

**APPENDIX G**  
**BIOLOGICAL ASSESSMENT**

**B I O L O G I C A L   A S S E S S E M E N T**

**US 550**

**FROM NEW MEXICO STATE LINE**

**NORTH TO COUNTY ROAD 220**

**LA PLATA COUNTY, COLORADO**



*Prepared for:*

Colorado Department of Transportation

December 2004

**URS**

8181 East Tufts Avenue

Denver, Colorado 80237

# BIOLOGICAL ASSESSMENT FOR US 550

From State Line North to County Road 220  
La Plata County, Colorado

*Prepared for*

Colorado Department of Transportation  
Federal Highway Administration

April 2005

**URS**

URS Corporation  
8181 E. Tufts Ave.  
Denver, CO 80237

Project No. 21711025.00001

# TABLE OF CONTENTS

---

1.	Section 1 ONE Description of Proposed Action .....	1-1
2.	Section 2 TWO Introduction .....	2-1
3.	Section 3 THREE Consultation History .....	3-1
4.	Section 4 FOUR Proposed Management Action .....	4-1
	4.1 Alternatives Screening .....	4-1
	4.1.1 Description of Preferred Alternative.....	4-1
5.	Section 5 FIVE Species Considered and Species Evaluated.....	5-1
	5.1 Bald Eagle.....	5-3
	5.1.1 Natural History.....	5-3
	5.1.2 Habitat Requirements.....	5-3
	5.1.3 Designated Critical Habitat.....	5-3
	5.2 Southwestern Willow Flycatcher.....	5-3
	5.2.1 Natural History.....	5-3
	5.2.2 Habitat Requirements.....	5-4
	5.2.1 Designated Critical Habitat.....	5-5
	5.3 Colorado Pikeminnow .....	5-5
	5.3.1 Natural History.....	5-5
	5.3.2 Habitat Requirements.....	5-5
	5.3.3 Designated Critical Habitat.....	5-6
	5.4 Razorback Sucker .....	5-6
	5.4.1 Natural History.....	5-6
	5.4.2 Habitat Requirements.....	5-6
	5.4.3 Designated Critical Habitat.....	5-7
6.	Section 6 SIX Environmental Baseline .....	6-1
	6.1 Current Conditions.....	6-1
	6.1.1 Bald Eagle.....	6-1
	6.1.2 Southwestern Willow Flycatcher.....	6-2
	6.1.3 Colorado Pikeminnow .....	6-6
	6.1.4 Razorback Sucker .....	6-6
7.	Section 7 SEVEN Effects of the Action.....	7-1
	7.1 Bald Eagle.....	7-1
	7.2 Southwestern Willow Flycatcher.....	7-1
	7.3 Colorado River Fish.....	7-3

# TABLE OF CONTENTS

---

8.	Section 8 EIGHT Conclusion .....	8-1
9.	Section 9 NINE Mitigation Measures.....	9-1
10.	Section 10 TEN Effect Determination.....	10-1
11.	Section 11 ELEVEN References .....	11-1

## List of Tables

Table 1	Federally Listed Species Potentially Occurring in the US 550 Project Area and Their Federal Status
---------	--

## List of Figures

Figure 1	Project Location
Figure 2	Southwestern Willow Flycatcher Survey Areas 1 and 2
Figure 3	Southwestern Willow Flycatcher Survey Areas 3 and 4

## Appendix

Appendix A	Letters of Correspondence from USFWS
------------	--------------------------------------

# List of Acronyms

---

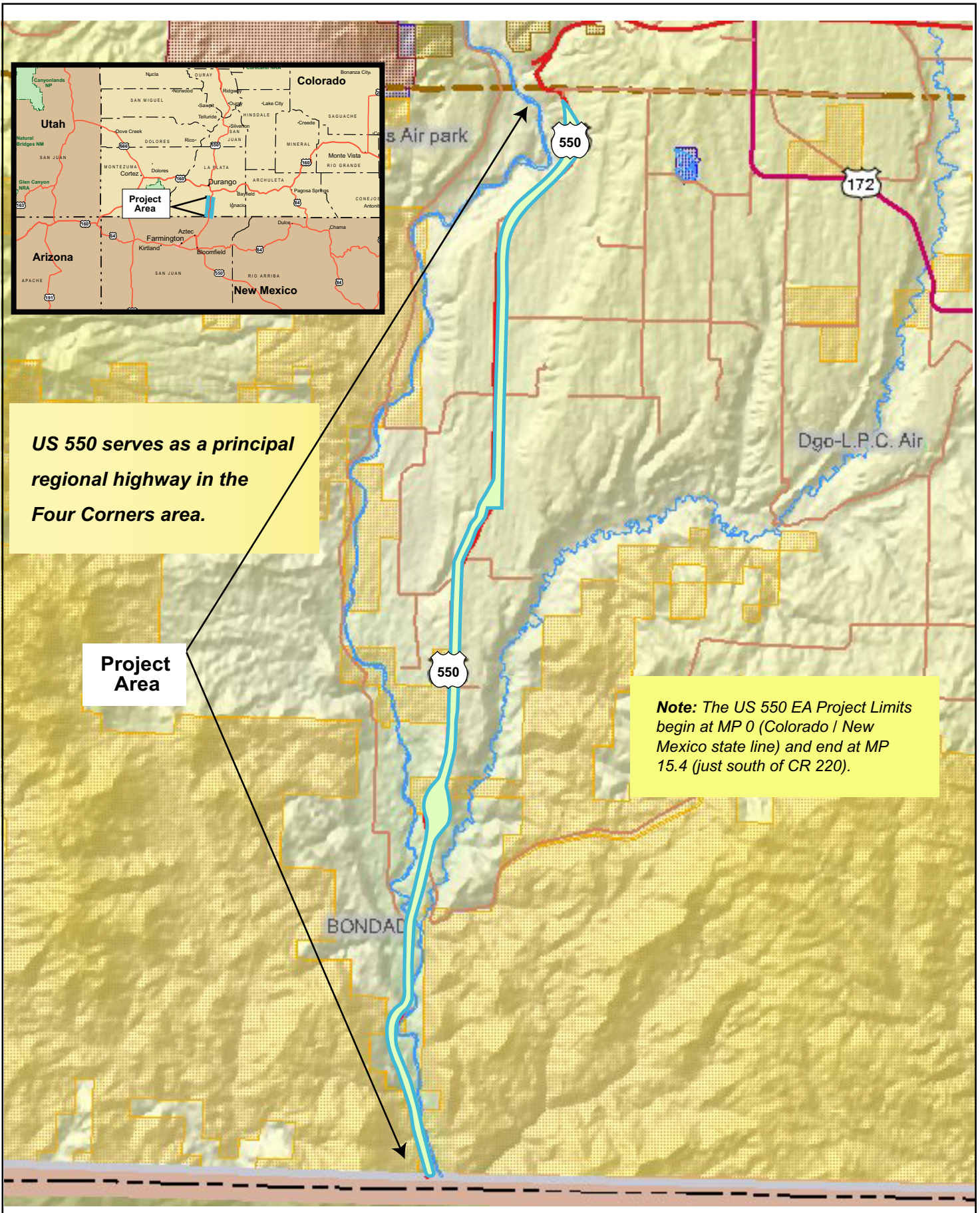
BA	Biological Assessment
CDOT	Colorado Department of Transportation
CDOW	Colorado Division of Wildlife
CR	County Road
DDT	dichloro-diphenyl-trichloroethane
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
MP	milepost
mph	miles per hour
N	North
NEPA	National Environmental Policy Act
R	Range
ROW	right-of-way
T	Township
URS	URS Corporation
US 550	United States Highway 550
U.S.	United States
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
W	West



The Colorado Department of Transportation (CDOT) Region 5, in conjunction with the Federal Highway Administration (FHWA), is proposing to reconstruct and expand 15.4 miles of U.S. Highway 550 (US 550) as a four-lane highway. The project is located in La Plata County, Colorado. The 15.4-mile project corridor extends from the New Mexico state line to the junction of County Road (CR) 220. The proposed action would improve the existing deficient highway design conditions and would provide increased capacity to accommodate projected future traffic volumes.

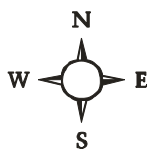
CDOT anticipates that improvements may include widening from two to four lanes, creating wider shoulders, roadway realignments between mileposts (MPs) 3.1 to 6.6, and incorporating wildlife underpasses. URS Corporation (URS), on behalf of CDOT, is preparing a Draft Environmental Assessment (EA) to evaluate potential impacts of the proposed project, which should be available for public review in April 2005.

The project is located in the Upper Colorado Drainage Basin and the San Juan River Watershed. The project corridor crosses the Animas River, a major river drainage basin at approximately MP 3.75 as well as numerous smaller streams, irrigation ditches, gulches, and wetlands, including Deer Creek. Elevations along the project corridor range from approximately 6,000 to 6,800 feet. The area assessed for impacts was generally 300 feet out from the centerline of the right-of-way (ROW) on either side of the highway, which included the existing road surface, all areas within the CDOT ROW, and other areas proposed for realignment. Aerial surveys for bald eagle nests included nests within 0.5-mile of the US 550 alignment.

The study area is encompassed on the Loma Linda, Long Mountain, and Bondad Hill, Colorado U.S. Geologic Survey (USGS) 7.5' quadrangles (see Figure 1) in Township (T) 34 North (N), Range (R) 9 West (W) in Sections 4U, 5U, 7, 8, 17 through 20, and 29 through 32; T 33N, R 9W in Sections 5 through 7, 18, 19, 30, and 31; T 32N, R 9W, Sections 6, 7, 18, & 19; and in T 32N, R 10W, in Sections 1, 12, and 13.



