

### **3.2.6 Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that the effects on minority and low-income populations within a project area be given special consideration to determine if the proposed action would result in disproportionate adverse effects to their communities.

According to the most recent data from the U.S. Bureau of Economic Accounts (2005), the annual per capita income for the State of New Mexico in 2003 was \$24,995. 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.

### **3.2.7 Indian Trust Assets**

Indian Trust Assets (ITAs) or resources are defined as legal interests in assets held in trust by the U.S. Government for Native American Indian tribes or individual tribal members. Examples of ITAs are lands, minerals, water rights, other natural resources, money, or claims. An ITA cannot be sold, leased, or otherwise alienated without approval of the Federal government. There are no native American ITAs in the vicinity of the proposed project site.

### **3.2.8 Cultural Resources**

Sections of the LFCC and associated levee would be affected by the proposed action. These structures are eligible for the National Register of Historic Places. In addition, no sacred sites or traditional cultural properties are in the project area.

### **3.2.9 Air Quality and Noise**

The Clean Air Act of 1970, as amended, established National Ambient Air Quality Standards (NAAQS) (40 CFR 1 § 81.332) to protect the public from exposure to dangerous levels of several air pollutants. Socorro County is in Air Quality Control Region (AQCR) 152 – Albuquerque – Mid Rio Grande. The AQCR 152 has been classified as an attainment area for all air pollutants identified in the NAAQS (eCFR 2005). Because of this classification for Socorro County, the proposed project located at RM 111 is not subject to EPA requirements for ambient air monitoring.

## **Chapter 4 ENVIRONMENTAL CONSEQUENCES**

### **4.1. Introduction**

This chapter discusses the predicted achievement of the objectives, effects, and cumulative effects for each alternative in section 2.2 of Chapter 2. Included is a discussion of each alternative's effect on relevant issues summarized in section 1.6 (issues) and resources described in section 3.2.

## **4.2. Predicted Attainment of Project Objectives for Each Alternative**

### **No Action Alternative**

Under the no action alternative, the project objectives would not be attained.

### **Proposed Action Alternative**

The proposed action would be to fulfill the need to protect the LFCC (section 1.3). The proposed action to realign the LFCC and the levee to the west would protect the LFCC from potential damage from the westward migration of the Rio Grande.

## **4.3. Predicted Effects on Each Relevant Issue and Resources**

### **4.3.1. Native Vegetation**

#### **No Action Alternative**

Under the no action alternative, existing vegetation, including native and non-native species, would remain in place.

#### **Proposed Action Alternative**

In the areas affected by the proposed action (such as staging and stockpile areas, and new LFCC), no more than approximately 500 to 600 native trees (such as Cottonwood trees) would be removed. Cottonwood trees removed would be utilized according to a migration plan in section 2.4, page 9. The following is a list of useful purposes for removal of Cottonwood trees:

- Some Cottonwood trees would be utilized for Silvery Minnow habitat near the project.
- Some of the trees would be used as snags for raptor perches etc.
- Some trees piled randomly near the project site would serve as wildlife habitat.

Some species of willow trees would also be removed, but would regenerate naturally.

Native grass species would be planted to control erosion and to reseed areas denuded as a result of staging areas, stockpile areas, and the new LFCC areas of disturbance.

### **Secondary and Cumulative Effects**

There would be minimal effects to vegetation as a result of the proposed action. Native vegetation such as Cottonwood trees and Willows would return naturally. Since the purpose of the proposed action is to provide an opportunity for the river to migrate westward, additional opportunity for native vegetation to become established would occur. The short-term cumulative effects of construction would be small in the overall regional context and temporary in nature.

### **4.3.2. Wetlands**

#### **No Action Alternative**

Under the no action alternative, the existing LFCC and associated riparian wetlands would not be impacted until the Rio Grande breached the spoil embankment east of the channel.

#### **Proposed Action Alternative**

5500 feet of the existing LFCC would be filled with spoil material from the existing levee on the east side which would include 4-6 acres of area below the ordinary high water mark. However, 4500 feet of the existing channel would be back-filled completely above the ordinary high water mark. Approximately 1000 feet of vegetation above the ordinary high water mark on the LFCC would be preserved (see Environmental Feature Figure 3). This action, in addition to creating 6200 feet of new LFCC to the west, would compensate for the displacement of a portion of the wetlands in the existing LFCC as a result of the proposed action.

#### **Secondary and Cumulative Effects**

There would be minimal effects to wetlands as a result of the proposed action. Existing wetlands would be created in the future as a result of the proposed action. In addition, Cottonwood trees, Coyote Willows, and Willows would be preserved along 1000 feet of existing LFCC. Native vegetation would return naturally. Since the purpose of the proposed action is to provide an opportunity for the river to migrate westward, additional opportunity for native vegetation to become established would occur. The short-term cumulative effects of construction would be small in the overall regional context and temporary in nature.

