COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	San Miguel Watershed Coalition
Name of Water Project	Reed Chatfield Ditch and Diversion Rehabilitation Project
Grant Request Amount	**$1,455,786.00**
Primary Category	$1,455,786.00
Watershed Health & Recreation	
Total Applicant Match	**$0.00**
Applicant Cash Match	$0.00
Applicant In-Kind Match	$0.00
Total Other Sources of Funding	**$2,984,910.00**
The Nature Conservancy	$100,000.00
Congressionally Designated Spending	$2,884,910.00
Total Project Cost	**$4,440,696.00**

Applicant & Grantee Information

Name of Grantee: San Miguel Watershed Coalition
Mailing Address: PO Box 1601 Telluride CO 81435

Organization Contact: Adrian Bergere
Position/Title:
Phone: (518) 817-1607
Email: info@sanmiguelwatershed.org

Organization Contact - Alternate: Adrian Bergere
Position/Title:
Phone: (518) 817-1607
Email: info@sanmiguelwatershed.org

Grant Management Contact: Adrian Bergere
Position/Title:
Phone: (518) 817-1607
Email: info@sanmiguelwatershed.org

Grant Management Contact - Alternate: Adrian Bergere
Position/Title:
Phone: (518) 817-1607
Email: info@sanmiguelwatershed.org

Description of Grantee/Applicant

The San Miguel Watershed Coalition (SMWC) is an independent 510(c)(3) nonprofit organization established in Telluride, Colorado, in 1997. SMWC works to maintain and improve the ecological health of all 80 miles of the free-flowing San Miguel River. SMWC conducts and facilitates river projects, provides community education opportunities, and conducts water quality testing. SMWC engages stakeholders from throughout the 1,550 square mile watershed—from the western San Juan Mountains to the slick rock canyons of the West End—to participate in collaborative efforts that promote our river's health and the economic vitality of our watershed's communities.

Type of Eligible Entity

- ☐ Public (Government)
- ☐ Public (District)
- ☐ Public (Municipality)
- ☐ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ■ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☐ Agricultural Projects
  Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☐ Conservation & Land Use Planning
  Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
  Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ■ Watershed Restoration & Recreation
  Projects that promote watershed health, environmental health, and recreation.
- ☐ Water Storage & Supply
  Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	38.229200
Longitude	-108.519600
Lat Long Flag	Ditch diversion structure location: Coordinates based on ditch’s diversion structure
Water Source	San Miguel River
Basins	Southwest
Counties	Montrose
Districts	60-San Miguel River Basin

Water Project Overview

Major Water Use Type	Municipal
Type of Water Project	Construction / Implementation
Scheduled Start Date - Design	1/1/2026
Scheduled Start Date - Construction	12/31/2028

Description

The San Miguel Watershed Coalition (SMWC), in partnership with the Town of Naturita (Town), propose to improve and modernize the Reed-Chatfield Ditch diversion structure located in the San Miguel River basin in

Montrose County, Colorado. The diversion structure and its connected water conveyance system enable the diversion and distribution of senior water rights for the Town of Naturita and private landowners. The proposed project will redesign the instream diversion structure to ensure safe passage for fish and boaters at a site that currently obstructs fish movement and creates a boating hazard. The project aims to improve river connectivity by constructing a rock ramp ladder downstream of the low-head dam. This ladder will create a natural streambed gradient, allowing fish passage—including key native warm-water species—and enhancing boater safety. Additionally, the project aims to improve water delivery efficiency by replacing deteriorating pipes and ditches with HDPE piping and a downstream valve to establish an on-demand, pressurized water system. Engineering, design, and permitting for the project are already underway. Key benefits of the project include enhancing the reliability and efficiency of water delivery to ensure water rights holders receive their allocated water with minimal loss, removing hazardous obstacles and improving passage for boaters and other waterway users to increase safety and accessibility for recreation, and eliminating barriers to fish migration to support healthier aquatic ecosystems and promote biodiversity in the San Miguel River.

Measurable Results

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
26,400	Length of Stream Restored or Protected (linear feet)
11,616.00	Length of Pipe, Canal Built or Improved (linear feet)
	Efficiency Savings (dollars/year)
285	Efficiency Savings (acre-feet/year)
	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
10,000	Number of Coloradans Impacted by Engagement Activity

Other

No additional measurable results provided

Water Project Justification

Water Plan and BIP Alignment for Reed Chatfield Ditch and Diversion Rehabilitation Project

Intro:
The Reed-Chatfield Ditch Rehabilitation Project (Project) aligns with all four Action Areas outlined in Chapter 6 of the 2023 Colorado Water Plan, supporting numerous Partner Actions with direct on-the-ground implementation. The Project is a prime example of a multi-benefit Project, benefiting the environment, recreation, municipal water use, and agriculture. The Project concept is a long time IPP that was further developed by a Stream Management Plan, with engineering designs completed with funding from a CWCB Technical Assistance grant.

