to prevent catastrophic flooding are not expected to be precluded due to designation of critical habitat for the flycatcher. As such, while some costs may be incurred to complete section 7 consultations, the functioning of the levee system is unlikely to be affected by the presence of the flycatcher or designated critical habitat and, therefore, flood insurance premiums would not change.
34						Section 3.13.2 does not address the potential adverse environmental justice impacts of Alternative A. The potential remapping of existing developed areas behind the Santa Ana River Levees as flood hazard areas could adversely impact low income or minority communities. In addition to public health and safety concerns, a remapped floodplain would increase flood insurance costs and the residential and commercial construction costs to flood proof structures and comply with floodplain management requirements.	For reasons describe above in response to comment 33, the Service does not expect such remapping to occur as a result of critical habitat designation.
35						Alternative A would place miles of the existing Santa Ana River Levees within critical habitat resulting in the potential adverse impacts described herein. Since such adverse impacts have not been adequately analyzed in the EA, Chapter 4 understates the level of significant impacts that may result	For reasons describe above in response to comment 33, the Service does not expect such remapping, and the potential adverse impacts therefrom, to occur as a result of critical habitat designation.

						from the proposed action.	
36		U.S Customs & Border Protection				The EA did not evaluate potential impacts to human health and safety because the proposed action does not have the potential to impact that resource area. If areas are designated that impact CBP operations along the border, there is potential impact to public health and safety, so the area should not have been excluded.	The Service also considered potential effects to public health and safety regarding potential modifications to Department of Homeland Security (DHS), Customs and Border Patrol operations along the U.S.-Mexico border. Only one of the proposed segments, in the occupied Parker to Southerly International Boundary Management Unit, reaches within a quarter-mile of the U.S.-Mexico border near Yuma, AZ, where the Colorado River forms the border. The Service considered whether border control activities could be impacted by the designation. No previous consultations have involved the area close to the border within this unit, and the immediate area that could potentially be impacted by nearby border control activities does not contain essential habitat. Therefore, any proposed border control actions close to designated habitat would be expected to have limited effects on the habitat of the species and, if section 7 consultation occurred, it would most likely result in a "not likely to adversely affect" the species or critical habitat.

## Appendix E

### Transcript of Public Hearing on Designation of Critical Habitat for Southwestern willow flycatcher

August 16, 2012

**In The Matter Of:**  
*PUBLIC HEARING*  
*SW WILLOW FLYCATCHER*

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*SW WILLOW FLYCATCHER*  
*August 16, 2012*

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U.S. FISH AND WILDLIFE SERVICE

PUBLIC HEARING

Southwestern Willow Flycatcher Proposed Critical Habitat

commenced at 6:30 p.m. on August 16, 2012, at the Apache Gold Convention Center, Globe, Arizona, before LORENA K. WAGNER, a Court Reporter in and for the County of Maricopa, State of Arizona.

\* \* \* \* \*

A P P E A R A N C E S

- U.S. Fish and Wildlife Service:
- Jeff Humphrey, Specialist
- Greg Beatty, Fish and Wildlife Biologist
- Debra Bills, Assistant Field Supervisor
- Nathan Allan, Wildlife Biologist
- Edgar Soriano, Volunteer
- Nichole Englemann, Intern

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Globe, Arizona  
August 16, 2012  
6:30 p.m.

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PROCEEDINGS

MR. HUMPHREY: We're now on the record.

Good evening.

On behalf of the United States Fish and Wildlife Service, I welcome you to this public hearing regarding the proposed rule to revise Critical Habitat for the Southwestern Willow Flycatcher.

This afternoon, we had an information meeting at this location where we were available to answer questions.

Tonight the purpose of the hearing is for us to hear comments and record comments for our public record, for our decision-making process, regarding the proposal that's before us.

The following representatives of the United States Fish and Wildlife Service are also in attendance today.

Up-front, we have Nathan Allan, wildlife biologist, for the Service out of the southwestern

1 regional office.

2 To my left is Debra Bills, supervisory  
3 biologist for the U.S. Fish and Wildlife Service in  
4 Phoenix.

5 To my right, Greg Beatty who is the  
6 wildlife biologist out of the Phoenix office. He's the  
7 lead Flycatcher biologist for the U.S. Fish and Wildlife  
8 Service.

9 At the registration table, you may have met  
10 Edgar Soriano who is a volunteer for the Fish and  
11 Wildlife Service as well as Nicole Englemann who is a  
12 student at SCEP, Student Career Experience Program,  
13 intern for the U.S. Fish and Wildlife Service.

14 Also assisting us tonight is Court Reporter  
15 Lorena Wagner from Bartelt and Kenyon, a firm out of  
16 Phoenix.

17 Thanks, Lorena.

18 You've probably found or collected at the  
19 information table outside or saw that there are packets  
20 there that are available to you.

21 There are CDs in the packets that have the  
22 proposed rule that we're seeking comment on as well as  
23 the Draft Economic Analysis and Environmental Assessment.