Legend	
	Project Corridor (15.4 miles)
	SUIT Lands



**Figure 1**

Project Location



In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S. Code [USC] 1531 et seq.), this Biological Assessment (BA) assesses impacts to species listed as threatened or endangered under the ESA as a result of the proposed US 550 improvement project. CDOT would like to request formal consultation with the U.S. Fish and Wildlife Service (USFWS) as the proposed expansion of US 550 may affect southwestern willow flycatcher (*Empidonax traillii extimus*) and bald eagle (*Haliaeetus leucocephalis*) potentially occurring in the study area. In addition, water depletions to the Animas River may adversely affect Colorado River fishes (razorback sucker [*Xyrauchen texanus*] and Colorado pikeminnow [*Ptychocheilus lucius*]) occurring downstream.

During site visits conducted in the project area in 2000 and 2001, no federal-listed threatened, endangered, or candidate species were detected within the study area. Additionally, in 2002 presence/absence surveys for southwestern willow flycatcher, the subspecies was not seen or heard within the suitable habitats surveyed in the US 550 study area. A bald eagle nest, which was actively used in 2004, is located in the vicinity of US 550, outside of the study area. Razorback sucker and Colorado pikeminnow occur downstream of the project area in the Colorado River Basin and would be adversely affected by water depletions to the Animas River expected as a result of this project.

URS contacted USFWS in August 2001 to request a list of federally endangered, threatened, proposed, and candidate species that potentially occur within the US 550 study area. Based on the length of time elapsed since URS received the original letter from USFWS (October 2001), CDOT requested an updated list from USFWS in November 2003. USFWS provided an updated list to CDOT on December 12, 2003, which is provided in Appendix A.

A biological survey was previously completed for a construction phase from the New Mexico state line to approximately MP 3.7. The results of this survey were summarized in the *Final Report: US 550 Safety Improvement Biological Survey* (Dames & Moore 1997).

In 2000 and 2001, contract biologists conducted site visits to map vegetation communities and determine the wildlife species and level of use in the US 550 study area (Sugnet 2003a). In addition, individual willow patches were assessed in the study area for potential to support breeding pairs of southwestern willow flycatchers. Presence/absence surveys for southwestern willow flycatcher within the US 550 study area were conducted in willow patches considered suitable habitat to support the species in June and July 2002 (Sugnet and URS 2003). The report summarizing the survey results was submitted to USFWS in October 2004.

An aerial raptor nest survey of the project area was conducted on June 21, 2004; results of that survey are included in this BA (CDOT 2004).

CDOT is proposing to reconstruct and expand US 550 from the New Mexico state line (MP 0.0) to just south of the intersection with CR 220 (MP 15.4) in La Plata County, Colorado (see Figure 1). The southern project limit was determined to be a logical terminus because this would enable northern continuation of the four-lanes that New Mexico has completed to the state line. A previous project phase widened US 550 from the New Mexico state line north for approximately 1 mile.

US 550 is currently a two-lane highway, except for the four-lane to two-lane transition that extends north from the New Mexico state line for 1 mile. A northbound passing lane is present at Bondad Hill.

The proposed action would improve US 550 to a four-lane highway by extending the existing four-lane section that ends approximately 1 mile north of the New Mexico/Colorado border north to the project terminus at CR 220. The start of construction on US 550 is pending approval of the EA.

## 4.1 ALTERNATIVES SCREENING

The EA for US 550 divided the 15.4 miles of highway into four distinct sections to analyze impacts from the proposed project. CDOT and FHWA identified, evaluated, and screened four alternatives, including a No Action Alternative, with input from the reviewing agencies (U.S. Environmental Protection Agency [EPA], USFWS, and Colorado Division of Wildlife [CDOW]). As part of the National Environmental Policy Act (NEPA) process, three alternatives for Section 2 are evaluated in the EA. This report addresses impacts to federally threatened or endangered species as a result of implementing the Preferred Alternative.

### 4.1.1 Description of Preferred Alternative

The Preferred Alternative generally follows the existing alignment for the 15.4-mile project corridor, except between MPs 3.1 and 6.6. A brief description of the proposed alignment by MP segment is as follows:

MP 0 to MP 3.1: This section would be widened from two to four lanes, with the proposed alignment generally following the existing median centerline. Except in the vicinity of the Southern Ute Indian Tribal Lands, no work is expected to be performed outside of existing ROW except where new ROW is required and for new driveway connections. The design speed for this segment is 70 miles per hour (mph) with a 46-foot depressed grass median separating opposing travel lanes.

MP 3.1 to MP 6.6: The proposed alignment would realign the CR 213 and CR 318 intersections to improve the approach angle with minor variations. The alignment would shift further to the east to flatten the horizontal curve at Bondad Hill. This shift reduces the grade on Bondad Hill from 6.5 percent to 5 percent between MPs 4.3 and 5.3. The highway design transitions from a 70-mph design speed with a 46-foot depressed grass median north and south of Bondad Hill to a 60-mph design speed with a 14-foot median and a median barrier separating opposing travel lanes.

MP 6.6 to MP 10.5: The proposed alignment would generally follow the existing two-lane highway, increasing the highway width to four travel lanes with moderate shifts to the east

and slight shifts to the west to reduce impacts to existing developments and to flatten horizontal curves. Under the Preferred Alternative, the intersection of US 550 with CR 215 intersection would be realigned to improve geometrics and provide 0.5-mile spacing from the CR 218 intersection. This design speed for this segment is 70 mph with a 46-foot depressed grass median separating opposing travel lanes.

MP 10.5 to MP 15.4: The proposed alignment generally follows the existing two-lane highway, increasing the highway width to four travel lanes with an easterly shift to hold the existing western ROW line. This section includes intersections with CR 214, CR 219 (two locations) and CR 302. The two CR 219/US 550 intersections will be consolidated into a single access point located between the two existing intersections. This is a 70 mph design speed with a 46-foot depressed grass median separating opposing travel lanes.

USFWS provided an updated list of threatened and endangered species that are known to occur or have the potential to occur in the general vicinity of the project area or that may be otherwise affected by the proposed project. Species descriptions and biology were determined through literature searches. Appropriate agency representatives, field guides, and on-line sources, such as the Natural Diversity Information Source, provided information on distributions and documented occurrences for federally listed and candidate species that occur in La Plata County. These species are listed in Table 1.

This BA addresses the potential direct and indirect effects of the proposed project on these species and associated critical habitat from implementing the Preferred Alternative. Copies of the letters from USFWS are included for review in Appendix A.

**Table 1  
FEDERALLY LISTED SPECIES POTENTIALLY OCCURRING IN THE  
US 550 PROJECT AREA AND THEIR FEDERAL STATUS**

<b>Species</b>	<b>Status</b>	<b>Potential for Occurrence</b>	<b>Habitat</b>
<b>Animal Species</b>			
Bald eagle <i>Haliaeetus leucocephalus</i>	Threatened	Present, winter habitat. Occasionally nests in region.	Large lakes, reservoirs, major rivers, estuaries, and some coastal areas. <sup>1</sup>
Southwestern willow flycatcher <i>Empidonax trailii extimus</i>	Endangered	Present in vicinity, breeding activity observed near Bayfield. No nest sites known in US 550 project area.	In Colorado, breed primarily in sandbar willows ( <i>Salix exigua</i> ) and Geyer willows ( <i>S. geyeriana</i> ) within approximately 100 feet of water, usually distant from trees. <sup>1,2</sup>
Yellow-billed cuckoo	Candidate	Presence unlikely. Will not be evaluated further.	Breed in large areas of lowland, riparian cottonwood-willow habitats, and urban areas with tall trees. <sup>1</sup> Historically occurred in the project vicinity, however, not known to currently nest in the US 550 corridor. <sup>1, 2, 3</sup>
Mexican spotted owl <i>Strix occidentalis lucida</i>	Threatened	Presence unlikely. Will not be evaluated further.	Nests and roosts in caves or cliff ledges in steep canyons with old-growth Douglas fir and pinyon-juniper at elevations of 4,400 to 6,800 feet. No suitable nesting or roosting habitat in project area; marginal winter habitat. <sup>4</sup>
Canada lynx <i>Lynx canadensis</i>	Threatened	Not present. Will not be evaluated further.	High-elevation spruce/fir forests with deep snow. Use rock ledges, trees, fallen logs, and sometimes caves for denning. No suitable habitat in project area.
Black-footed ferret <i>Mustela nigripes</i>	Endangered	Not present. Will not be evaluated further.	Shortgrass and midgrass prairie to semidesert shrublands in prairie dog colonies of sufficient size to support the species. No suitable habitat in project area.

**Table 1**  
**FEDERALLY LISTED SPECIES POTENTIALLY OCCURRING IN THE**  
**US 550 PROJECT AREA AND THEIR FEDERAL STATUS**

Species	Status	Potential for Occurrence	Habitat
Colorado squawfish (pike minnow) <i>Ptychocheilus lucius</i>	Endangered	Water depletions would occur from project construction activities and therefore will have adverse effects on downstream fish or habitat.	In Colorado, currently found in the Green, Yampa, White, Colorado, Gunnison, San Juan, and Dolores rivers. Do not occur in project area; populations occur downstream. <sup>5</sup>
Razorback sucker <i>Xyrauchen texanus</i>	Endangered	Water depletions would occur from project construction activities and therefore will have adverse effects on downstream fish or habitat.	Known habitat in the San Juan River Basin. Do not occur in project area; populations occur downstream. <sup>5</sup>
Uncompahgre fritillary butterfly <i>Boloria acrocneema</i>	Endangered	Not present. Will not be evaluated further.	Snow willow ( <i>Salix nivalis</i> ) patches in high-elevation alpine meadows at 10,000 to 14,000 feet in the San Juan Mountains. No suitable habitat in project area.
<b>Plant Species</b>			
Knowlton's cactus <i>Pediocactus knowltonii</i>	Endangered	May occur; no known populations in project area. Will not be evaluated further.	Alluvial deposits that form rolling gravelly hills with pinyon-juniper and sagebrush. Elevations of known populations range from 6,800 to 7,550 feet. Suitable habitat is in project area, though none were found during field surveys. Nearest known population is south along the Los Piños River in San Juan County, New Mexico and La Plata County, Colorado. This population is not located near the US 550 project area.
Mancos milkvetch <i>Astragalus humillimus</i>	Endangered	Not present. Will not be evaluated further.	Sparsely vegetated shale or adobe clay badlands at 4,000- to 5,000-foot elevations. No suitable habitat; project area is above known elevation range for species.
Mesa Verde cactus <i>Sclerocactus mesae-verdae</i>	Threatened	Not present. Will not be evaluated further.	Sandstone ledges or mesa tops often in association with pinyon-juniper woodlands, in cracks or sandy pockets at elevations of 5,500 to 5,850 feet. No suitable habitat in project area.

