Middle Rio Grande River Maintenance

Activities

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Background of the Middle Rio Grande Project

• Encompasses the Rio Grande from Velarde to Elephant Butte Reservoir
• Flood Control Acts of 1948 and 1950
• Particularly wet period during the 1940’s
• Authorized the Bureau of Reclamation and Army Corps of Engineers to undertake the Middle Rio Grande Project
• Intended to prevent flooding within the Middle Rio Grande, reliably supply surface water to farmers, control unnecessary depletions and assist in making Rio Grande Compact deliveries
• Must take federal and state laws/regulations into consideration (Clean Water Act, Endangered Species Act, etc…)
NMISC Involvement

• Partners primarily with Bureau of Reclamation and US Army Corps of Engineers but also MRGCD
• ISC’s main objective is insuring Rio Grande Compact deliveries by controlling unnecessary depletions but is also concerned with supplying surface water to rights holders and preventing flooding within the Middle Rio Grande
• Funding comes from Irrigation Works Construction Fund, Improvement of the Rio Grande Income Fund and legislative appropriations (Capital Outlay)
Middle Rio Grande River Maintenance

Types of River Maintenance Activities

• Elephant Butte Delta Channel
• Water Salvage
  • Low Flow Conveyance Channel
  • State Drain maintenance
  • Vegetation management in reservoirs
• Middle Rio Grande Levees
• Habitat Restoration Activities
Elephant Butte Delta Channel

• Designed and constructed in 2003 and maintained annually since then
• Engineered channel with dimensions of approximately 150 to 300 feet wide, 3 to 5 feet deep, and berms roughly 5 to 10 feet high.
• Designed to convey flows ranging from 1,500 to 2,000 cubic feet per second (cfs).
• It’s purpose is to “reconnect” the Rio Grande to the active reservoir pool at Elephant Butte
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Elephant Butte Delta Channel

Elephant Butte Delta Before

Elephant Butte Delta Channel After
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Elephant Butte Delta Channel Today
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Water Salvage: Low Flow Conveyance Channel

Cattails and other aquatic weeds in LFCC

Reclamation crews working on LFCC in 2015
Water Salvage: Riverside Drain Maintenance

Lower San Juan Drain Before (3-10-15)

Lower San Juan Drain After (5-6-15)
Middle Rio Grande River Maintenance

Socorro Levee

San Acacia to Bosque del Apache Unit, NM

- **Project Area**
  - Rio Grande Floodway from San Acacia to San Marcial, Socorro County

- **Local Sponsors**
  - Middle Rio Grande Conservancy District (MRGCD) and the New Mexico Interstate Stream Commission (NMISC)

- **Scope**
  - Flood damage reduction
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Socorro Levee Project

Socorro Levee before

Socorro Levee during construction
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Socorro Levee Project Today
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MRG Flood Fighting Assistance 2017 & 2019

Drain Bank
Sloughing in 2019

Above average spring snowmelt runoff water up against spoil bank levee
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MRG Flood Fighting Assistance 2017 & 2019

Peralta Riverside Drain before

Peralta Riverside Drain after
2019 MRG Sediment Plugs

Delta Channel sediment plug looking north (8/28/19)

Bosque del Apache NWR sediment plug looking north (7/25/19)
2019 Delta Channel Sediment Plug Removal

Delta Channel sediment plug looking south (9/16/19)

Delta Channel sediment plug looking south (9/18/19)
Conclusions

• River Maintenance activities are an essential function of the ISC in order to insure compliance with Rio Grande Compact amongst other things

• River maintenance activities have evolved over the years but in general have become more passive (reactive)

• River maintenance activities need to comply with or integrate environmental regulations and management

• Very likely that the current funding rate of river maintenance activities is not sufficient for a sustainable river system supporting multiple societal priorities
Questions