The Reed Chatfield diversion and conveyance infrastructure is owned by the Town of Naturita for 2.2 miles where it provides municipal water. The ditch then continues for half a mile to deliver water to over 30 acres of privately-owned, productive agricultural land. Efficiency upgrades to the ditch pipeline will have positive impacts to both municipal and agricultural water use. The project will provide further agricultural benefit to the lands adjacent to the diversion structure by reconstructing a failing berm to protect the adjacent pasture and prevent the river from circumventing the diversion and current channel the next time the river experiences high runoff. The environmental and recreational benefits will both be achieved by development of a rock ramp fish ladder, up

to the crest of the current channel-spanning concrete low-head dam. The dam currently causes aquatic disconnection for native fish species and dangerous hydraulics for recreational river users which will both be mitigated by the project.

The collaborative nature of the Project—led by a nonprofit watershed group in partnership with a municipality,private landowners, and federal land managers — models the locally-driven, cross-sector planning approach promoted throughout the Water Plan. The Project has support from the stakeholder group of the basin's Stream Management Plan stakeholder group, the San Miguel Partnership, garnering support from 72 stakeholders. This Project doesn't just reflect a single goal of the Water Plan—it delivers on the comprehensive, systems-based approach that the Plan argues is essential for Colorado's sustainable water future.

Drought Response (p. 39)
The Project contributes to climate/drought resilience by ensuring more reliable delivery of water during increasingly variable hydrologic conditions, a key need identified across all action areas in Chapter 6 (pp. 192–228). This Project corresponds to multiple aspects of Drought Response outlined in the plan (p. 39). The Project will aid in Municipal Water Conservation, Agricultural Water Conservation, and Collaboration. The proposed water conveyance infrastructure modernization (pipeline) will incorporate tailwater intakes into a pressurized pipeline. This will allow for reuse of return flows for Reed Chatfield Water users, thus lowering the volume of diversion at the headgate, leaving some water in the river to flow over the diversion. When the volume of water in the tailwater intakes exceeds uses on the Reed Chatfield, the new pressurized pipeline design will allow water to flow upstream towards the diversion structure and into the river when the valve at the end of the pipe is closed, moving the return flows upstream from their current re-entry point into the river by 2 miles.

Vibrant Communities (Chapter 6, p. 178–191)
Meeting Future Water Needs:
• Optimize investments in infrastructure and increase efficiency and conservation (p. 180): The Reed Chatfield conveys pre-Colorado River Compact water rights to the Town of Naturita. It is critical to protect/modernize the infrastructure that conveys this water to the Town. The proposed pipeline design incorporates a butterfly valve at the end of Town of Naturita's pipeline, pressurizing the pipeline, which gives the Town the ability to implement completed designs for a raw water system for outdoor use to reduce the burden on the local water utility by reducing treated potable water use outdoors.
Wise Water Use:
• Increase resilience through integrated land and water planning (p. 180): The Town of Naturita is directly engaged and benefits from more reliable water supply and safer recreation access.
Healthy Lands:
• Holistic planning for urban landscapes that improve quality of life (p. 180): The proposed pipeline design incorporates a butterfly valve at the end of Town of Naturita's pipeline, pressurizing the pipeline, which gives the Town the ability to implement completed designs for a raw water system for outdoor use to reduce the burden on the local water utility by reducing treated potable water use outdoors.

Robust Agriculture (Chapter 6, p. 192–196)
Meeting Future Water Needs:
•Replace diversion structures (p. 194): Upgrades an aging diversion to allow for fish passage and modernizes conveyance infrastructure that provides efficiency improvements. A more sophisticated system of fish screens will be added to the intake pipe at the diversion box to prevent the entrainment of fish.
• Improve agricultural infrastructure (p. 194): Installs a new 2.2-mile HDPE pipeline with modern control and metering.
• Measurement of agricultural uses (p. 194): Implements new flow measurement and control valves for precise water allocation.The Project aims to improve water delivery efficiency by replacing deteriorating pipes and

ditches with HDPE piping and a downstream valve to establish an on-demand, pressurized water system. Currently, the water commissioner must drive 2 miles up the unimproved ditch road to the diversion structure to administer the Reed Chatfield. A butterfly valve at the end of the pipeline, in Naturita, will allow for precise and easy administration of the ditch.
Wise Water Use:
• Conveyance efficiency improvements (p. 194): The Colorado Division of Water Resources records for the 2013 through 2023 period show that the Reed-Chatfield Ditch diverted on average about 665 acre-feet (AF) per year, with diversions primarily occurring during the months of April through October. This measurement, however, occurs down-ditch near the Town of Naturita's ponds. As such, the pipeline diverted an estimated 950 AF on average annually and 285 AF (30% of the total diversion) was lost to seepage prior to reaching the measurement device. Replacing the degraded pipe would eliminate these losses and allow the water that was previously lost to seepage to be conserved and remain in the river at the Reed-Chatfield Ditch headgate.