## References:

<sup>1</sup> Andrews and Righter 1992<sup>2</sup> Kingery 1998<sup>3</sup> Colorado Natural Heritage Program 2003<sup>4</sup> Sugnet 2003b<sup>5</sup> Japhet 2001

## 5.1 BALD EAGLE

### 5.1.1 Natural History

The bald eagle (*Haliaeetus leucocephalus*) is a federally listed threatened species that is the only species of sea eagle native to North America. Bald eagles are distinguished by white head and tail feathers contrasting with a dark brown body. Bald eagles are large, long-lived raptors;



females generally weigh up to 14 pounds and have a wingspan up to 8 feet. Males are smaller, weighing 7 to 10 pounds with a wingspan of 6.5 feet (USFWS 1999).

Bald eagles mainly subsist on fish, waterfowl, and carrion but are opportunistic feeders and often rely on rabbits and ground squirrels (Griffin et al. 1982). In Colorado and Wyoming, nest trees located in forest stands varied from old-growth ponderosa pine to linear groups of riparian woodland surrounded by rangeland (Kralovec et al. 1992). Nests and roosts are usually located in tall trees near water in areas free of human activity and development (Buehler et al. 1991; USFWS 1999; Steidl and Anthony 2000).

Bald eagles pair for life and typically return to the same breeding territory year after year. Eagles are territorial during nesting season and will defend their nesting territory (1 to 2 square miles) from other eagles. Clutch size is usually one to three eggs (NatureServe 2002). Nests are in tall trees and are large, typically 5 feet wide by 3 feet deep, and are used year after year. The most successful nests are situated below the crown of a live tree, where the young are sheltered from the elements and adults have easy aerial access.

### 5.1.2 Habitat Requirements

Bald eagles breeding habitat generally occurs within 2.5 miles of large lakes, reservoirs, major rivers in which there are adequate prey, perching areas, and nesting sites to support the species. In winter, bald eagles often congregate at roost sites that are generally close to open water and offer good perch trees and night roosts, which are used for sleeping and protection from winter storms. Eagles usually leave the roost to hunt early in the morning and return in the evening. However, roosts may be used all day during severe weather conditions. Roosts are used by individual eagles, or small to large groups; a communal roost is defined as a tree or group of trees used by 15 or more eagles.

### 5.1.3 Designated Critical Habitat

No critical habitat has been designated for this species in the project area.

## 5.2 SOUTHWESTERN WILLOW FLYCATCHER

### 5.2.1 Natural History

The southwestern willow flycatcher (*Empidonax traillii extimus*) was listed as federally endangered in 1995 and is one of four subspecies of the willow flycatcher. It is a small bird, approximately 6 inches long, with a green-gray back and wings, white throat, light olive breast,

pale yellow belly, and two white wing bars. It has a light eye ring and a long wide bill. The upper mandible is dark brown to black, and the lower mandible is pale orange. The southwestern willow flycatcher can be differentiated from other subspecies by its distinctive “fitz-bew” song.

Southwestern willow flycatchers inhabit riparian habitats, nesting only in dense willow shrub near surface water or saturated soil. The presence of water around the willows increases the forage basis by producing an abundance of insects (Sedgwick 1998; Andrews and Righter 1992).



Southwestern willow flycatchers are gleaning and sallying insectivores; their diets consisting of wasps, bees, beetles, butterflies, and caterpillars (Finch and Stoleson 2000).

Open-cupped nests are built in a fork of a branch, 4 to 25 feet above ground, and are made from leaves, grass, feathers, and animal hair. Clutch size is typically three eggs that are buff colored with occasional spotting on the blunt end (Finch and Stoleson 2000). Southwestern willow flycatchers arrive in breeding territories as early as April but typically between mid-May and June; a bird observed from mid-June to July 20 can be assumed to occupy breeding territory. Juveniles fledge in late June to mid-August, while adults leave breeding territories in mid-August to mid-September (Finch and Stoleson 2000).

### 5.2.2 Habitat Requirements

In Colorado and other higher elevation sites, southwestern willow flycatchers breed primarily in sandbar willows (*Salix exigua*) and Geyer willows (*S. geyeriana*) within approximately 100 feet of water (Finch and Stoleson 2000) and usually distant from trees. Habitat occupied by the species is generally near surface water and dominated by shrubs and small trees, 10 to 30 feet tall, that provide dense lower and mid-story vegetation.

Patch size is an important indicator of the species' productivity; therefore, USFWS has suggested minimum requirements for southwestern willow flycatcher willow carr size. Willow carrs measuring 30 feet in width and length, and 6 feet in height are considered suitable habitat for the subspecies. For purposes of this BA, it is assumed that all willow patches within the US 550 project area that fulfill these minimum size criteria are potentially suitable habitat and support, or potentially support, at least one southwestern willow flycatcher territory. Territory size requirements are not well known; however, habitat patches as small as 1.2 acres can support one or two nesting pairs.

Habitat patches used for breeding and nesting exhibit large variation in size and shape. Breeding patches may be a relatively dense, linear, contiguous stand or irregularly shaped mosaic of dense vegetation that contains open areas (Finch and Stoleson 2000). Southwestern willow flycatchers have not been observed nesting in narrow, linear riparian areas where the entire patch is less than 33 feet wide, although migrating individuals may utilize these linear areas. Research suggests that flycatchers cluster territories into small portions of riparian sites; major portions of the site may be occupied irregularly or not at all (Finch and Stoleson 2000).



### 5.2.3 Designated Critical Habitat

The southwestern willow flycatcher has declined during the last 100 years, primarily due to the loss, fragmentation, and modification of riparian habitats. In 1993, USFWS formally proposed listing the flycatcher as federally endangered and designated critical habitat for the species (USFWS 1993). In a 1995 ruling, USFWS found the southwestern willow flycatcher population to be very low and facing extinction without protection. Therefore, the southwestern willow flycatcher was listed as endangered, but designation of critical habitat was postponed (USFWS 1995a).

In 1997, USFWS designated 18 critical habitat units totaling 964 river kilometers (599 river miles) in Arizona, California, and New Mexico. In Colorado, critical habitat has been proposed in the San Luis Valley Management Unit, east of the project area (USFWS 2004a); however, no critical habitat is proposed within the vicinity of the project area. A Final Rule on the proposed critical habitat designations is expected in Fall 2005 (USFWS 2004b).

## 5.3 COLORADO PIKEMINNOW

### 5.3.1 Natural History

Colorado pikeminnow are long, slender fish with olive-green and gold backs, silver sides, and white belly. Adults attain a maximum size of approximately 6 feet in length and weighing up to 80 pounds. Though primarily a piscivorous fish, smaller individuals also eat insects and other invertebrates (CDOW 2004).

Colorado pikeminnow can migrate 200 miles to spawn (USFWS 2002b). During spring and early summer, adult Colorado pikeminnow inhabit areas inundated by spring flooding. These areas are considered important to renew energy reserves required for migration and spawning (USFWS 1994). Colorado pikeminnow spawn when they are 5 or 6 years old and at least 16 inches long. Spawning occurs after spring runoff when water temperatures are approximately 64 to 73 degrees Fahrenheit (USFWS 2002b). Eggs are deposited onto a gravel or cobble bottom, and usually hatch in less than one week (CDOW 2004). Following spawning, adult Colorado pikeminnow inhabit eddies, backwaters, and shorelines and are most common in shallow, ice-covered shoreline areas in winter (USFWS 1994).

### 5.3.2 Habitat Requirements

Colorado pikeminnow occupy warm-water reaches of the Colorado River mainstem and larger tributaries, and require uninterrupted stream passage for spawning migrations and dispersal of young (USFWS 2002b). They are long-lived, large-river fish that utilize a variety of substrates, depths, and velocities. Young prefer small, quiet backwaters, while adults require pools, deep runs, and eddy habitats maintained by high spring flows (USFWS 2002b). High spring flows are necessary to maintain channel and habitat diversity, flush sediments from spawning areas, to form gravel and cobble deposits used for spawning areas, rejuvenate food production, and rejuvenate backwater nursery habitats (USFWS 2002b).

Historically, Colorado pikeminnow were considered abundant in the Green and upper Colorado rivers and their tributaries (USFWS 2002b). In Colorado, they are currently found in the Green,

Yampa, White, Colorado, Gunnison, Dolores, and San Juan rivers (CDOW 2004). Colorado pikeminnow in San Juan River are a small (19 to 50 adults) reproducing population that occurs 130 miles downstream from Shiprock, New Mexico to Lake Powell (USFWS 2002b).

### 5.3.3 Designated Critical Habitat

Colorado pikeminnow have been listed as federally endangered since March 11, 1967. In 1978, USFWS proposed critical habitat on 623 miles of the Colorado, Green, Gunnison, and Yampa rivers, which was later withdrawn (USFWS 1994). In 1994, six reaches of the Colorado River system was designated as critical habitat for Colorado pikeminnow, totaling 1,848 miles. Critical habitat includes portions of the Colorado, Green, Yampa, White, and San Juan rivers (USFWS 1994). The primary threats to Colorado pikeminnow populations are streamflow regulation and habitat modification (including cold-water dam releases, habitat loss, and blockage of migration corridors); competition with and predation by nonnative fish species; and pesticides (USFWS 2002b).