### **4.3.3. Water Resources**

#### **No Action Alternative**

Under the no action alternative, the levee protecting the LFCC would be at risk. The river would continue to migrate westward eventually breaching the levee. If this happens, downstream delivery of water via the river channel and the LFCC would be impaired. Without the protection of the levee, it is likely that the river channel would avulse into the LFCC, causing damage to infrastructure in the LFCC, irrigation facilities, and surrounding private land. If an avulsion occurs, the river channel would likely fill in partially, as would tributaries to the LFCC. This sedimentation would not only hamper irrigation, but would negatively affect the Rio Grande Compact delivery.

Presently the LFCC is utilized to pump water into the Rio Grande to help satisfy the requirements of the 2003 Biological Opinion for the RGSM. LFCC infrastructure damage from a breach would likely impair Reclamation's ability to satisfy those requirements.

## **Proposed Action Alternative**

This alternative would protect the levee, which helps protect the LFCC from westward migration of the river channel. The river would continue to deliver water and sediment to Elephant Butte Reservoir, as would the LFCC continue to deliver water uninterrupted. These water deliveries help meet Rio Grande Compact requirements. In addition, the proposed action would provide the Rio Grande an opportunity to meander naturally.

## **Secondary and Cumulative Effects**

There would be positive effects to water resources as a result of the proposed action. Existing conditions would be altered in the future as a result of the proposed action which would enable the river to migrate westward. Water for irrigation and farm fields would be protected in the future as a result of implementing the proposed action.

### **4.3.4. Wildlife Including Threatened and Endangered Species**

#### **No Action Alternative**

Since this alternative would not include any construction activities, a greater potential for breaching of the Levee and the LFCC may occur. The effects to wildlife including threatened and endangered species would be much the same as for the proposed action where the river could migrate further to the west naturally and may potentially create additional wildlife habitat.

#### **Proposed Action Alternative**

##### **Wildlife:**

To reduce the impact to fish in the LFCC, filling in the Old LFCC would occur from north to south as described in section 2.4. A berm would be placed across the existing LFCC to divert the water into the new channel, gradually reducing flow down the old LFCC. Fish are expected to move downstream as the flow recedes. Seepage under the berm and the groundwater inflow is expected to maintain a minimal flow in the old LFCC as it is being filled in. This construction sequence would push fish downstream ahead of filling in the old LFCC, protecting fish while eliminating handling stress.

Although construction activities may displace existing wildlife away temporarily, most animal species in the project area would be able to return after project 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 these losses over time.

#### **Rio Grande Silvery Minnow**

The project would have no effect on the minnow in the LFCC. To insure that this determination is confirmed, the Lemitar radial gate structure located at station 1626+00 in the LFCC would be utilized as a fish barrier. The radial gates would be closed during the entire duration of the

construction operations. Reclamation has previously surveyed this reach for the potential presence of RGSM below the proposed construction area to the radial gates.

The proposed action also includes a mitigation plan that includes placing debris piles under dry conditions in the Rio Grande made of Cottonwood trees removed from the project area. In addition, Cottonwood tree root wades would be placed on the bank near RM 111 priority site that would cascade into the River as the River migrates to the west. The construction of woody debris piles and use of root wades as part of the mitigation plan would occur in an area designated critical habitat for the silvery minnow and is utilized by silvery minnows. In addition, would potentially have beneficial effects. Therefore, we have determined that the proposed action may affect, but is not likely to adversely affect silvery minnows; and may affect, but is not likely to adversely affect silvery minnow critical habitat. A Biological Assessment would be required to be submitted to the U.S. Fish and Wildlife service to obtain concurrence with this conclusion.

### **Secondary and Cumulative Effects**

Secondary effects of the proposed action for the Rio Grande Silvery Minnow include improving habitat quality within the new riparian area created by future westward migration of the river. The proposed action would result in an increase in potential habitat for the species, which may increase the local population abundance.

The cumulative effects to Rio Grande Silvery Minnow should be associated with riparian areas in a dynamic system of constant change. Without this change, the riparian community would decrease in diversity and productivity. Sediment deposition, scouring flows, inundation, base flows, and channel and river realignment are processes that help to maintain and restore the riparian community diversity and potential improvement of minnow habitat.

### **Southwestern Willow Flycatcher**

This project would have no adverse effects to the flycatcher or its critical habitat. Flycatcher surveys in the project area for at least the past 10 years have not detected any resident territorial or nesting birds. Vegetation in the project area is primarily composed of a mix of saltcedar, Russian olive, and cottonwood. Much of this vegetation has been degraded though grazing by livestock (east of the LFCC) and as a result of a goat-grazing study that was recently completed (west of the LFCC). Though the project area is within the bounds of designated flycatcher critical habitat, this location is largely xeric and does not contain the suitable combination of primary constituent elements of flycatcher critical habitat (correct vegetation species composition, density, structure, and proximity to surface water).

### **Secondary and Cumulative Effects**

No adverse secondary and/or cumulative effects are anticipated.

#### **4.3.5. Noxious Weeds**

##### **No Action**

Under the no action alternative, no ground-disturbing activities would be undertaken. Therefore, there would be no effect on existing noxious weed infestations.

