

Partnerships that Optimize Water for Agriculture and Ecosystems in the Middle Rio Grande

2024 Water & Natural Resources Committee Meeting

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Mission Statement

MRGCD OPERATES, MAINTAINS AND MANAGES IRRIGATION, DRAINAGE, AND RIVER FLOOD CONTROL IN THE MIDDLE RIO GRANDE VALLEY,

PROMOTES EFFICIENT AND RESPONSIBLE WATER MANAGEMENT,

MANAGES THE RIPARIAN ECOSYSTEM TO SUPPORT WILDLIFE AND ENDANGERED SPECIES IN COOPERATION WITH OTHER LOCAL, STATE AND FEDERAL AGENCIES,

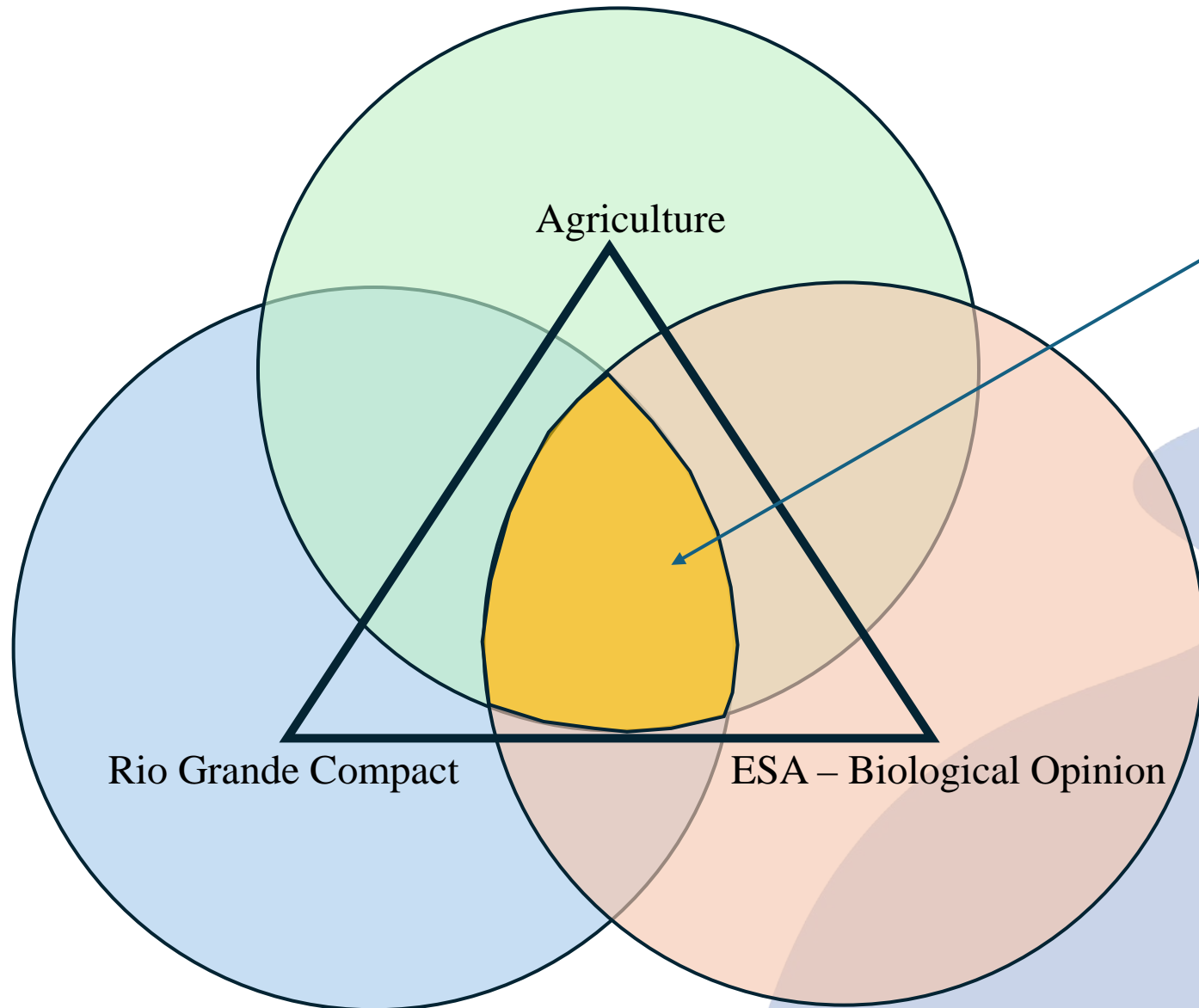
PROVIDES MULTI-USE RECREATIONAL OPPORTUNITIES WITHIN THE MIDDLE RIO GRANDE VALLEY.