## 5.4 RAZORBACK SUCKER

### 5.4.1 Natural History

Razorback suckers are one of the largest suckers in North America and can grow longer than 3 feet and to up to 13 pounds (USFWS 2004a). Razorback suckers have been documented to live 40 years or more. Individual razorback suckers have elongated bodies that are brownish-green with a yellow to white-colored belly with a bony, sharp-edged dorsal keel immediately posterior to the skull (USFWS 2002c). Breeding males turn gray-black up to the lateral line with a bright orange belly (CDOW 2004). Depending on age and habitat, razorback suckers consume insects, zooplankton, phytoplankton, algae, and detritus (USFWS 2002c).

Razorback suckers spawn at age 3 or 4, when they reach 14 or more inches long. Spawning in rivers occurs over bars of cobble, gravel, and sand substrates during spring runoff, though no spawning has been observed in the Upper Colorado River Basin (USFWS 2002c). In the Upper Colorado River Basin, razorbacks typically spawn between mid-April and mid-June, depending on water temperature. Razorback suckers migrate long distances to spawn and congregate in large numbers in spawning areas (CDOW 2004). Except during periods before and after spawning, adult razorback sucker are considered to be sedentary (USFWS 2002c).

### 5.4.2 Habitat Requirements

Razorback suckers habitat requirements vary by season and location. Young razorback suckers require nursery environments with quiet, warm, shallow water such as tributary mouths, backwaters, or inundated floodplain habitats in rivers, and coves or shorelines in reservoirs (USFWS 2002c). Flooded bottomlands and other low-velocity shoreline habitats in alluvial reaches of the upper Colorado, Green, and San Juan rivers are important nursery areas for larval and juvenile razorback sucker (USFWS 2002c).

Adults require rivers with deep runs, eddies, backwaters, and flooded off-channel environments in spring; runs and pools, often in shallow water associated with submerged sandbars in summer;

and low-velocity runs, pools, and eddies in winter (USFWS 2002c). However, in the San Juan River, hatchery-reared, radio-tagged adults were found in swifter mid-channel currents during summer-autumn base-flow periods (USFWS 2002c). Adults leave the main channel and moved into edge pools during low base flows in winter; edge pools were used exclusively in January, the coldest month of the study. During the other winter months, fish ventured into the main channel during the warmest part of the day, presumably to feed (USFWS 2002c).

No wild razorback suckers were found during a 1991 to 1997 research project conducted by the San Juan River Basin Recovery Implementation Program (USFWS 2002c). Hatchery-reared razorback sucker introduced into the San Juan River in the 1990s have survived and reproduced (USFWS 2002c).

Historically, razorback suckers were widely distributed in warm-water reaches of larger rivers of the Colorado River Basin from Mexico to Wyoming (USFWS 2002c). In the Upper Colorado River Basin, the razorback sucker has declined in distribution and abundance until it is now found in small numbers in widely distributed locations. Reproducing populations occur only in the Middle Green River in Utah, between the confluences of the Duchesne and Yampa rivers, in the lower reaches of those two tributaries (USFWS 2002c), as well as in an off-channel pond in the Colorado River near Grand Junction (CDOW 2004).

#### **5.4.3 Designated Critical Habitat**

The razorback sucker was first proposed for federal listing in 1978 but was withdrawn due to non-compliance with 1978 amendments of the ESA. The species was listed as endangered on October 23, 1991, though critical habitat was not designated until 1994 (USFWS 1994). Fifteen reaches of the Colorado River system, totaling 1,724 miles, were designated as critical habitat for razorback sucker, including portions of the Green, Yampa, Duchesne, Colorado, White, Gunnison, and San Juan rivers (USFWS 1994). Streamflow regulation, habitat modification, competition with and predation by nonnative fish species, and pesticides and pollutants have contributed to the decline of razorback suckers (USFWS 2002c).

## 6.1 CURRENT CONDITIONS

The majority of the US 550 project area consists of agricultural land, which occurs throughout the project area, and consists of irrigated grasses and/or alfalfa hay and pasture. Additionally, rural residences are scattered throughout the US 550 corridor. The highest densities of developed areas occur near Sunnyside Mesa.

Approximately 13 acres of wetlands occur throughout the study area, with their distribution closely linked to irrigation practices, rivers, and perennial streams. Irrigation ditches in upland areas support 19 isolated, small wetlands along the US 550 corridor. These irrigation ditches are located within agricultural pastures and meadows, and along roadsides. Wetlands are also common in the valleys of perennial streams, such as the Animas River Valley. The largest wetlands occur at the State Line North Project Mitigation Wetlands (1.73 acres; created in 2000), the Animas River (four wetlands comprising 1.24 acres), and at the unnamed tributary of the Florida River (six wetlands comprising 1.46 acres). Scrub-shrub wetland plant species at these locations is mainly comprised of sandbar willow (*Salix exigua*).

Riparian woodland in the project area are dominated by narrowleaf cottonwood (*Populus angustifolia*), broadleaf cottonwood (*Populus deltoids*), box elder (*Acer negundo*), chokecherry (*Prunus virginiana*), Russian olive (*Elaeagnus angustifolia*), and alder (*Alnus incana*). Understory species consist of sandbar willow (*Salix exigua*), hawthorn (*Crataegus rivularis*), Skunkbush sumac (*Rhus trilobata*), and wild rose (*Rosa woodsii*), and various forbs and grasses (URS 2004a). Riparian woodlands occur along the Animas River floodplain as well as along the Florida River. Linear cottonwood stands also are present along some irrigation ditches. Riparian shrub is dominated by sandbar willow and occurs in wetland areas as well as areas where there has been a loss in wetland hydrology (URS 2004a).

Pinyon pine (*Pinus edulis*)-juniper (*Juniperus osteosperma/J. scopulorum*) woodland dominates the west slopes of the Florida Mesa (MP 13.5 to 15.4), the Bondad Hill area (MP 4.5 to 7.5), and the western slopes of the Animas River Valley (MP 0 to 2.5). Sagebrush shrubland primarily occurs at the southern end of the Florida Mesa (MP 6.75) and the northern portion of the Animas River Valley (MP 3.7 to 4.2) and is dominated by big sagebrush (*Artemisia tridentata*).

### 6.1.1 Bald Eagle

Bald eagles historically ranged throughout North America, except extreme northern Alaska and Canada and central and southern Mexico. They nested on both coasts from Florida to Baja, California in the south, and from Labrador to the western Aleutian Islands, Alaska in the north.

Bald eagles started to decline in the 19th century due to trophy hunting, feather collecting, shooting, and poisoning bald eagle prey, and loss of nesting habitat due to forest clearing and development in the early to mid-20th century (USFWS 1999). After World War II, bald eagles suffered severe effects from the widespread use of dichloro-diphenyl-trichloroethane (DDT). DDT accumulated in the fatty tissues of adult female bald eagles, impairing calcium release and causing thin shells and reproductive failure. This led to listing the southern population of bald eagles as endangered in 1967 and the banning of DDT in 1972. In 1978, eagles throughout the United States were designated as endangered.

USFWS established a recovery program for bald eagles in the mid-1970s. The Northern States Recovery Plan, which includes Colorado, was approved in 1983. USFWS' delisting goal is for 1,200 occupied breeding areas distributed over a minimum of 16 states with an average annual productivity of at least 1.0 young per occupied nest. The Northern States Recovery Team delisting goals have been met for occupied breeding areas and for productivity. In 1994, 1,772 known occupied territories occurred within 21 states with an estimated 1.26 young per occupied territory.

In 1995, the bald eagle was downlisted to threatened, and USFWS proposed to remove the bald eagle from the Endangered Species List and declare the species fully recovered by July 2000, but the decision was delayed until USFWS decides on a management plan once the species is delisted. After USFWS delists the bald eagle, it will still be protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Through annual surveys and bird banding, the status of bald eagle populations are annually reviewed. In the 17 years since it was listed throughout the conterminous 48 states, the bald eagle population has increased in number and expanded in range. The improvement is a direct result of banning DDT and other persistent organochlorines, habitat protection, and from other recovery efforts (USFWS 1995b).

Bald eagles winter in the project area in small numbers and nest at several locations in the region. Historically during the winter, bald eagles were numerous along the Animas River corridor (Hayden 2003). More recently, however, bald eagles are only occasionally observed in the US 550 study area and periodically may utilize the Animas River near its confluence with the Florida River in the winter (Craig 2001).

Nesting activity occurs in Colorado between November 15 and July 31; CDOW recommends a 0.5-mile buffer between construction activities and an active bald eagle nest between these dates to prevent disturbance to nesting individuals and young (Craig 2001). No bald eagle nests have been observed within 0.5 mile of the US 550 corridor, although a presumed active nest is located west of the study area near Sunnyside Mesa (CDOT 2004). This nest is located more than 1.0 mile from US 550 and is not within the line-of-sight of proposed project activities due to its downhill location from the highway and pinyon pine-juniper habitat separating the highway from the nest location.

### 6.1.2 Southwestern Willow Flycatcher

Historically, southwestern willow flycatchers were widespread throughout the southwest, with southwest Colorado being in the extreme northeast portion of the species' current range. The subspecies currently occupies six states including Arizona, southern California, New Mexico, southern Nevada, southern Utah, and southwestern Colorado (Finch and Stoleson 2000; Paradzick et al. 2001), and winter in southern Mexico, Central America, and northern South America (USFWS 2001).

Many organizations consider the critical habitat designation insufficient, as large areas of occupied habitat were not included, including Colorado. In 2002, USFWS completed the final *Southwestern Willow Flycatcher Recovery Plan* (USFWS 2002a) with the objective to downlist the species to a "threatened" status and to identify actions needed to achieve this objective. These actions include an increase and improvement of occupied, suitable, and potential breeding

habitat; survey and monitor of known populations; and assurance of implementation of laws, policies, and agreements that benefit the species. The Recovery Plan established criteria that should be met before the southwestern willow flycatcher could be considered for downlisting to threatened, and for eventual removal from the Endangered Species List. Currently, there are 986 known territories; at least one of the two criteria must be met:

1. At least 1,950 southwestern willow flycatcher territories (approximately 3,900 individuals) geographically distributed in the Recovery Plan's six recovery units that are maintained for 5 years.
2. At least 1,500 southwestern willow flycatcher territories (approximately 3,000 individuals) geographically distributed throughout the Recovery Units for 3 years. In contrast to the first criteria, these habitats must be provided sufficient protection from threats through development and implementation of various types of conservation management agreements.