Thriving Watersheds (Chapter 6, p. 203–213)
Meeting Future Water Needs:
• Improve fish passage through replacement of agricultural headgates (p. 205): The proposed rock ramp enables passage for native fish species.The lower San Miguel River and its tributaries provide habitat for the roundtail chub, flannelmouth sucker, and bluehead sucker—three native warm-water species that are indicators of overall ecosystem health. Samuelson (2022), in conjunction with Colorado Parks and Wildlife (CPW) found robust numbers of the three-species below the San Miguel's confluence with the Dolores in addition to the lower six miles of the San Miguel. Many of the fish encountered were reproductively mature indicating the presence of suitable spawning habitats in the San Miguel. These same individuals were recorded at other stations along the Dolores during the course of the survey demonstrating that the San Miguel contains critical habitats for individuals exhibiting migratory movements. While CPW has reported a steady increase in these populations below the Uravan cleanup site and near Norwood over the past decade, all three species remain on the Bureau of Land Management's Sensitive Species List due to a significant reduction in their historic range and unprotected habitat. Over the long term, the populations and ranges of these three species have decreased. The current diversion structure further exacerbates habitat fragmentation, restricting these species' movement and limiting their ability to access necessary spawning and feeding areas. This project will significantly improve species health and populations by enhancing fish passage, restoring habitat connectivity, and improving water delivery efficiency. The current channel-wide diversion dam acts as a barrier to fish movement, limiting access to critical habitats. By constructing a rock ramp ladder downstream of the low-head dam, the project will create a more continuous, natural streambed gradient that allows fish passage, particularly for native warm-water species. Additionally, the improved water delivery infrastructure will maximize instream flows, supporting a healthier aquatic ecosystem.
•Increase access to recreational opportunities (p. 206): The new structure resolves a documented boating hazard. A child on an inner tube drowned at the structure due to the dangerous currents in the 1980s. Because of the known risks of the diversion structures in this section of the San Miguel, it is largely avoided by boaters in what is otherwise a family-friendly and beautiful section of river. Natural hydrology and existing water uses limit boating season length on the San Miguel, but boating is nonetheless a valuable and popular amenity for the community on other sections of the river.
• Low head dams and the recreational hazard they create are specifically highlighted in a feature on page 206. This structure is listed in the American Whitewater list of over 1,000 low head dams in Colorado.
Healthy Lands:
• Reconnecting floodplains and nature-based solutions(p. 206): The channel redesign and floodplain reconnection stabilize sediment and improve wetland function by decreasing turbidity below the structure and providing better connection to 2.48 acres of jurisdictional wetland adjacent to the diversion structure.
• Improving riparian and aquatic habitat (p. 206): The Project reconnects upstream riparian habitat for native fish species (CPW three species: bluehead sucker flannelmouth sucker, roundtail chub, ESA species: Pikeminnow,

Razorback Sucker) that has been disconnected since the diversion structure was erected.

Resilient Planning (Chapter 6, p. 216–228)
Meeting Future Water Needs:
• Integrated planning (p. 217): The Project was developed by a Stream Management Plan - The San Miguel Partnership.
• Support drought resilience (p. 218): By improving delivery efficiency, the system performs better during low-flow periods.

Alignment with the Southwest Basin Implementation Plan (2022)

The Reed-Chatfield Ditch and Diversion Rehabilitation Project supports numerous goals and strategies laid out in the 2022 Southwest Basin Implementation Plan (SW BIP, Volume 1): It directly addresses priority needs identified through stakeholder engagement and Stream Management Planning.

Goal A: Balance All Needs and Reduce Conflict (Section 4, p. 22)
A1: Support Projects important to maintaining the quality of life in this region by pursuing community-directed Projects that address single and/or multiple water needs, for example municipal, industrial, E&R, agricultural, risk management, and compact compliance water needs: This Project was developed by the San Miguel Partnership Stream Management Plan stakeholder group. The Project has consensus-based approval from a 72-person stakeholder group from the entire San Miguel Basin.
A2: Support dialogue and foster cooperation, collaboration, and conflict resolution among water interests in every subbasin,
between basins, and at the Southwest BRT for the purpose of implementing strategies to mitigate risk and build resiliency for Southwest Colorado's and Colorado's water supply challenges: The stakeholders in the aforementioned Stream Management Plan represented virtually all water uses/interests in the San Miguel. The stakeholder process took 7 years to develop trust amongst the stakeholders and finalize a Project list. This Project has the full support of that effort.

