

# WATER CONSERVATION

## Environmental Water Leasing and Endangered Species Conservation in the Middle Rio Grande Valley



Los Chavez Outfall along the Rio Grande/Quantina Martine

### INTRODUCTION

Historically, communities along the middle Rio Grande in New Mexico have utilized *acequias*, traditional gravity-fed irrigation canals to water their farmlands. Expanding populations in the valley have strained water resources, compromising the river's ability to provide water for all its users. The Middle Rio Grande Conservancy District (MRGCD), which manages the largest volume of water in the Middle Rio Grande valley of central New Mexico, implemented a wide-ranging conservation program to balance changing demands on water resources. This program facilitates various projects, such as voluntary water leasing, improvements to on-farm irrigation infrastructure, and riparian habitat restoration.

### KEY ISSUES ADDRESSED

Drought is a recurrent condition in New Mexico due to the region's semi-arid climate. Increases in the frequency and severity of dry periods can reduce water availability. Recurrent drought in the Middle Rio Grande means that portions of the river are prone to drying completely. In addition, the irrigation infrastructure on many farms in the valley is outdated and inefficient.

River drying threatens federally endangered species such as the Rio Grande Silvery Minnow (*Hybognathus amarus*). Local farming communities are also vulnerable to river drying, left with no alternative means to water their fields. Furthermore, per the Rio Grande Compact of 1938, the state of New Mexico is obligated to allow water to reach Elephant Butte reservoir each year for downstream users. Fulfilling each of these varied demands on water resources can be difficult in some years due to variable hydrology.

### PROJECT GOALS

- Implement the conservation program to support local users and fulfill water demands and obligations.
- Facilitate voluntary water leasing to maintain flows in the Rio Grande during periods of low water availability.
- Deliver water for Rio Grande Silvery Minnow critical habitat.



## PROJECT HIGHLIGHTS

**Temporary Water Leasing:** MRGCD's Environmental Water Leasing Program (EWLP) allows local farmers to temporarily lease their water to the district. This allows conserved water to accumulate in outfalls (channels within acequia systems which return unused irrigation water to the river) and be later released to supplement flows in dry reaches of the river channel. Since the start of the program in 2020, MRGCD has leased over 18,000 total acre-feet to support local and interstate water needs.

**Silvery Minnow Refugia:** Conserved water from the EWLP provides refugia for silvery minnow. Monitoring results indicate silvery minnows are utilizing outfalls during hot, dry periods as refuge from high temperatures and low water quality in the river.

**Interstate Compact Compliance:** Leased water from the EWLP also helps supplement water supply in the Rio Grande for downstream water users, helping fulfill water delivery demands for the Rio Grande Compact.

**On-Farm Improvements:** Through the conservation program, MRGCD makes small-scale improvements to irrigation infrastructure and farmlands throughout the valley. Improvement projects include enhanced water delivery mechanisms, construction of irrigation pipelines, and more.



Infrastructure Improvements to Storey Outfall/MRGCD

## LESSONS LEARNED

Initially, irrigators in the valley were cautious about the EWLP and the conservation program. Many were worried the district was attempting to "buy and dry" the valley by buying out their water rights for commercial use, disrupting traditional community agriculture. MRGCD found that cooperation and transparency with both enrolled and unenrolled water users was crucial for the success of the project, and for building positive relationships with the community.

Cooperation with unenrolled water users helped MRGCD build trust with those who were still hesitant about the EWLP and reassured the community that the program would remain voluntary.

Through public education, outreach, and maintaining the voluntary status of the water leasing program, MRGCD has earned the trust of local water users. In fact, the EWLP has supported the valley's agricultural community by providing an alternative financial option for farmers impacted by water shortage and drought who would otherwise have to let their crops and pastures dry out for lack of water. Water leased per year has increased from 126 acre-feet since the start of the program in 2020, to 5,942 acre-feet in 2024.

## NEXT STEPS

- Continue the conservation program and EWLP to support water demands for local users and interstate requirements.
- Take steps to acquire water storage infrastructure to save water for longer periods of time and supplement flows in the Middle Rio Grande throughout the year.

## PARTNERS

- See online for full list of partners
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