24 We will have a brief presentation this  
25 evening. Afterwards, Greg Beatty, our principal

1 biologist on this, will be in the back of the room or  
2 near the registration table so we can answer your  
3 individual questions if you have those during the course  
4 of this hearing.

5 This is a public hearing under Section 4 of  
6 the Federal Endangered Species Act.

7 On August 15, 2011, the Service published  
8 in the Federal Register a proposed rule to revise the  
9 Critical Habitat Designation for the Southwestern Willow  
10 Flycatcher, an endangered migratory bird, under the  
11 Endangered Species Act.

12 A revision of the Proposed Critical Habitat  
13 Redesignation and notice of this public hearing were  
14 published in the Federal Register on July 12th of this  
15 year. At that time, a Draft Economic Analysis and Draft  
16 Environmental Assessment were made available for comment.

17 We'll accept comments and information on  
18 this proposal, the Draft Economic Analysis and the Draft  
19 Environmental Assessment, until September 10, 2012. The  
20 methods for providing those comments are also in here in  
21 your information packet.

22 At this point, I'd like to reintroduce  
23 Greg Beatty who will provide a brief presentation on the  
24 proposed rule to revise the Critical Habitat Designation  
25 for the Southwestern Willow Flycatcher.

1                   For the purposes of today's meeting, at  
2 this point, we will close the collection of the record;  
3 and we'll resume when Greg is finished with his  
4 presentation.

5                   (Mr. Beatty provided his presentation,  
6 followed by Ms. Bills and Mr. Allan.)

7                   MR. HUMPHREY: We are now going to go back  
8 on the record.

9                   Thank you, Greg, Nathan, Debra.

10                  At this time, I invite Greg Beatty to go to  
11 the back of the room or near the registration desk.

12                  If anybody has any questions -- specific  
13 questions -- that they'd like to ask, Greg is available  
14 to answer those questions then at the back of the room.

15                  The purpose of this hearing, again, is to  
16 receive your comments on the proposal, the Draft Economic  
17 Analysis, and the Draft Environmental Assessment. It's  
18 not a debate, nor is it a forum for discussion of the  
19 Endangered Species Act, nor will this forum allow for the  
20 panelists here to answer questions proposed to them.

21                  Hopefully those of you that attended this  
22 afternoon were able to get your questions answered in the  
23 afternoon.

24                  The comments on all aspects of the proposal  
25 are very important and will be carefully considered.

1 Because of the importance of your comments, it is  
2 necessary to follow certain procedures here this evening.

3 And I'll be very brief here. If you want  
4 to present oral comments at the hearing, please go to the  
5 registration table and fill out a card and indicate that  
6 you have an oral comment that you would like to provide  
7 this evening.

8 If you haven't yet done so, you're welcome  
9 to go back and complete a card or change your card to  
10 indicate that you'd like to provide an oral comment.

11 At this time, we don't have any oral  
12 comments or people that have requested to provide oral  
13 comments.

14 Is there anybody present that would like to  
15 provide an oral comment?

16 I'll note that no one has indicated they  
17 want to provide an oral comment at this point.

18 So at this point, what I will do is suspend  
19 this hearing for another five minutes. I show the time  
20 to be 7:15. So at 7:20 then, we'll readjourn to see if  
21 anybody has provided any requests to provide oral  
22 comments. And if not, at that point, we will formally  
23 close the hearing; okay?

24 (A recess was taken from 7:15 p.m. to  
25 7:25 p.m.)

1                   MR. HUMPHREY: All right. We're going to  
2 go back on the record.

3                   During our break -- And I show the time to  
4 be 7:25. During the break, no one has completed or  
5 requested to provide an oral comment.

6                   So instead of presenting oral comments  
7 here, you can also provide your comments to any of the --  
8 through any of the mechanisms that are listed on the  
9 table here that Nathan went over with you. You can also  
10 drop your comments in the comment box at the front desk.  
11 And we'll see that they get to the Arlington address to  
12 be incorporated into the administrative record.

13                   Right now I show the time to be 7:27.

14                   And on behalf of the U.S. Fish and Wildlife  
15 Service, we appreciate the time and the effort that you  
16 took this evening to come to the hearing and also those  
17 of you that came this afternoon to enter into discussion  
18 with us.

19                   Again, as a reminder, comments must be  
20 submitted by September 10th.

21                   The information that's up on the chart --  
22 the slide right now -- is in your information packets  
23 that can address the information. It's in your -- it's  
24 in there in a couple of places. The last question and  
25 the Frequently Asked Questions section of your packet has

1 this address and information as well.

2 This hearing is closed.

3 I show the time to be 7:28. We're off the  
4 record.

5 (The proceedings concluded at 7:28 p.m.)

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**SW WILLOW FLYCATCHER - August 16, 2012**

**BARTELT & KENYON  
(602) 254-4111**