Based on 1993 to 1996 survey efforts within the southwestern willow flycatchers breeding range, there were 549 southwestern willow flycatcher territories, with 70 percent of these territories confirmed or probable breeding pairs (Finch and Stoleson 2000). In southwestern Colorado, which is in the Upper Colorado and Rio Grande recovery units, 28 of these territories occur in 10 separate sites. The US 550 project area is within the Upper Colorado Recovery Unit.

As of 2002, only four southwestern willow flycatcher nest sites were known to occur in the Upper Colorado Recovery Unit, all within three flycatcher territories (less than 1 percent of the rangewide total) documented as of the most recent surveys (USFWS 2002a) (Figures 2 and 3). However, this low number of sites may be due to the lack of surveys completed within this recovery unit.

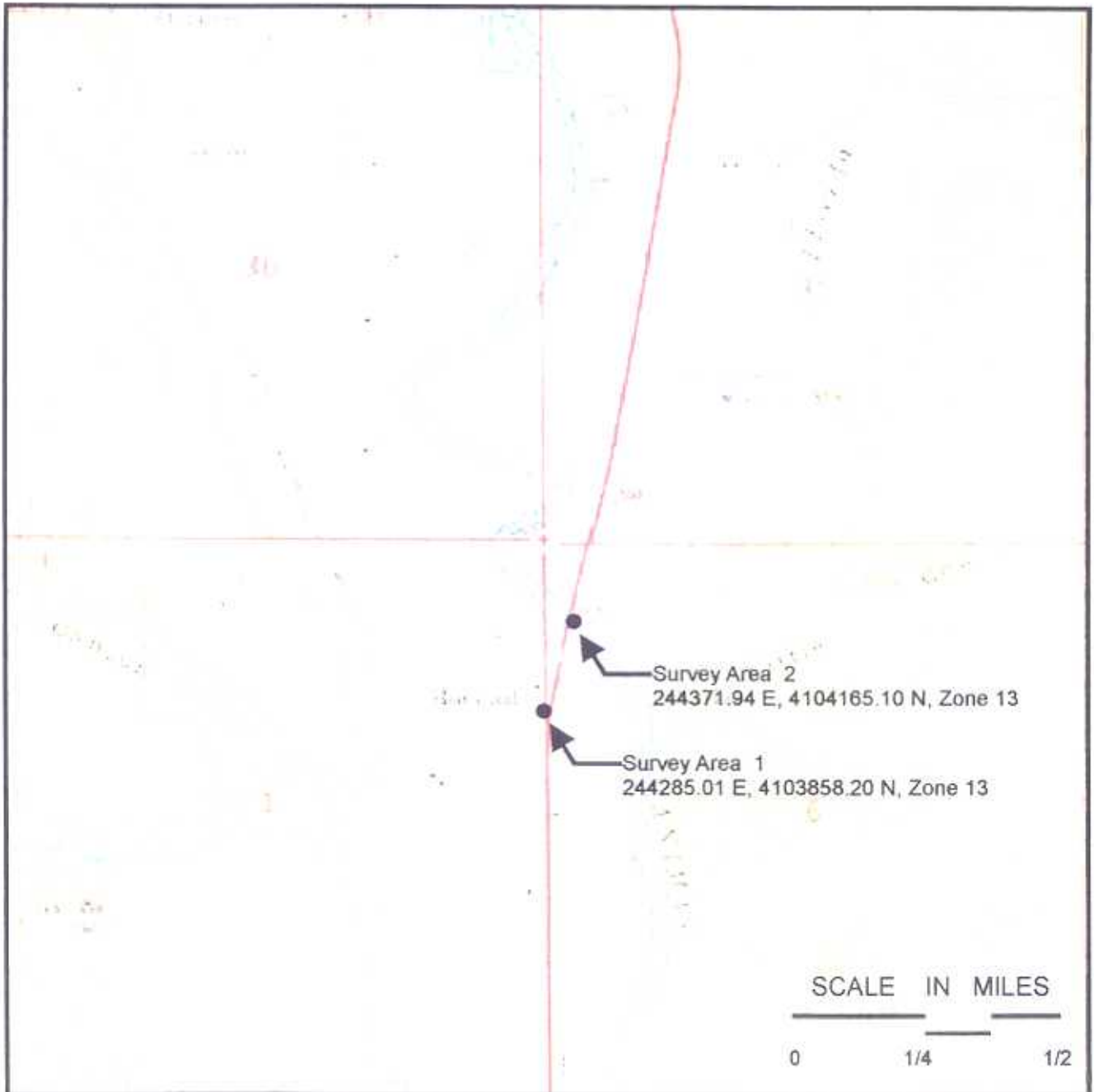
Based on surveys conducted in 2002 for suitable southwestern willow flycatcher habitat, four patches of habitat occur within the US 550 study area (Sugnet and URS 2003). These patches measure at least 30 feet in width and length and 6 feet in height or are linear patches wider than 15 feet and comprise at least 900 square feet. Based on these habitat assessments, surveys were conducted in 2002 for presence or absence of southwestern willow flycatcher in suitable habitat in the US 550 study area on June 5, 15, 22, and July 8, and 13, 2002. For the purpose of the survey, the study area was divided into four distinct survey areas based on presence of suitable habitat (see Figures 2 and 3).

Survey Area 1 is a complex of two linear patches of willow located on the west side of the US 550/CR 213 (La Posta Road) intersection at MP 3.25. The area is dominated by sandbar willow and consists of two linear patches on either side of CR 213, each measuring up to 30 feet in width. Survey Area 2 is located on the south bank of the Animas River, immediately south of the US 550 bridge overpass near MP 3.75. The survey area is dominated by willow and cottonwood. Survey Area 3 is located at MP 14.25 on the east side of US 550 along the Coop Ditch. The patch is dominated by sandbar willow and measures up to 30 feet in width. Survey Area 4 consists of two linear willow patches located at MP 14.5 on the west side of US 550 along the Coop Ditch.

Survey Areas 1 and 2 are located within the following legally-described area (from the New Mexico Principal Meridian):

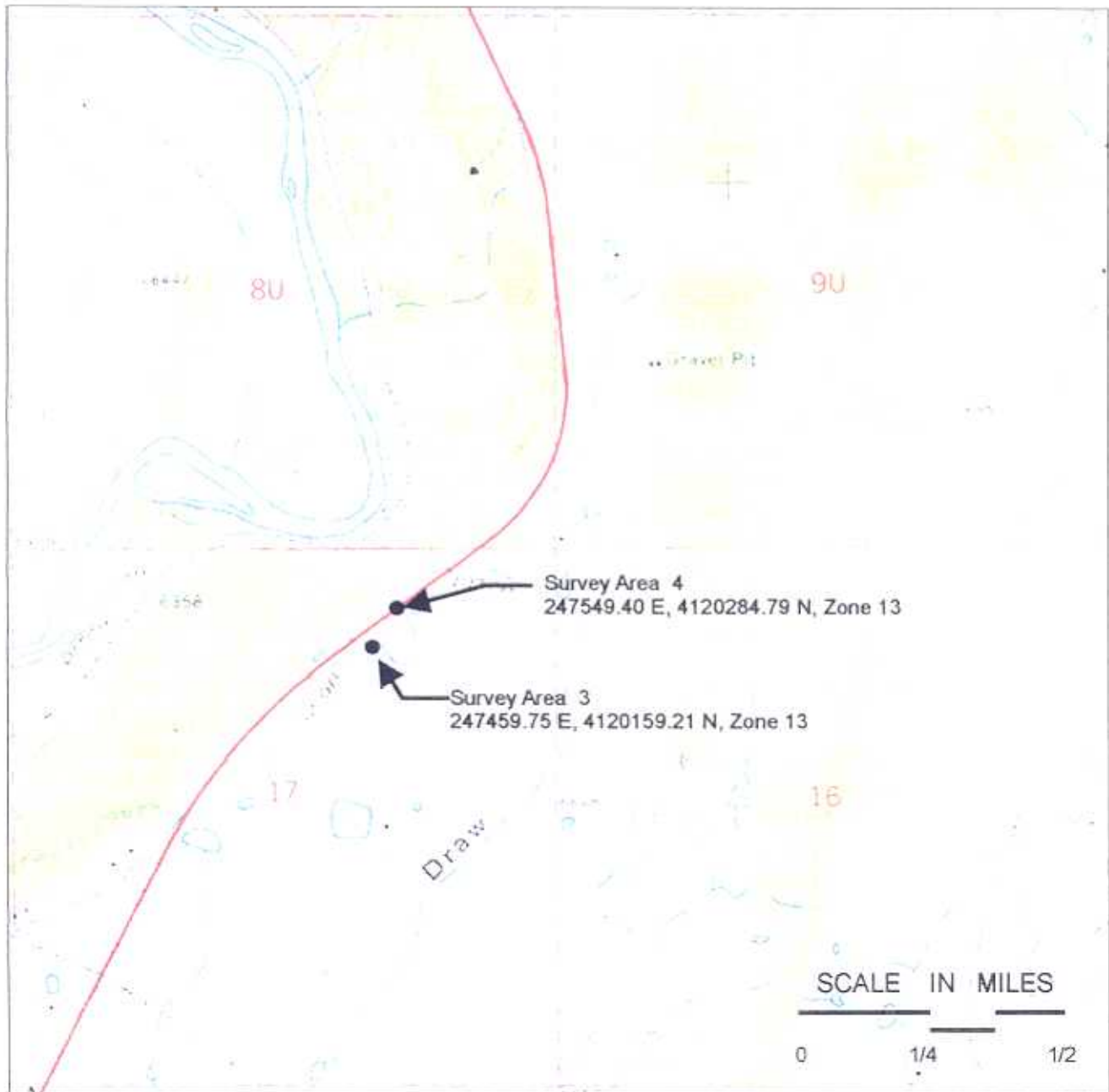
Area 1: Section 6, T. 32 N., R. 9 W.

