

Chapter 4. ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter discusses the scientific and analytical basis for the summary comparison of effects in section 2.4 of Chapter 2. Included in the chapter are predicted effects of each alternative on selected environmental resources.

4.2 Predicted Effects on Each Relevant Issue and Resources

4.2.1. Native Vegetation

No Action

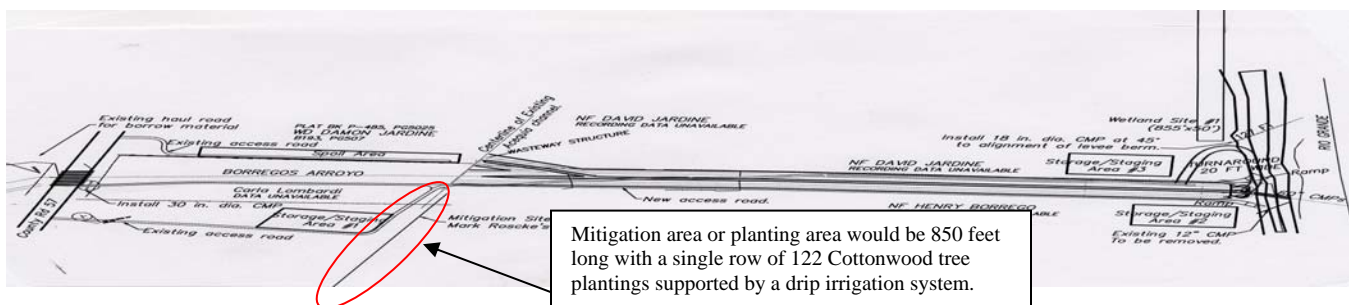
The existing vegetation would not be removed. The 12 large cottonwood trees and their saplings would remain in place. Numerous trees such as willows, saltcedar, Russian olive, and locust would remain. All the meadow grass species would also be maintained in the floodplain.

Proposed Action

The project would require removing all native vegetation within the 97-foot easement of the project area. This would include the removal of 12 large cottonwood trees that dominate the overstory of the plant community. In addition, willows, saltcedar, Russian olive, locust and meadow grasses would all be removed to facilitate the implementation of the project.

Mulching all the vegetation would be a part of this project. The mulch would be used to stabilize the outside slopes of the new channel to reduce soil erosion. Any mulch left over would be transported to an area designated as a stockpile area (see project plan view in section 2.4). As a result, the mulch would serve as a positive effect to help offset some of the negative effects of the vegetation removal.

Pole plantings of 122 young cottonwood trees would also be part of the project. The plantings would occur on private land adjacent to the project area. Notice on the following drawing the location of the planting area.



The planting area would be located south of the Borregos Arroyo on private land adjacent to the project area by agreement with Reclamation. The pole plantings would be maintained by the private landowner with a drip irrigation system. Monitoring of the plantings would be shared by Reclamation and the private landowner (see appendix B for the details of the mitigation plan). Observations and maintenance would occur regularly for five years until the cottonwood trees become self-sustaining.

4.2.2. Wetlands

No Action

The existing conditions of the wetlands would continue. Without an outlet to the Rio Grande, water ponding on the west of the dike and stormwater from the arroyos would continue to support the wetlands.

Proposed Action

Wetlands north or south of the new channel would not be affected by the proposed project. However, a cmp 195 feet north of the new channel would be installed through the dike at the south end of the wetlands. The cmp would be placed just above the wetland so as not to disturb any part of it. The purpose of the cmp would be to relieve flooding as a result of stormwater runoff from arroyos, irrigation ditch overflows, and private land stormwater runoff. This feature of the project would also protect the north berm of the new channel from erosion as a result of potential flooding. The wetlands would continue to exist without being impacted by the proposed project.

The small wetlands south of the new channel would not be affected by the project. This wetland has been preserved mainly by water seepage from the Rio Grande.

4.2.3. Threatened and Endangered Species

No Action

There would be no change to the existing conditions and no effects to federally listed species under the no action alternative.

Proposed Action

Bald Eagles are known to use the Rio Grande corridor during the winter months. Bald Eagles could potentially utilize large cottonwood trees within the area for perching. Removal of the large cottonwood trees in the project area would remove some potential perches that could be utilized by the Bald Eagle. However, other cottonwood forests are nearby and as a result, they would utilize those areas for perches when hunting and fishing. Should a Bald Eagle be

observed within 0.25 mi. upstream or downstream of the active project site in the morning before project activity, the construction crew would be instructed not to begin. In addition, if an eagle is spotted following breaks in project construction activity, the crew would also be required to suspend all activity until the bird leaves on its own volition, or if the Reclamation biologist, in consultation with the Service, determines that the potential for harassment is minimal.

The project area is located approximately two miles north of critical habitat for the Southwestern Willow Flycatcher. During site surveys of the area, no Southwestern Willow Flycatchers were observed at the project site. In addition, the habitat in the project area is not suitable for nesting. Reclamation has determined that the proposed action would have no affect the species.

