**International Boundary and Water Commission**
**United States Section**

# Rio Grande Canalization Project Levees
# Doña Ana County, New Mexico
# Fact Sheet

## BACKGROUND

The U.S. Section of the International Boundary and Water Commission (USIBWC) constructed the Rio Grande Canalization Project in the 1930s and 1940s as a water delivery and flood control project, covering 106 river miles from Percha Dam, NM to American Dam in El Paso, TX. The Rio Grande Canalization Project includes 130 miles of flood control levees in New Mexico and Texas.

The USIBWC has identified a need to make major improvements to the flood control features of the Rio Grande Canalization Project while at the same time implementing environmental enhancements. The USIBWC is participating in a collaborative effort with project stakeholders, including the Elephant Butte Irrigation District, World Wildlife Fund, the U.S. Fish and Wildlife Service, the Southwest Environmental Center, and others to develop alternatives for environmental enhancements that would be implemented in conjunction with work on the flood control levees. Implementation of environmental enhancements will be based on the Record of Decision for the Rio Grande Canalization Project Environmental Impact Statement, which is expected to be issued by 2009. All work is subject to the availability of federal appropriations.

## TERMINOLOGY

- Levee – An elevated earthen berm parallel to the river channel that protects adjacent property from floodwaters.
- Freeboard – A term that reflects how far below the top of the levee the water will reach. FEMA requires freeboard of 3 feet for the 100-year flood event.
- Overtopping – Refers to floodwaters rising above the top of the levee. Where there is levee overtopping, adjacent property would flood.

## USIBWC STUDIES AND MODELING

The USIBWC has studied the levee system in Doña Ana County extensively and has modeled the effect of the 100-year flood event. Based on these studies, the USIBWC has determined that freeboard would be encroached (meaning there would be less than 3 feet between the top of the water surface elevation and the top of the levee) for 37 miles of river levee in Doña Ana County. The studies show that the levee would be overtopped at several locations for a total of 1 mile. See attached maps of affected areas.

## FEMA MAPPING

Based on the results of its studies, the USIBWC has informed the Federal Emergency Management Agency (FEMA) that it cannot certify that the Rio Grande Canalization Project levee system will be able to contain the 100-year flood with the required 3 feet of freeboard. Because the USIBWC cannot certify all Rio Grande flood control levees in the Rio Grande Canalization Project, FEMA has developed draft flood insurance rate maps that reflect areas that could be inundated as if the levee system did not exist at all.

## USIBWC PLAN TO RAISE LEVEES

The USIBWC has a plan to raise the Rio Grande Canalization Project flood control levees. Planned work in Doña Ana County includes:

Tonuco Bridge/Hatch Area

- Raise levees by 4 feet for .79 miles near Tonuco Bridge.
- Raise levees by 3 feet for 1.57 miles near Tonuco Bridge.
- Raise levees by 2 feet for a total of 4.31 miles at various sites in this reach, including levees near Hatch, Rincon, and Tonuco Bridge.
- Raise levees by 1 foot for a total of 3.81 miles at various sites in this reach, including levees near Hatch, Rincon, and Tonuco Bridge.

Mesilla Valley

- Raise levees by 2 feet for a total of .46 miles at two sites on the east levee near Doña Ana and Mesilla.
- Raise levees by 1 foot for a total of 11.09 miles including reaches at the east levee near Doña Ana, east and west levees near Las Cruces and Mesilla, and the east levee downstream from Mesilla.

Canutillo/Upper Valley (in NM from below the Mesilla Valley to American Dam)

- Raise levees by 4 feet for .28 miles near Sunland Park.
- Raise levees by 3 feet for a total of 3.81 miles near Sunland Park.
- Raise levees by 2 feet for a total of 2.54 miles at various points from Vinton downstream to Sunland Park.
- Raise levees by 1 foot for a total of 9.47 miles at various sites between Vado and Sunland Park.

## FUNDING

The total estimated cost to raise the levees in Doña Ana County is $19.8 million, excluding environmental enhancements. All levee work is subject to the availability of federal appropriations.

## SEDIMENT AND DREDGING

The USIBWC has a program to dredge the river to remove sediment at key sites. This work will be evaluated as part of the collaborative process with stakeholders. Sediment is a particular concern where arroyos enter the river. Over the past 2 years, the USIBWC has conducted sediment removal activities in reaches from Mesilla Dam to Picacho Bridge, American Dam to Canutillo Bridge, Trujillo Arroyo, Placitas Arroyo, Tipton Arroyo, Thurman Arroyo, and Hershey Arroyo. The USIBWC will apply for a permit to conduct additional sediment removal over the next 3 years at Rincon Arroyo, Sibley Arroyo, Salem Bridge Area, and Hatch Bridge Area. It is expected that sediment removal can be completed by early 2010 using normal operating funds appropriated to the USIBWC.