On the Ground

- ~30,000 acres of riparian corridor,
- ~55,000 acres of active agriculture (varies annually),
- ~11,000 irrigators
- 1,200 miles of canals, drains, and levees between Cochiti Reservoir (North), Bosque Del Apache NWR (South).
- ~150 river miles



Managing for Competing Demands



This is where most of our partnerships exist.



The Partnership

A 2019 Cooperative Agreement between the Bureau of Reclamation, the National Fish and Wildlife Foundation (NFWF), and MRGCD.

Piloted a native water leasing program (VOLUNTARY).

System Conservation through infrastructure upgrades and On-Farm efficiency improvements.

Identify areas for habitat development and creation of Strategic Outfalls.

Sub-recipients of grant funding also include Audubon.

**BROAD SKEPTICISM THAT THIS
COULD WORK.**



The Results - Voluntary Fallowing

Irrigation Season (YR)	Total Volume of Water Leased by EWLP Annually (Acre-Feet)
2020	126.00
2021	1,616.00
2022	7,015.00
2023	3,612.00
2024	5,800.00
Combined	18,169.00



Farmers are encouraged to rotate their land through the program to prevent “buying and drying”.



3,000-6,000 acre-feet of leased water annually gives MRGCD a lot flexibility for species management during the summer.



Fallowing is the “quick response lever” and should be considered part of a larger water management portfolio.



Not a long-term solution to managing water supplies.

- **This excludes San Juan Chama water leased by Reclamation or Audubon on an annual basis.



The Results - On Farm Efficiency

Farmers receive financial and technical assistance to increase irrigation efficiency.

Water conserved through these projects is made available for habitat and species support.

WIN-WIN Outcome.



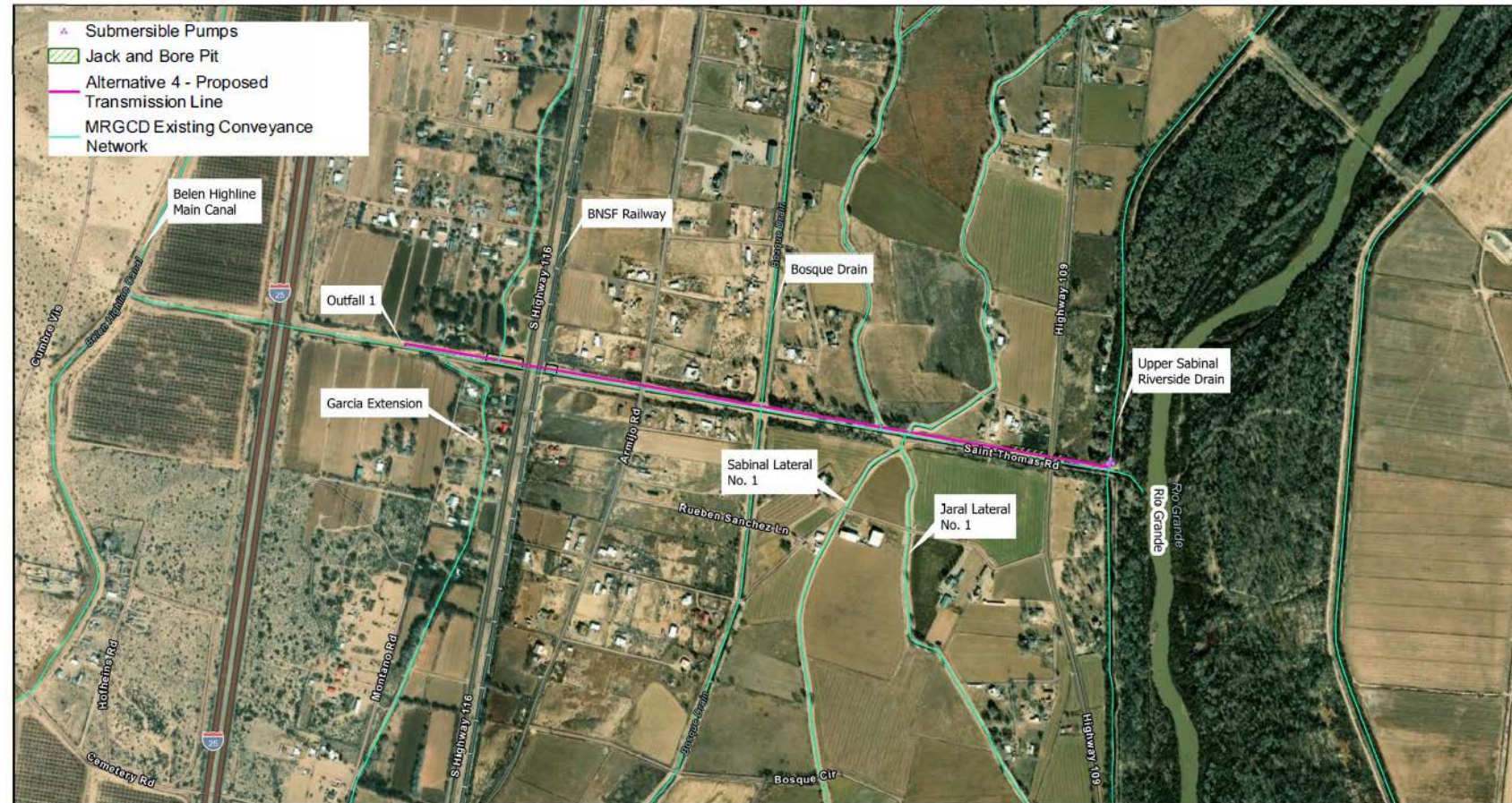
Macro Infrastructure - Supplemental Supply