Area 2: Section 1, T. 32 N., R. 10 W.



Survey Areas 3 and 4 are located within the following legally-described area (from the New Mexico Principal Meridian):

Section 17, T. 34 N., R. 9 W.





No southwestern willow flycatcher were observed or heard during any of the five survey days at any of the four survey areas (Sugnet 2003a). Additional willow patches are located between MPs 0 and 3; however, construction has already occurred in this area, or the ROW vegetation was cleared previously in these areas and no existing patches would be removed. The Draft US 550 EA (URS 2004a) included recommendations for timing of construction to avoid the southwestern willow flycatcher's breeding season (May 1 to August 15).

### 6.1.3 Colorado Pikeminnow

Colorado pikeminnow are endemic to the Colorado River Basin of the southwestern United States. Wild, reproducing populations occur in the Green River and Upper Colorado River subbasins of the Upper Colorado River Basin (i.e., upstream of Glen Canyon Dam, Arizona), and there are small numbers of wild individuals (with limited reproduction) in the San Juan River subbasin. More than 300,000 hatchery-produced Colorado pikeminnow have been released in the San Juan River as part of the San Juan River Basin Recovery Implementation Program (RIP) (USFWS 2002b).

Recovery goals consist of downlisting the species over a 5-year period from federally endangered to threatened when a target number of 1,000 individuals aged 5 or more years old (and approximately 11.8 inches long) is established through augmentation and/or natural reproduction in the San Juan River Subbasin and target numbers of reproducing populations are reached in the Green River and the Upper Colorado River Subbasin (USFWS 2002b).

Additional recovery goals for the species include removal of nonnative fish, connectivity of populations through bypass construction around in-stream barriers, and protection of habitat, including primary migration routes, required stream flows, and water quality (USFWS 2002b).

### 6.1.4 Razorback Sucker

Razorback suckers are endemic to the Colorado River Basin of the southwestern United States. Remaining wild populations are in serious jeopardy as extant populations are small with little or no recruitment (USFWS 2002c). Razorback sucker are currently found in small numbers in the Green River, Upper Colorado River, and San Juan River subbasins; Lower Colorado River between Lake Havasu and Davis Dam; reservoirs of Lakes Mead and Mohave; and in small tributaries of the Gila River Subbasin (Verde River, Salt River, and Fossil Creek).

Two recovery units exist for the species, the Upper Colorado River Basin (includes the Green, Upper Colorado, and San Juan river subbasins) and the Lower Colorado River Basin (mainstem Colorado River and its tributaries from Glen Canyon Dam downstream to the Mexico border (USFWS 2002c). Recovery goals include downlisting over a 5-year period and delisting within 3 years after downlisting, if self-sustaining populations are maintained in the Green River Subbasin and either the Upper Colorado River Subbasin or the San Juan River Subbasin (USFWS 2002c). For razorback sucker populations to be considered self-sustaining, adults must be reproducing and recruitment of young fish into the adult population must occur at a rate to maintain the population at a minimum of 5,800 adults. Downlisting would not be initiated until self-sustaining populations are established, which is expected by 2015 (USFWS 2002c).

## 7.1 BALD EAGLE

Construction of the Preferred Alternative may affect, but is unlikely to adversely affect bald eagles. No known bald eagle nests or communal roost sites currently are located in the study area and therefore would not be impacted by construction of the Preferred Alternative. Individual bald eagles that periodically utilize the Animas River near its confluence with the Florida River (south of Bondad Hill near MP 3) may incur disturbance during construction activities (Craig 2001). A total of 1.68 acres of riparian woodland containing trees that could be used for perching would be removed at the Animas River and Deer Creek crossings as a result of implementing the Preferred Alternative. The Draft EA requires replacing these potential roost trees at a 2:1 ratio. Perch poles will be placed at a 1:1 ratio for raptor perch trees to mitigate for the loss of perching opportunities until replacement perch trees mature. Implementing the Preferred Alternative may change the local distribution of bald eagles, but would not affect population size or change overall distribution of wintering bald eagles in the region. Direct impacts to 0.087 acre of Gunnison's prairie dog habitat will reduce foraging opportunities for bald eagles within the study area.

Indirect and cumulative effects to bald eagles may occur from increased traffic volumes, which results in increased wildlife collisions or may reduce eagle use of road kill. Widening the road may provide drivers greater maneuverability to avoid potential collisions through road avoidance, but road widening is unlikely to substantially decrease collisions with wildlife. Incorporating wildlife underpasses will decrease the potential for animal-vehicle within the ROW. This will result in less road kill for bald eagles to access on roadways.

## 7.2 SOUTHWESTERN WILLOW FLYCATCHER

Based on surveys conducted in 2002, four areas of suitable habitat occur within the US 550 study area (Sugnet and URS 2003). Survey Areas 1 and 2 would not be removed by construction, though construction would occur adjacent to these willow patches. Under the Preferred Alternative, Survey Area 3 and portions of Survey Area 4 would be removed. During 2002 surveys of these four areas, no southwestern willow flycatchers were observed or heard (Sugnet and URS 2003).

Implementation of the Preferred Alternative may affect southwestern willow flycatchers in the study area if one of the patches is used by the subspecies prior to construction. Although no southwestern willow flycatchers were present in the 2002 survey season, the subspecies could occupy suitable areas of habitat within the US 550 study area in the future. To confirm that no southwestern willow flycatchers are present in the study area, additional presence/absence surveys would be necessary on an annual basis prior to construction, as recommended in the Draft US 550 EA (URS 2004a).

Recommendations regarding timing of construction to avoid southwestern willow flycatcher breeding season were made in the Draft EA (URS 2004a). No impacts would occur to designated or proposed critical habitat, as none is located near the project area. Construction activities that would result in direct impacts to potential willow flycatcher breeding habitat would be performed after August 15 and prior to May 1. By limiting impacts to potential southwestern willow flycatcher habitat to this time period, direct impacts to breeding pairs or migrant birds that may actively use these areas during the breeding season would be avoided.

This project may affect, but is unlikely to adversely affect southwestern willow flycatchers in the project area, because timing restrictions for construction would be implemented to avoid disturbance to nesting birds.

Cumulative threats to populations of southwestern willow flycatchers throughout their range include high levels of nest predation, cowbird parasitism, and possibly drought. Furthermore, substantial habitat losses as a result of fire, loss, modifications, and fragmentation of riparian habitat due to water development, agricultural clearing, and construction of roads and bridges have impacted southwestern willow flycatcher populations (Finch and Stoleson 2000).

Cumulative impacts to the southwestern willow flycatcher in its entire range – past, present, and future – include the following:

- Population depressions or local extinctions of small populations due to habitat fragmentation and loss.
- Habitat loss from water management activities, which may change vegetative communities.
- Habitat loss from land use practices including bank stabilization, agricultural development, livestock grazing, and urban development.
- Detrimental changes to habitat from increased fire and invasive plant species such as Saltcedar (*Tamarix* sp.).
- Direct effects from cowbird nest parasitism, predation, and environmental toxins (Finch and Stoleson 2000).
- Collisions with vehicles in areas where bridges or overpasses bisect occupied habitat.

The primary activity that has and may result in cumulative effects on the southwestern willow flycatcher is growth in the residential population and related development of commercial operations and roads. Such developments may result in minor amounts of habitat loss and increased fragmentation of riparian habitat. Most riparian habitat is likely to remain intact, and there may be compensating increases in habitat where agricultural lands are abandoned and are invaded by willows.

The increased number of rural residences is likely to lead to an increase in predation on songbirds from larger numbers of house cats. Other nest predators such as raccoons, magpies, crows, grackles, and rats may also increase due to urbanization. The potential for nest parasitism by brown-headed cowbirds will increase if there was an increase in cowbird populations. Factors that might lead to increased cowbirds are favorable changes in habitat such as increases in lawns, other areas of short grass, and in food supply from sources such as bird feeders and horse corrals.

There are no known occurrences of the southwestern willow flycatcher in the project area. Land use plans in La Plata County (La Plata County 1998, 2001) identify Bondad as a growth hub, though the plan encourages preserving the rural character of the area and proposes clustering developments to promote this. The population of the Florida Mesa Planning District, which encompasses the US 550 corridor, is expected to increase to approximately 11,000, an 85 percent increase from the present population. This would result in an increase in the number of new housing units by 2,000 (URS 2004a). In addition to loss of habitat, increased urbanization in the

surrounding area may decrease the suitability of the riparian habitat in this area and increase the potential for nest parasitism and predation of southwestern willow flycatcher.

Community expansion in other parts of La Plata County will result in decreases in the suitability of some areas of riparian habitat, but will not affect known southwestern willow flycatcher populations. The area of potentially suitable habitat will remain relatively large.

### **7.3 COLORADO RIVER FISH**

#### **Colorado Pikeminnow and Razorback Sucker**

Construction of the Preferred Alternative would affect, and is likely to adversely affect Colorado pikeminnow and razorback sucker populations occurring in downstream reaches of the San Juan River Subbasin. Construction would involve using water for dust abatement, soil compaction on earthwork, and landscape irrigation of revegetated areas. The estimated water depletion to the Animas River would be 62.78 acre-feet averaged annually over 3 years (URS 2004b).

Consumptive water use from the Animas River for project construction in the Animas River is likely to adversely affect Colorado pikeminnow and razorback sucker populations occurring in downstream reaches of the San Juan River Basin that depend on flows from the Animas River.

A Recovery Implementation Program (RIP) for Endangered Fish Species in the San Juan River Basin was initiated in October 1992. The RIP was intended to be the reasonable and prudent alternative to avoid jeopardy to the endangered fishes by depletions from the San Juan River. On May 21, 1999, USFWS issued a biological opinion determining that depletions of 100 acre-feet or less would not limit the provision of flows identified for the recovery of the Colorado pikeminnow and razorback sucker and, thus, not be likely to jeopardize the endangered fish species or result in the destruction or adverse modifications of their critical habitat. The average annual 62.78 acre-feet depletion associated with this project fits within the depletion limits established by the 1999 biological opinion issued by USFWS.