##### **Proposed Action**

Whenever land is disturbed, the potential exists for the intrusion and establishment of noxious weeds. The Project would disturb up to 150 acres. To minimize the potential for the continued establishment and spread of State-listed and other noxious weeds, re-vegetation of grass species would be implemented.

In addition to reseeding and planting, the introduction of noxious weed seeds would be minimized by a requirement that all equipment used on the project be pressure washed before arriving and leaving the site.

##### **Secondary and Cumulative Effects**

Addressing erosion problems at the Project would also require some ground-disturbing activities. Several acres of ground disturbance would occur at that site. Noxious weed seeds could be imported as part of that activity. Through sound and aggressive revegetation, planning, and ensuring all equipment is pressure washed to prevent weed seed transmission, the opportunity for noxious weed establishment would be minimized. There would be no secondary effects to noxious weeds as a result of the proposed action.

#### **4.3.6. Environmental Justice**

##### **No Action**

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.

##### **Proposed Action**

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

##### **Secondary and Cumulative Effects**

There would be no secondary effects concerning environmental justice as a result of the proposed action. Because no effects to the local population, either adverse or beneficial, are anticipated as a result of the proposed action, there would be no cumulative effect.

#### **4.3.7. Indian Trust Assets**

##### **No Action**

There would be no effects to ITAs.

**Proposed Action**

No ITAs have been identified that would be affected by the proposed action.

**Secondary and Cumulative Effects**

There would be no secondary effects as a result of the proposed action. Because no effects to ITAs are anticipated as a result of the proposed action, there would be no cumulative effects.

**4.3.8. Cultural Resources****No Action Alternative**

There would be no effects to cultural resources.

**Proposed Action Alternative**

Sections of the LFCC and associated Levee would be affected by the proposed action. The proposed action would be nearly identical to the action of a previous project two miles upstream of this one at RM 113/114. A determination of effects would be the same for RM 111. These structures are eligible for the National Register of Historic Places. The NMSHPO has concurred (see Appendix A) with Reclamation that the report by Bishoff (2001) does, in fact, serve as mitigation for any adverse effects that may occur as a result of the modification of the LFCC.

In addition, no sacred sites or traditional cultural properties are in the project area. However, if any such sites or properties are identified as a result of the proposed action, then the Section 106 process would be conducted with the NMSHPO.

**Secondary and Cumulative Effects**

There would be no secondary effects as a result of the proposed action. Because no effects to cultural or archaeological resources or to sacred sites or traditional cultural properties are anticipated as a result of the proposed action, there would be no cumulative effects.

**4.3.9. Air Quality and Noise****No Action**

There would be no effects to air quality or noise under the no action alternative.

**Proposed Action**

Fugitive dust generation from excavating and grading activities in the project area, along with exhaust emissions from heavy equipment and vehicles working on the project, are the only anticipated effects to air quality during construction. These temporary effects would not be expected to be significantly adverse. There would be no effects to air quality following completion of construction activities and re-establishment of vegetation in disturbed areas.

Fugitive dust would be suppressed by spreading water over disturbed areas where heavy equipment is working during dry conditions. One nearby residence has a horse breeding and riding business that could be affected by noise and dust. However, coordination of the construction schedule would be negotiated to mitigate any adverse impact to their business.

Noise from construction activities would exist during the project activities. However, noise from construction would not continue after the project is completed.

### **Secondary and Cumulative Effects**

The effects of the proposed action on air quality and noise would be minor in the context of the local setting and temporary in nature; therefore, there would be no cumulative effects resulting from the combination of the proposed action and other anticipated projects. There would be no secondary effects to air quality and noise as a result of the proposed action.

#### **4.4. Irreversible and Irrecoverable Commitment of Resources**

Some top soil would be removed from the project site, and would not be replaced in the same location at the end of the project. A small amount of wildlife habitat within the project area would be destroyed but would be replaced with a larger area of habitat as a result of the actions outlined in the mitigation plan in section 2.4. Construction equipment would utilize fuel and lubricants that would be permanently used.

## **Chapter 5 CONSULTATION AND COORDINATION**

Two scoping meetings were conducted. One meeting was with representatives of the U.S. Fish and Wildlife Service (Service), Middle Rio Grande Conservancy District, Save Our Bosque Task Force (SOBTF) and Socorro County Fire Marshal at the office of SOBTF on June 5, 2007.

An additional meeting was held with the public at Reclamation's Field Division Office located in Socorro on June 6, 2007, from 6:30 to 8:00 p.m.

One field trip was conducted with representatives of the Reclamation engineering division, Corps of Engineers, and the Service on September 14, 2007 at the project site to discuss the mitigation plan.

## **Chapter 6. ENVIRONMENTAL COMMITMENTS**

- 6.1.** Construction schedule would be coordinated with a neighboring horse breeding and riding club to avoid adverse impacts to their business.
- 6.2.** All construction debris and waste would be disposed of at an approved landfill facility.
- 6.3.** Best Management Practices would be implemented and utilized to prevent stormwater runoff and water pollution from entering the Rio Grande during construction activities.