



## CASE STUDY

*"MRGCD now has an intuitive and reliable SCADA system that has not only significantly impacted their operations, but also paved the way for responsible and efficient conservation of natural resources."*

### FOR MORE INFORMATION, CONTACT US

7301 Jefferson St NE  
Albuquerque, NM 87109

1-833-932-7323

info@cdione.com  
www.cdione.com

Visit our website to sign up for the latest industry news, new product releases and updates.

[www.cdione.com](http://www.cdione.com)



### Western Yellow-Billed Cuckoo

An endangered species in Middle Rio Grande.  
Photo Credit: Audubon.org



The Middle Rio Grande Conservancy District operates, maintains and manages irrigation, drainage, and river flood control in the middle rio grande valley, promotes efficient and responsible water management, protects the environment, wildlife and endangered species in cooperation with other local, state and federal agencies, and provides multi-use recreational opportunities within the Middle Rio Grande valley.

### Company Name

Middle Rio Grande Conservancy District (MRGCD)

### Location

Albuquerque, NM

### The Situation

In the early 2000s The Middle Rio Grande Conservancy District, which serves 62,000 acres of land across the Middle Rio Grande Valley, watched as explosive population growth, expanding industry, and water allocated for environmental and ecological concerns—including two federally listed endangered species—made more efficient water use critical.

These challenges are the same pressures that irrigated agriculture has experienced throughout the world, worsened by outdated measurement instrumentation, the challenges of miles-long resource management regions, and inefficient satellite telemetry. **Read More Inside...**

***“CDI combined existing structures with modernized technology to enhance flow measurement, automate control structures, and improve instrumentation and telemetry.”***

## RESOURCE MANAGEMENT. SIMPLIFIED.

The Middle Rio Grande Conservancy District, which serves approximately 62,000 acres of irrigated land in the Middle Rio Grande Valley, needed strategies and processes for proactively addressing water shortage and agricultural water delivery throughout the MRG region. By partnering with CDI, it was able to build a comprehensive program of canal modernization and SCADA incorporation specifically customized to meet its unique needs.

### Challenge

In the early 2000s, the demand for water across the Middle Rio Grande Valley drastically increased. The Middle Rio Grande Conservancy District (MRGCD), which serves 62,000 acres of land across the Middle Rio Grande Valley, watched as explosive population growth, expanding industry, and water allocated for environmental and ecological concerns—including two federally listed endangered species—made more efficient water use critical.

Since its initial construction, MRGCD's gauging stations equipped with measurement instrumentation gradually deteriorated, resulting in a decline in quality of flow records. In addition, data from gauges revealed that many operational problems occurred because canal operators could not be physically present at all times. While the addition of GOES satellite transmitters helped address data downloading concerns, limitations in frequency and one-way communication meant that existing telemetry processes lacked efficiency and reliability – two factors that MRGCD could no longer afford to compromise.

### Customized Solutions

MRGCD partnered with CDI to build a comprehensive, customized resource management solution that improved accuracy, increased reliability, and amplified existing function to maximize efficiency. In strengthening the MRGCD SCADA system, CDI combined existing structures with modernized technology to enhance flow measurement, automate control structures, and improve instrumentation and telemetry.

***Flow measurement and automated control.*** MRGCD modernized existing water measurement structures to aid in more accurate flow measurement, increasing gauging stations from 15 to 140 throughout the 1200-mile canal system. In addition, open-channel gauging sites that lacked control instrumentation were upgraded to site-specific measuring structures to improve quality of flow measurement. The addition of 40 automated structures, including overshot gates and radial gates, gave MRGCD the ability to improve data collection, thereby reducing operational problems.

***Instrumentation and telemetry.*** To address data transmission limitations enforced by MRGCD's existing infrastructure, CDI incorporated radio telemetry. The CDI RTUs contain a modem, radio, and an input/output board all packaged into a single unit, with the ability to connect directly to sensors and read them remotely over a radio link. This provided for more flexible and long-range data transmissions, allowed for two-way data communication, and eliminated the need to store data on site, which in turn simplified MRGCD's processes and form factor.

***“...changing the future of reservoir storage, endangered species, and river system welfare...”***

With a software solution that tied all of these components together, the MRGCD now had an intuitive and reliable SCADA system that has not only significantly impacted MRGCD's operations, but also paved the way for responsible and efficient conservation of natural resources in the Middle Rio Grande Valley as a whole.

## Impact

The Middle Rio Grande Conservancy District encountered the same pressures in the early 2000s that irrigated agriculture has experienced throughout the world—simultaneous urban expansion, need for agricultural water sources, and constraints on water use. Now, the MRGCD is equipped with strengthened infrastructure that combines traditional agriculture SCADA technology and adaptations of technology from other industry sectors to meet its unique needs. Ten years ago, MRGCD was diverting more than 600,000 AF/year from the Rio Grande. Over the past few years, diversions have averaged less than 350,000 AF/year, providing for limited stored water supplies to reach even farther – a crucial asset, particularly in times of drought. Modernizing resource management structures, augmenting existing capacity, and improving the efficiency of outdated processes has resulted in a quality, intuitive, and reliable SCADA system that is changing the future of reservoir storage, endangered species, and river system welfare across the Middle Rio Grande Valley.

## The CDI Difference

Whether you're looking for increased reliability, modernized technology, or enhanced power efficiency, CDI has customized solutions to fit your unique needs. **That's the CDI difference.**

**LONG-RANGE COMMUNICATION** no matter the conditions, no matter the terrain

**INCREASED RELIABILITY** that allows for more than 90% successful transmissions

**CLEANER FORM FACTOR** that reduces your footprint and external components

**POWER EFFICIENCY** with just a solar panel and 12-volt battery anywhere the sun shines

**ONE-STOP SHOP** for an automated, wireless control and transmission system

**INTUITIVE, CUSTOMIZED SOFTWARE** at no additional charge

**INDUSTRY BEST TECHNICAL SUPPORT** that solves your problems, whatever it takes

## RESOURCE MANAGEMENT. SIMPLIFIED.

Time to strengthen your resource management systems? Let CDI help. With uncompromising functionality and reliability, we design and manufacture comprehensive and customized solutions for industrial, wireless/remote automation, and SCADA systems. Optimized for noisy, weak signal and high traffic radio spectrum environments, our proprietary “Tuned Modem Technology” recovers data accurately when the signal is at its worst. **That's resource management – simplified.**