## CONTACT INFORMATION

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# Hatch/Tonuco Bridge Segment
# Canalization Project 100-year Flood Deficiencies
# FLO-2D Model Data - 3ft Freeboard

**Inset B**

436

187

390

Salem

391

140

Hatch

26

**Inset A**

154

Rincon

140

25

185

Tonuco Bridge Area

**Legend**

**Levee Deficiencies - 3ft Freeboard**

- 1 ft
- 2 ft
- 3 ft
- 4 ft
- Rio Grande

0 1.5 3 6 Miles

N
W E
S

**Inset A**

0 1.25 2.5 5 Miles

**Inset B**

0 0.1 0.2 0.4 Miles

# Mesilla Valley Segment
# Canalization Project 100-year Flood Deficiencies
# FLO-2D Model Data - 3ft Freeboard

**Inset B**

**Inset A**

I-10 Bridge

**Legend**

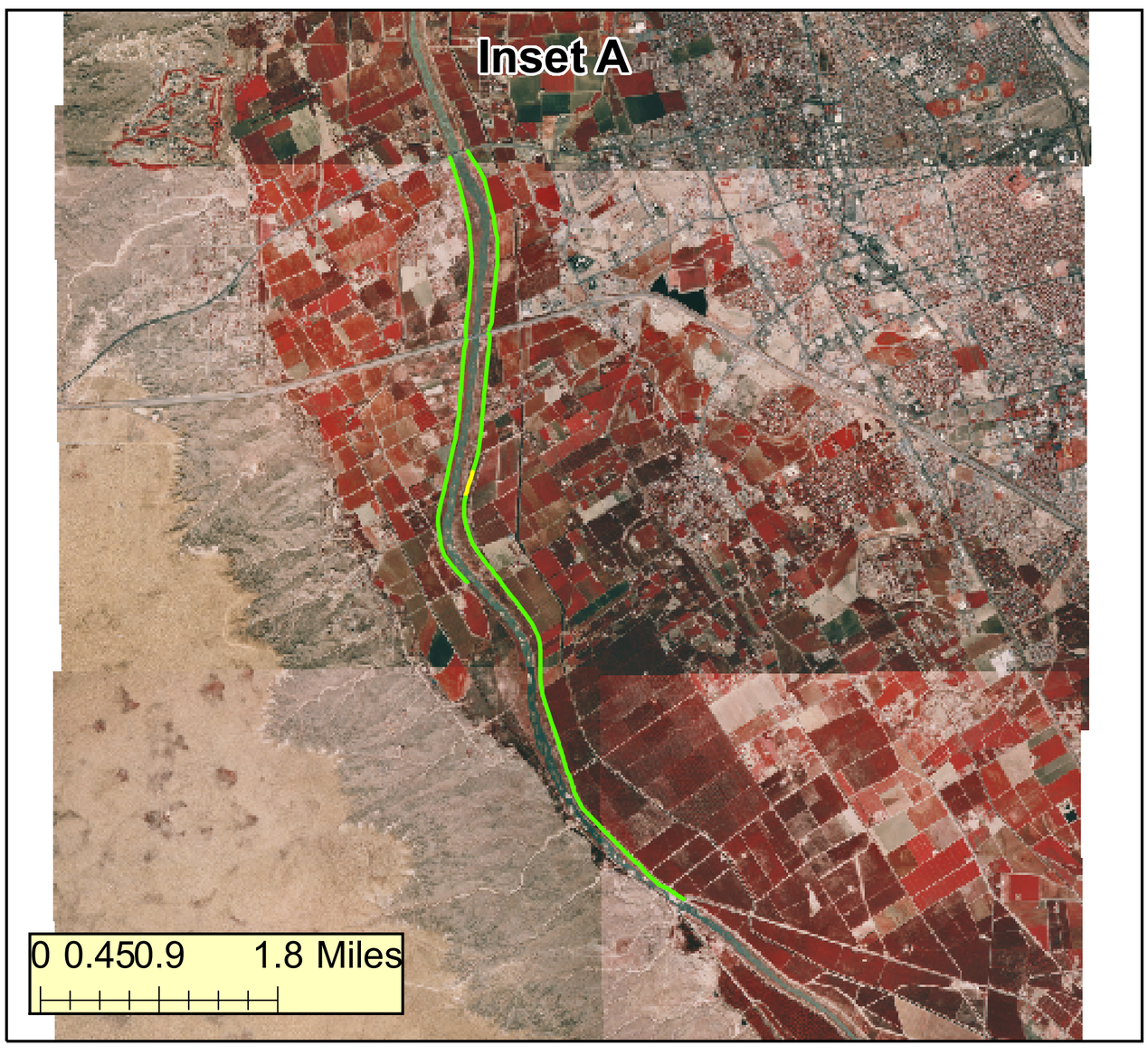
**Levee Deficiencies - 3ft Freeboard**

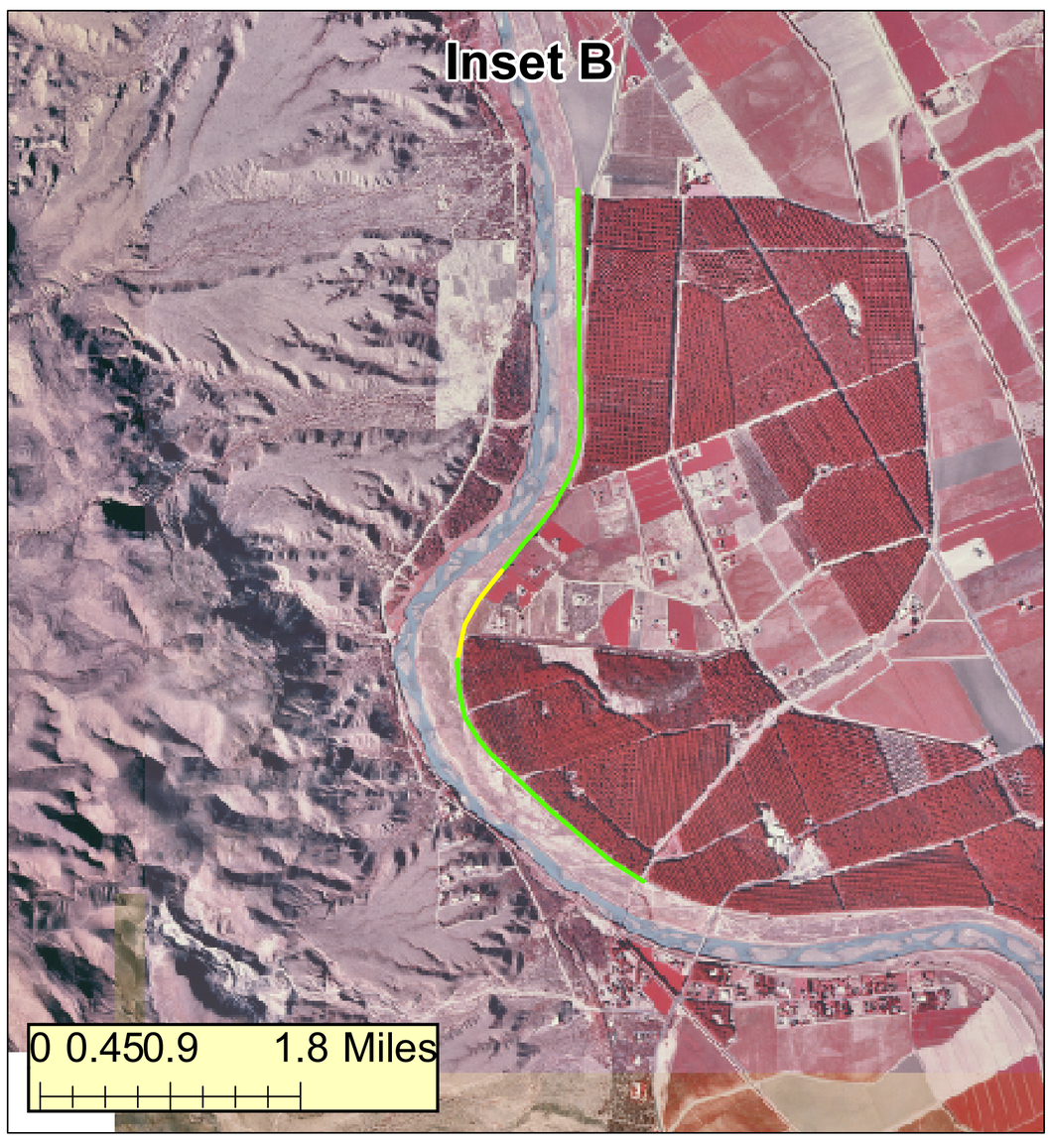
- 1 ft
- 2 ft
- 3 ft
- 4 ft

0 1 2 4 Miles

N
W E
S

Las Cruces
Dona Ana
Mesilla
University Park
Peach Tree Hills



# Canutillo/Upper Valley Segment
# Canalization Project 100-year Flood Deficiencies
# FLO-2D Model Data - 3ft Freeboard

Vado Bridge

Anthony

Canutillo

Borderland Bridge

Santa Teresa

Sunland Park

**Legend**

**Levee Deficiencies - 3ft Freeboard**

- 1 ft
- 2 ft
- 3 ft
- 4 ft
- Rio Grande

0 1.25 2.5 5 Miles

N W E S