The proposed US 550 highway improvement project may affect, but is not likely to adversely affect bald eagles wintering or nesting in the project area. Southwestern willow flycatcher may be affected, but are unlikely to be adversely affected by the proposed expansion and realignment of US 550 due to indirect and cumulative effects as a result of the completion of the proposed project. Timing restrictions for construction would be implemented to avoid disturbance to nesting birds.

Construction of the Preferred Alternative would affect, and is likely to adversely affect Colorado pikeminnow and razorback sucker populations occurring in downstream reaches of the Upper Colorado River Basin. However, based on the RIP for these species in the San Juan River and a biological opinion issued by USFWS on May 21, 1999, the average annual 62.78 acre-feet depletion associated with this project would not be likely to jeopardize the endangered fish species or result in the destruction or adverse modifications of their critical habitat.

The other eight species included in Table 1 would incur no effect as a result of implementing the US 550 highway improvement project.

Standard construction practices that would be implemented to minimize biological impacts before or during construction activities are listed below.

### *Bald Eagle*

The project is expected to have limited adverse effects on bald eagle, based on current conditions and available information. The following mitigation measures would be implemented to ensure that impacts remain minimal if bald eagles increase their use of the area. These mitigation measures should be effective in preventing adverse effects to key habitat features, if they are found to occur, and should prevent adverse impacts to bald eagles.

- Conduct raptor nest surveys within 0.5 mile of the construction area prior to starting construction. If an active or inactive nest is identified, contact the local USFWS to determine an appropriate buffer zone from the nest based on nest location line-of-sight from construction activity. Typically, a 0.5-mile buffer is required around the nest, and seasonal restrictions (November 15 to July 31) of no human encroachment would occur within the 0.5-mile radius of the nest.
- Conduct nocturnal roost surveys prior to starting construction. If a roost is identified, restrict construction activity within 0.25 mile of active nocturnal roost sites between November 15 and March 15.
- Replace trees potentially used as perches by bald eagles at a 2:1 ratio with an appropriate tree species, such as cottonwood (*Populus* sp.). Perch poles will be placed at a 1:1 ratio for raptor perch trees to mitigate for the loss of perching opportunities until replacement perch trees mature.

### *Southwestern Willow Flycatcher*

Four areas of suitable nesting habitat were found in 2002 surveys, but no southwestern willow flycatchers were observed during presence/absence surveys. The following mitigation measures would be used to reduce the potential for adverse impacts to this species, especially disturbance of breeding flycatchers and loss of their eggs or young. These mitigations should prevent loss of individuals of this species during construction and operation.

- Remove willow patches located within the ROW that may have potential for supporting breeding southwestern willow flycatchers before or after the breeding season (i.e., prior to May 1 and after August 15) per USFWS directive. Construction activities that begin prior to May 1 will not adversely affect breeding southwestern willow flycatchers.
- For construction activities scheduled to occur after May 1, conduct presence/absence surveys of willow patches that are 30 feet in diameter and 6 feet high, within 0.25 mile of the ROW. These surveys will be conducted during the bird's breeding season, between May 1 and August 15, following USFWS southwestern willow flycatcher survey protocol (Sogge 2000).
- Buffers will be required around active nest areas or within 0.25 mile of an occupied patch.

- Potential southwestern willow flycatcher habitat in and adjacent to the project area will be avoided to the extent practicable and will be clearly marked on project maps and flagged in the field by CDOT prior to construction. The contractor and all subcontractors will be fully informed of the locations of these areas prior to construction activity.
- Construction work adjacent to potential southwestern willow flycatcher habitat will be conducted from the existing roadway (as much as possible) to ensure minimal impact to the existing vegetation.
- Fueling of construction equipment will only occur at designated areas, when possible, to preclude adverse water quality impacts to existing drainages and wetland habitats. It is the responsibility of the contractor to prevent adverse impacts to water quality, as directed by CDOT Standard Specifications for Road and Bridge Construction.
- Modification of site drainage would be managed to preclude adverse effects on water quality, flow characteristics, and soil erosion on site and off site. A Stormwater Management Plan will be prepared and incorporated into the Final Construction Plan.
- Best management practices will be implemented where feasible to control sedimentation, erosion, and aeolian (i.e., wind) deposition. These measures include:
  - Controlling surface water runoff in relation to slopes and other graded areas;
  - Placing hay bale barriers or sandbags along the toes of graded slopes;
  - Revegetating areas as soon as possible after completion of grading;
  - Placing silt fences around construction areas to reduce erosion of disturbed soils and siltation of natural drainage channels; and
  - Applying water to graded areas and temporary (haul) roads during construction to control fugitive dust.

### *Colorado River Fish*

A Recovery Implementation Program (RIP) for Endangered Fish Species in the San Juan River Basin was initiated in October 1992. The RIP is intended to be the reasonable and prudent alternative to avoid jeopardy to the endangered fishes by depletions from the San Juan River.

Implementation of the US 550 Preferred Alternative may affect, but is unlikely to adversely affect bald eagles and southwestern willow flycatchers in the US 550 study area. Colorado pikeminnow and razorback sucker may incur adverse impacts from water depletions as a result of project implementation. No adverse effects are expected to the other seven species identified in this report (refer to Table 1).

Direct impacts to bald eagles from the loss of 0.087 acre of Gunnison's prairie dog habitat will reduce foraging opportunities within the study area. No nests are currently located within 0.5 mile of the proposed US 550 ROW; therefore no direct impacts to nesting bald eagles are expected. Additionally, seasonal restrictions on construction activities within 0.25 mile of wintering bald eagles would mitigate impacts to individuals.

No direct impacts, such as removal of known occupied habitat, are expected to known occupied southwestern willow flycatcher habitat. However, the project may indirectly affect the species through loss of potentially suitable breeding habitat, or the loss of habitat that could potentially become suitable habitat for the bird in the future.

Construction of the US 550 improvement project may be delayed for several years due to funding constraints. Because of the extended period for starting construction, annual surveys for southwestern willow flycatcher will be required prior to construction to confirm presence or absence of breeding individuals. Surveys for bald eagles will be required prior to construction.

Southwestern willow flycatchers were not heard or observed in the four areas of suitable habitat in the 2002 survey conducted by Sugnet. Because the four survey areas are considered to be potentially suitable habitat, reconstruction of US 550 may adversely impact southwestern willow flycatchers potentially occupying any of these areas in the future.

Clearing of willow patches located within the project area that have potential for supporting breeding southwestern willow flycatchers will occur outside of the southwestern willow flycatcher breeding season (i.e., after August 15 and prior to May 1). Although displacement of nesting and migrant birds may eventually occur as a result of this action, nesting birds that may utilize these areas during the breeding season will not be directly impacted.

Consumptive water use from the Animas River for project construction is likely to adversely affect Colorado pikeminnow and razorback sucker populations occurring in downstream reaches of the San Juan River Basin that depend on flows from the Animas River. Construction would involve using water for dust abatement, soil compaction on earthwork, and landscape irrigation of revegetated areas. The estimated water depletion to the Animas River would be 62.78 acre-feet averaged annually for a 3-year duration (URS 2004b).

Based on the RIP for the Colorado pikeminnow and razorback sucker in the San Juan River and a biological opinion issued by USFWS on May 21, 1999, the average annual 62.78 acre-feet depletion associated with this project would not be likely to jeopardize the endangered fish species or result in the destruction or adverse modifications of their critical habitat.



- Andrews, R., and R. Righter. 1992. *Colorado Birds: A Reference to the Distribution and Habitat*. Denver Museum of Natural History Press.
- Buehler, D. A., S. K. Chandler, T. J. Mersmann, J. D. Fraser, and J. Seegar. 1991. Effects of human activity on bald eagle distribution on the northern Chesapeake Bay. *Journal of Wildlife Management* 55:282-290.
- Colorado Department of Transportation (CDOT). 2004. Raptor Nest Survey Results, conducted by Jon Holst. June 21.
- Colorado Division of Wildlife (CDOW). 2004. Colorado Listing of Endangered, Threatened and Wildlife Species of Special Concern – Species Pages. Accessed online at [http://wildlife.state.co.us/species\\_cons/list.asp](http://wildlife.state.co.us/species_cons/list.asp).
- Colorado Natural Heritage Program (CNHP). 2003. Data received via letter from CNHP for species occurrence in US 550 project area. December 4.
- Craig, Jerry. 2001. Recommended Buffer Zones and Seasonal Restrictions Around Raptor Nest Sites. Colorado Division of Wildlife. Updated October 29.
- Dames and Moore. 1997. *Final Report: US 550 Safety Improvement Biological Survey*.
- Finch, D. M. and S. H. Stoleson, eds. 2000. *Status, Ecology, and Conservation of the Southwestern Willow Flycatcher*. General Technical Report RMRS-GTR-60. Ogden, Utah: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. pp 131.
- Griffin, C. R., T. S. Baskett, and R. D. Sparrowe. 1982. Ecology of Bald Eagles Wintering near a Waterfowl Concentration. USFWS Special Sci. Rept. Wildl. No. 247. 12 pp.
- Hayden, P. 2003. Personal communication between P. Hayden, Biologist, Colorado Division of Wildlife and A. Maurer, Sugnet Environmental. February 5.
- Japhet, M. 2001. Personal communication between M. Japhet, Fisheries Biologist, and M. Maurer, Sugnet Environmental. February 19.
- Kingery, H.E. (editor). 1998. *Colorado Breeding Bird Atlas*. Colorado Bird Atlas Partnership and Colorado Division of Wildlife. Colorado Wildlife Heritage Foundation, distributor. 626 pp.
- Kralovec, M. L., R. L. Knight, G. R. Craig, and R. G. McLean. 1992. Nesting productivity, food habits, and nest sites of bald eagles in Colorado and southeastern Wyoming. *Southwestern Naturalist* 37:356-361.
- La Plata County Planning Department (La Plata County). 2001. Florida Mesa District Land Use Plan. La Plata County Planning Department. Accessed online at <http://co.laplata.co.us/plansum.htm>.
- La Plata County Planning Department (La Plata County). 1998. Florida Mesa District Land Use Plan. La Plata County Planning Department.
- NatureServe. 2002. NatureServe Explorer: An online encyclopedia of life [Web application], Version 1.6 Arlington, Virginia, USA: NatureServe. Available online: <http://www.natureserve.org/explorer> [cited March 25, 2003].