Feeder 3 Pump Station – Designed to supplement and optimize efficient water conveyance in southern Valencia County.

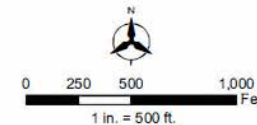
Will decrease the irrigation window for ~4,500 acres from ~19 days to ~9 days resulting in an annual conservation of water.

Water conserved through this projects is then made available for other farmers, ESA support or Rio Grande Compact deliveries.

WIN-WIN Outcome.



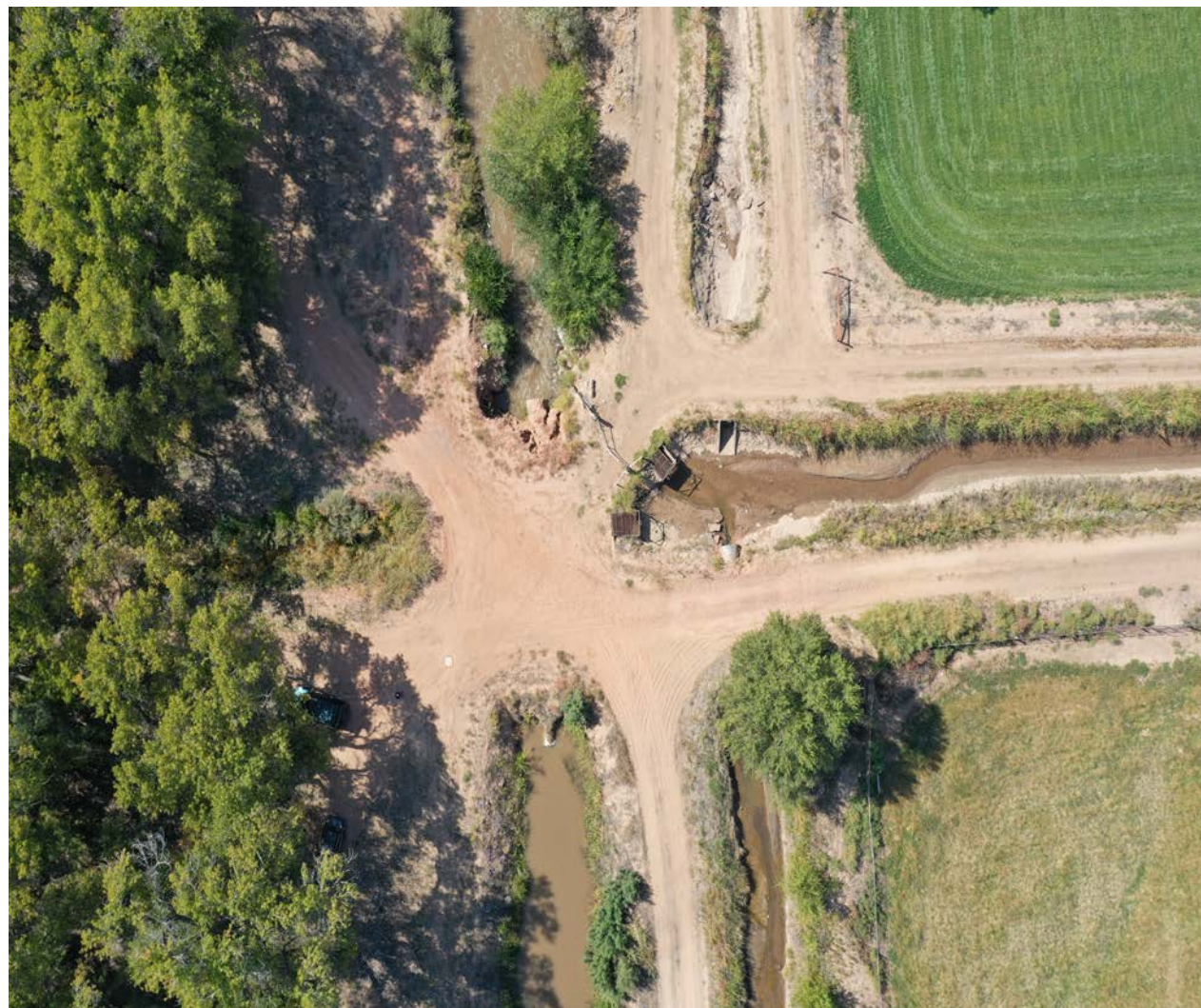
Bohannon & Huston
www.bhnc.com 800.877.5332



Feeder No. 3
Preliminary Engineering Report

Figure 12
Alternative 4 Proposed Improvements

The Results - Outfall Control Structures



The New Belen Outfall Control Structure was overhauled to allow for small volume (3-5 cfs) deliveries to be maintained and measured during the irrigation season. This structure also improved adjacent irrigation efficiency.

String of Pearls – Creative Water Management

Use MRGCD's linear infrastructure to efficiently route water through the valley and deliver back to the river through Strategic Outfalls (Pearls) in reaches of the river (String) that are prone to drying or disconnecting.

This practice stretches limited supply and takes advantage of existing agricultural infrastructure.

Small infusions of water along the river support refugial habitat and wetlands during the peak of the irrigation season.

MRGCD INFRASTRUCTURE + CONSERVATION OF AG WATER + FEDERAL FUNDING = PARTNERSHIP

MRGCD gains additional funding for infrastructure upgrades and on-farm efficiency while also supporting the 2016 BO obligations.



The Results - Habitat Support and Development

Floodplain Inundation



Los Chavez Outfall Floodplain Inundation – Photo courtesy of Quantina Martine – Audubon.

The Results - Habitat Support and Development

Backwater Rearing



Los Chavez Outfall Backwater Excavation – Courtesy of Quantina Martine – Audubon.

The Results - Habitat Support and Development

Wetland Habitat



Los Chavez Outfall Wetland Development- Courtesy of Quantina Martine - Audubon.

Riparian Restoration & Site Functionality (New Belen Outfall)



5.5' of deposition in a single spring runoff (2023), backwater feature is no longer functional.



Establish slope and pilot channel before vegetation moves in.



Send "pulse flow" through the pilot channel to mobilize and transport sediment out of the habitat feature with limited mechanical intervention.



Water creates meanders and slowly eats away at opposing banks.



In less than a week, backwater feature has been re-established and can now be maintained with bi-annual maintenance pulses from MRGCD infrastructure.

