

## Chapter 4: Environmental Consequences

### 4.1 Water Resources

#### No Action

Under the no action alternative, the spoil levee protecting the Drain Unit 7 Extension irrigation structure would be at risk. The existing riprap protecting the levee is of inadequate size and quantity to protect the spoil levee, and it has been necessary to replace eroded sections of riprap twice in the last four years. If no action is taken, the river will eventually break through the levee and into the prism of the drain, causing the drain to outfall into the river. If this were to happen, the drain would no longer be able to supply water directly to the Socorro Main Canal.

#### Proposed Action

This alternative would prevent further erosion of the spoil levee that protects the Drain Unit 7 Extension irrigation structure and the drain will continue to deliver water to the Socorro Main Canal, as designed.

Work activities conducted by the Bureau of Reclamation will not increase the amount of open water surface area in the river channel; therefore will not result in any net water depletions.

### 4.2 Biological Resources

#### No Action Alternative

Under the no action alternative, there would be no change from current trends or conditions. The no action alternative would have no effect on the potential for overbank flows, inundation of habitat, potential for intermittency, or extreme low or peak flows.

#### Proposed Action

Although construction activities may displace existing wildlife temporarily, most animal species in the Project would be able to return after completion. Some mortality of less mobile species would be expected, but not in quantities that would damage local populations. The improved quality of the habitat after new vegetation becomes established would offset some of these losses over time.

Extensive surveys were performed during summer 2008 for flycatchers in the vicinity of the Project, so any suitable and newly-occupied habitat would be known. These surveys detected one pair and three unpaired, territorial birds approximately 1,000 feet upstream of the project area. Due to the presence of these birds and the possibility of their return to the same location, this information will be used to coordinate maintenance activities to avoid working in the area during the breeding season and to avoid affecting habitat at any time of year. Therefore, in considering the distance from the areas where the birds were resident in summer 2008, and the fact that no birds will be present when the work is done, Reclamation has determined that the proposed action would have no effects on the flycatcher. We have also determined that the proposed action would have no effect on designated critical habitat for the flycatcher. Because minnows occur in the vicinity, we have determined that the proposed action may affect and is likely to adversely affect the minnow. Since minnows could be incidentally harmed

during construction activities, Reclamation has requested an Incidental Take Statement from the Service. The construction activities would occur in an area that has been designated critical habitat for the minnow, and in the long-term the Project may potentially have beneficial effects. Therefore, we have determined that the proposed action may affect, but is not likely to adversely affect minnow critical habitat.

### **4.3 Cultural Resources**

#### **No Action Alternative**

The no action alternative is unlikely to affect cultural resources. Potential impacts would be limited geographically to the Drain Unit 7 Extension irrigation structure.

Ongoing impacts on cultural resources resulting from river operations include the potential for direct disturbance of the integrity of archaeological sites through erosion, wave action, and cycles of inundation and drawdown, and the potential for vandalism of formerly submerged archaeological resources. The potential for these kinds of impacts, including impacts on resources that may be eligible for listing on the NRHP or may be of traditional importance, is greater from natural drought cycles and flood events.

#### **Proposed Action**

No known sacred sites or traditional cultural properties are in the project area. The work in the active river channel is covered by Reclamation's Programmatic agreement with the SHPO. The work on the spoil levee, staging areas, and access routes is on existing facilities which have been previously disturbed with a determination of no historic properties.

### **4.4 Indian Trust Assets**

The potential for the action to affect ITAs is used as a resource indicator to evaluate impacts on ITAs. Actions which would adversely affect the value, use, or enjoyment of an ITA would be considered to have impacts.

#### **No Action Alternative and Proposed Action**

No ITAs have been identified in the consultation with tribes and the Bureau of Indian Affairs (BIA). There are no reservations or ceded lands present. Because resources are not present, no impacts are anticipated to result from the no action alternative or the proposed action.

### **4.5 Environmental Justice**

The potential for the action to cause a disproportionate share of high and adverse human health and/or environmental impacts on low income and/or minority communities is used as a resource indicator to evaluate environmental justice.

As discussed in Chapter 3, U.S. Census Bureau data indicate that the 2002 annual per capita income for Socorro County was \$18,577. According to the most recent data from the U.S. Census Bureau (2004), approximately 48 percent of the residents of Socorro County were Hispanic or Latino in 2000. No adverse effects of any kind to the local population are expected under the no action alternative. No adverse effects to low-income or minority populations are anticipated.

### **No Action Alternative**

Under the no action alternative, there would be no change from current conditions and trends. The no action alternative would have no effect on ongoing socioeconomic and environmental trends affecting minority and low income populations. Other actions would be required to acquire and develop additional water sources. These actions may result in potential environmental justice issues if they involve minority and low income populations.

### **Proposed Action**

No disproportionate adverse effects to low-income or minority populations are anticipated as a result of the proposed action.

There would be no disproportionate human health, economic and environmental impacts on any group of people, including minority and low-income populations.

## **4.6 Irretrievable Commitment of Resources**

Wildlife habitat within the project area would be destroyed but would be replaced with the same or larger area of habitat as a result of the actions. Construction equipment would utilize fuel and lubricants that would be permanently used.

## **4.7 Cumulative Impacts**

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area.

North of the powerline, all the way to Cochiti Reservoir, there are many local, state, and private entities and landowners, including Indian pueblos that are participating with the Federal agencies in the Middle Rio Grande Endangered Species Collaborative Program (Program). The Program will continue to fund habitat restoration projects and conduct research that will benefit minnows and flycatchers. Outside of the Program there are also state, city, other groups, and Pueblos that are improving riparian and riverine conditions along the Middle Rio Grande.

Activities that affect water quality along the Middle Rio Grande consist of municipal wastewater discharges, urban runoff, agricultural runoff, riparian clearing, chemical use for vegetation control and crops. Recreation along and in the riparian zone, which can be compounded by urban growth, stocking of exotic and predators fish, industrial growth along the river, riparian clearing without a revegetation plan, could also affect both minnows and flycatchers and their habitat.