- Paradzick, C. E., T. D. McCarthey, R. F. Davidson, J. W. Rourke, M. W. Sumner, and A. B. Smith. 2001. *Southwestern Willow Flycatcher 2000 Survey and Nest Monitoring Report*. February. Arizona Game and Fish Department. Available online: <http://www.usgs.nau.edu/swwf/Reports/2000%20AGFD%20WIFL%20Report%20all.pdf> [cited March 31, 2003].
- Sedgwick, J. A. 1998. "Willow flycatcher." *Colorado Breeding Bird Atlas*. Edited by Kingery. Colorado Bird Atlas Partnership and Colorado Division of Wildlife.
- Sogge, M. 2000. Southwestern Willow Flycatcher Survey Protocol, Revision 2000. Available at <http://ventura.fws.gov/SurveyProt/WIFL%20Protocol%20Revision%202000%20final.htm> [cited May 27, 2003].
- Steidl, R. J. and R. G. Anthony. 2000. Experimental effects of human activity on breeding bald eagles. *Ecological Applications*, Volume 10, Issue 1. pp. 258-268. February.
- Sugnet and Associates (Sugnet). 2003a. *Final Wildlife Technical Report for the US 550 Corridor Improvement Project – South of Durango, Colorado*. Prepared for URS Corporation. September.
- Sugnet and Associates (Sugnet). 2003b. Threatened, Endangered, and Sensitive Species Report for the US 550 Corridor Improvement Project – South of Durango, Colorado. Prepared for URS Corporation. October.
- Sugnet and Associates (Sugnet) and URS. 2003. *Southwestern Willow Flycatcher Survey Report*. For CDOT Project #NH-5501-011 (PC 12979) (US Highway 550, Farmington Hill to Bondad Bridge). Prepared for Colorado Department of Transportation. February.
- URS Corporation (URS). 2004a. *Draft Environmental Impact Statement for US 550 from State Line North to County Road 220, La Plata County, Colorado*. March.
- URS Corporation (URS). 2004b. Personal communication between Stephen Cross, URS Corporation, and Kim Sandoval, URS Corporation. October 28.
- U.S. Fish and Wildlife Service (USFWS). 2004a. Personal communication between Terry Ireland, USFWS, and Kim Sandoval, URS Corporation. October 27.
- U.S. Fish and Wildlife Service (USFWS). 2004b. Endangered and Threatened Wildlife and Plants: Proposed Designation of Critical Habitat for Southwestern Willow Flycatcher (*Empidonax traillii extimus*). *Federal Register*. October 12.
- U.S. Fish and Wildlife Service (USFWS). 2002a. Recovery Plan Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Prepared by Southwestern Willow Flycatcher Recovery Team Technical Subgroup for Region 2, USFWS, Albuquerque, New Mexico. August. pp 210.
- U.S. Fish and Wildlife Service (USFWS). 2002b. Colorado Pikeminnow (*Ptychocheilus lucius*) Recovery Goals: Amendment and Supplement to the Colorado Squawfish Recovery Plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado. August.
- U.S. Fish and Wildlife Service (USFWS). 2002c. Razorback Sucker (*Xyrauchen texanus*) Recovery Goals: Amendment and Supplement to the Razorback Sucker Recovery Plan. U.S. Fish and Wildlife Service, Mountain-Prairie Region (6), Denver, Colorado. August.

- U.S. Fish and Wildlife Service (USFWS). 2001. Draft Recovery Plan Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Prepared by Southwestern Willow Flycatcher Recovery Team Technical Subgroup for Region 2, USFWS, Albuquerque, New Mexico. April.
- U.S. Fish and Wildlife Service (USFWS). 1999. Endangered and Threatened Wildlife and Plants: Proposed Rule to Remove the Bald Eagle in the Lower 48 States from the List of Endangered and Threatened Wildlife. Federal Register Volume 64, Number 128. p. 36594. July 6.
- U.S. Fish and Wildlife Service (USFWS). 1995a. Endangered and Threatened Wildlife and Plants: Final Rule Determining Endangered Status of the Southwestern Willow Flycatcher. Federal Register: 10694-10715. February 27.
- Bald Eagle Species Page, USFWS Threatened and Endangered Species. Accessed online at <http://endangered.fws.gov/i/BOH.html>.
- U.S. Fish and Wildlife Service (USFWS). 1994. Determination of Critical Habitat for the Colorado River Endangered Fishes: Razorback Sucker, Colorado Squawfish, Humpback Chub, and Bonytail Chub. Federal Register Volume 59, No 54. March 21.
- U.S. Fish and Wildlife Service (USFWS). 1993. Notice of 12-month petition finding/proposal to list *Empidonax traillii extimus* as an endangered species, and to designate critical habitat. Federal Register Volume 58, pp. 39495-39522. July 23.

### *Photo Credits*

- Bald eagle photo obtained from <http://community.webshots.com/album/13787407EzqrTYyzEk>.
- Southwestern willow flycatcher photo obtained from <http://www.usgs.nau.edu/swwf/wifllook.html> by Bill Maynard.

### *Preparer*

Kim C. Sandoval, Biologist  
URS Corporation  
8181 East Tufts Avenue  
Denver, Colorado 80237  
(303) 740-3880  
kim\_sandoval@urscorp.com

**Appendix A**  
**Letters of Correspondence from USFWS**



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

**RECEIVED**

IN REPLY REFER TO:  
ES/CO:T&E  
Mail Stop 65412

DEC 1 2 2003

DEC 15 2003

COLORADO DEPT. OF TRANSPORTATION  
REGION 5  
PROGRAM ENGINEER

Kerrie Neet  
Colorado Department of Transportation  
3803 North Main Avenue  
Durango, Colorado 81301

Dear Ms. Neet,

The U.S. Fish and Wildlife Service (Service) received your letter of November 5, 2003, requesting an update of the list of Federally threatened and endangered species in the area of the proposed widening and reconstruction of U.S. Highway 550 (US550) south of Durango, La Plata County, Colorado, to the New Mexico State line. These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.).

Since your original request, dated August 27, 2001, the yellow-billed cuckoo (*Coccyzus americanus*) has been added to the Federal list of candidate species in your project area. The remainder of the species listed in our response are unchanged.

If the Service can be of further assistance, contact Alison Deans Michael of this office at (303) 275-2370.

Sincerely,

Susan C. Linner  
Colorado Field Supervisor

pc: CDOT (J. Peterson)  
Michael

Ref: Alison\CDOT2003\Reg5

XC: Holt  
Blanchard/URS



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services  
Colorado Field Office  
755 Parfet Street, Suite 361  
Lakewood, Colorado 80215

IN REPLY REFER TO:

ES/CO:T&E  
Mail Stop 65412

**RECEIVED**

OCT - 3 2001

OCT 0 5 2001

Carl Watson  
Colorado Department of Transportation  
3803 North Main Avenue  
Durango, Colorado 81301

COLORADO DEPT. OF TRANSPORTATION  
REGION 8  
PROGRAM ENGINEER

Dear Mr. Watson,

The U.S. Fish and Wildlife Service (Service) received your letter of August 27, 2001, regarding the State Highway 550 between Durango and the New Mexico State Line improvement project. The project area is in La Plata County (Townships 32 - 34 North, Ranges 9 and 10 West). You requested a list of Federal endangered and threatened species that may exist in the project area. These comments have been prepared under the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.).

The Service has no specific knowledge of the project site; however, following is a list of Federal endangered, threatened, proposed and candidate species for La Plata County, which may be used as a basis for determining species potentially present in the project area. While other species could occur at or visit the project area, endangered or threatened species most likely to occur include:

- Birds:** Southwestern willow flycatcher (*Empidonax traillii extimus*), Endangered  
Bald Eagle (*Haliaeetus leucocephalus*), Threatened  
Mexican Spotted Owl (*Strix occidentalis lucida*), Threatened
- Mammals:** Black-footed ferret (*Mustela nigripes*), Endangered  
Canada lynx (*Lynx canadensis*), Threatened
- Fishes:** Razorback sucker (*Xyrauchen texanus*), Threatened (Please note that any water depletions to the San Juan River drainage may affect this species.)  
Colorado pikeminnow (*Ptychocheilus lucius*), Threatened (Please note that any water depletions to the San Juan River drainage may affect this species.)
- Plants:** Knowlton's cactus (*Pediocactus knowltonii*), Endangered
- Invertebrates:** Uncompahgre fritillary butterfly (*Boloria acrocneoma*), Endangered

The Service also is interested in the protection of species which are candidates for official listing as threatened or endangered (Federal Register, Vol. 61, No. 40, February 28, 1996). While these species presently have no legal protection under the ESA, it is within the spirit of this Act to consider project impacts to potentially sensitive candidate species. It is the intention of the Service to protect these species before human-related activities adversely impact their habitat to a degree that they would need to be listed and, therefore, protected under the ESA. Additionally, we wish to make you aware of the presence of Federal candidates should any be proposed or

SH550, Species List

Page 2

listed prior to the time that all Federal actions related to the project are completed. If any candidate species will be unavoidably impacted, appropriate mitigation should be proposed and discussed with this office.

No candidate species are expected to occur in or visit the project area.

If the Service can be of further assistance, contact Alison Deans Michael of this office at (303) 275-2370.

Sincerely,



LeRoy W. Carlson  
Colorado Field Supervisor

pc: CDOT (J. Powell)  
Michael

Ref:Alison\CDOT2001\Reg5