There are no know occurrences of any other federal or state listed protected species of plants or animals in the project area.

4.2.4. Water Resources

No Action

The wasteway ditch located in the project area would not be replaced. As a result, there would be no affect upon the waters of the United States.

Proposed Action

The project would replace a wasteway ditch beginning at the headgate of the acequia to the dike at the Rio Grande. The wasteway has been identified as a waters of the United States by the Corps of Engineers. Since the construction of the new channel would take place, the wasteway would be replaced by a more efficient tributary to the Rio Grande. The new channel would allow stormwater runoff from arroyos and adjacent land as well as irrigation overflows to reach the Rio Grande without flooding adjacent landowners.

4.2.5. Private Land

No Action

Access permits would not be required if the project was not constructed. Flooding of private land would continue from stormwater runoff of arroyos and private land as well as irrigation overflows.

Proposed Action

The proposed project would eliminate flooding of private landowner property adjacent to the project's new channel. Access permits to private land by several owners would be required before the project could begin.

Installation of staging areas on private land to store equipment and materials would occur. Construction materials would be removed from the staging area and would be reseeded with native grass species at the conclusion of the project.

4.2.6. Environmental Justice

No Action

There would be no effects expected of any kind to the local population. No adverse effects to low-income or minority populations are anticipated.

Proposed Action

There would be no effects expected of any kind to the local population. No adverse effects to low-income or minority populations are anticipated.

4.2.7. Indian Trust Assets

No Action

There would be no effects to ITAs.

Proposed Action

There would be no effects to ITAs.

4.2.8. Cultural Resources

No Action

No adverse effects would occur on nearby cultural resources.

Proposed Action

The proposed construction would not disturb any features of the El Guique Acequia (irrigation ditch) and therefore would not be affected.

The dike at the Rio Grande would be disturbed as a result of the installation of three cmps described further in section 2.4. The project would include excavating and temporarily breaching the dike in three locations for installation of an 18-inch cmp, two 60-inch cmps, and removal of an existing 12-inch cmp. At the end of the installation, the excavated sites (breaches) would be repaired and returned to their original strength and function. Included with Appendix C is a letter to NMSHPO office that contains their signed stamp concurring that the undertaking would have no adverse effect upon the dike.

According to the NMSPO, construction of this project would have no adverse affect.

4.2.9. Air Quality and Noise

No Action

This alternative would not have any construction activities and therefore would not produce any dust or noise.

Proposed Action

The proposed action would increase dust and noise levels due to construction. However, during the project, dust abatement measures would be taken by wetting down the soil to help control particulate dust. Reclamation has been given permission to pump water into water trucks just south of the arroyo on an existing road and ramp. Increased dust and noise would not continue after the completion of the project. As a result, the effects of this impact would only be for a short duration.

4.3 Irreversible and Irretrievable Commitment of Resources of the Proposed Action

Twelve large cottonwood trees and their saplings would be impacted by the proposed project. Top soil would be removed from the project site, and would not be replaced in the same location at the end of the project. Wildlife habitat within the project area would be completely destroyed and not replaced. Construction equipment would utilize fuel and lubricants that would be permanently used. One 12-inch cmp would be removed and disposed of off site.

4.4 Cumulative Impacts

4.4.1. Native Vegetation

Increased positive effects of the new cottonwood trees would be observed as the trees become larger from year to year. The effect of the plantings would offset the loss of 12 large cottonwood trees and provide additional habitat for wildlife for the future.

4.4.2. Wetlands

There would be no cumulative affects as a result of any current project construction.

4.4.3. Threatened and Endangered Species

Removal of the large cottonwood trees and other trees in the project area would

remove some potential perches that could be utilized by the Bald Eagle. Other cottonwood forests are nearby and as a result, they would utilize those areas for perches when hunting and fishing. As a result, there would be no immediate or future cumulative effects.

The Southwestern Willow Flycatcher would not be affected since habitat for the species does not exist in the project area and as a result there would be no cumulative effects.

4.4.4. Water Resources

The current wasteway (considered a waters of the United States) would be replaced by a new channel to provide for drainage of stormwater and irrigation ditch overflows. As a result, flooding and water ponding of private property west of the Rio Grande would be eliminated. Therefore, the effect would include improved opportunities for private land use and potential development.

4.4.5. Private Land

Reduced water ponding and flooding on private land as a result of the proposed project may become a positive impact. The possibility exists for the landowners to have the opportunity to further develop their land.

4.4.6. Environmental Justice

As a result of no effects to the local population, there would be no cumulative effects either adverse or beneficial.

4.4.7. Indian Trust Assets

As a result of no effects to ITAs, there would be no cumulative effects.

4.4.8. Cultural Resources

NMSHPO concurs that the proposed project would not have an adverse affect, therefore, no cumulative effects would occur.

4.4.9. Air Quality and Noise

When the project is completed, dust and noise from construction would be eliminated. As a result, no cumulative effects are expected in the future.