Species Impact

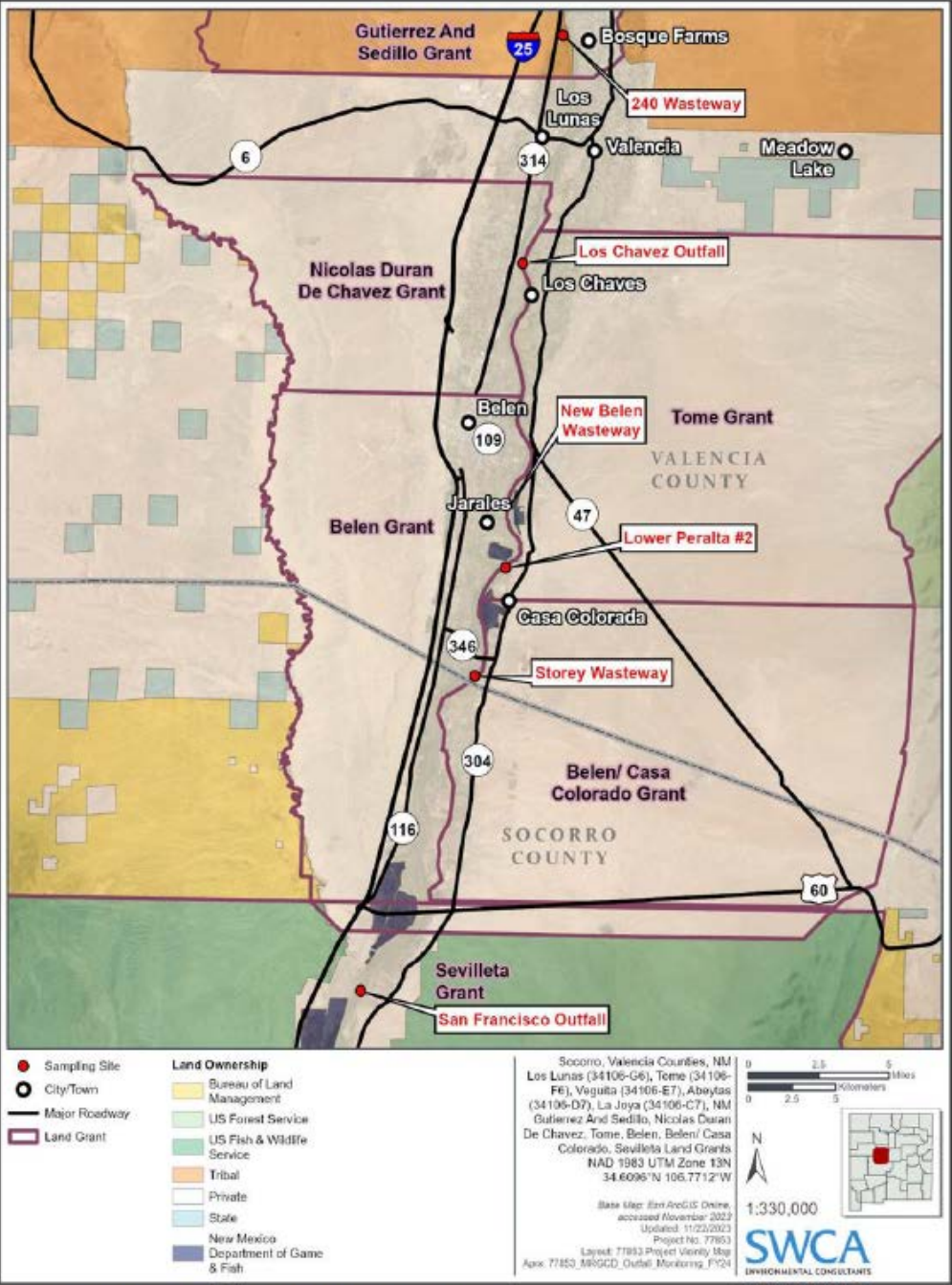


Figure 1. Project vicinity map showing sampling sites.

Consistent detection of Rio Grande Silvery Minnow at all Strategic Outfalls in the Isleta Reach of the Rio Grande in 2023.

Beaver activity at outfalls has improved soil moisture and created new wetlands within the floodplain.

Outfalls support nesting sites for listed bird species such as the Southwest Willow Flycatcher.

We manage for specific species, but the habitat supports many others.



In Summary

Move water in creative ways

Support On-Farm and System Conservation activities

Use irrigation infrastructure and “pulse flows” to maintain habitat function

Look for “Win-Win” Outcomes