Goal B: Support the Needs of Agriculture (Section 4, p. 22)
B1: Minimize Southwest Colorado basinwide irrigated acres removed from production: The Project proposes to stabilize the river left (south) bank and reconstruct a berm on the Bennett property. The Bennetts have verbally committed access and are finalizing an agreement to construct an access road to reach the diversion on their property. The project will reconstruct a berm on their property - which is near failure from 2023 flooding - in order to ensure the productive agricultural land on the Bennett's is protected, and water does not travel overland, around the diversion structure in the event of another high flow.
B2: Support implementation of efficiency measures to maximize beneficial use and production: Replacing deteriorated pipe with HDPE reduces seepage losses and improves water availability for irrigators. Adding pressurize, on-demand measurement allows for the capture of return-flow tailwaters that currently cross and inundate the ditch road to reduce burden on the San Miguel river through efficiency gains of the conveyance infrastructure.
B3: Support implementation of Projects that work toward meeting agricultural water supply shortages and address delivery concerns created by aging infrastructure: The Colorado Division of Water Resources records for the 2013 through 2023 period show that the Reed-Chatfield Ditch diverted on average about 665 acre-feet (AF) per year, with diversions primarily occurring during the months of April through October. This measurement, however, occurs down-ditch near the Town of Naturita's ponds. As such, the pipeline diverted an estimated 950 AF on average annually and 285 AF (30% of the total diversion) was lost to seepage prior to reaching the measurement device. Replacing the degraded pipe would eliminate these losses and allow the water that was

previously lost to seepage to be conserved and remain in the river at the Reed-Chatfield Ditch headgate.

Goal C: Meet municipal and industrial water needs (Section 4, p. 23)
C1: Pursue Projects to meet the current municipal and future municipal demand: The Town of Naturita is a small rural Town with limited resources. The Reed Chatfield conveys pre-Colorado River Compact senior water rights to the Town. Naturita must modernize its infrastructure to ensure long term security and sustainability of their water supply, particularly as the West Slope grows and more tourism comes to rural communities.

Goal D: Meet Recreational Water Needs (Section 4, p. 23)
D1: Maintain, protect, and enhance recreational values that support local and regional economies derived from recreational water uses, such as fishing, boating, hunting, wildlife watching, camping, and hiking: The Project will replace of a known low-head dam hazard with a boat-passable structure to expand safe recreational use of the San Miguel River. A child on an inner tube drowned at the structure in the 1980's because of the dangerous hydraulic created by the low head dam.

Goal E: Meet Environmental Water Needs (Section 4, p. 24)
E1: Encourage and support restoration, recovery, and sustainability of endangered, threatened, and imperiled aquatic and riparian-dependent species and plant communities: The Project will directly benefit a variety of state and federally threatened and endangered native fish species by reconnecting the San Miguel River with the Dolores River and the Upper Colorado River Basin (UCRB) at large. This connectivity will allow for re-population by species currently extant in the San Miguel, the re-connection of isolated populations of target species that still exist in the San Miguel and access for all target species to critical spawning and refuge habitats. Razorback suckerand Colorado pikeminnow. Other target species that stand to benefit from this Project are the CPW "three species": bluehead sucker, flannelmouth sucker and roundtail chub.
E2: Support efforts to protect, maintain, monitor, and improve the condition and natural function of streams, lakes, wetlands, and riparian areas to promote self-sustaining fisheries, support native species and functional habitat (aquatic and terrestrial ecosystems) in the long term, and adapt to changing conditions: There are three channel spanning diversions on the lower San Miguel River, upstream of the Town of Naturita, and one between the confluence of the Dolores and San Miguel Rivers and the Colorado River, called the Wines Diversion. Ongoing work to reconnect the aquatic habitat of the lower San Miguel and Dolores for native fish species and boater safety has reconnected the river through rock fish/boat ladders at the CC diversion (uppermost diversion) in 2011 and ongoing work is occurring on the Wines Diversion by CPW and partners. Completing reconnection work on the Reed Chatfield is a crucial step in reconnecting the entire San Miguel and Lower Dolores to the Colorado River above Lake Powell. Once all reconnection work is complete on the San Miguel, there will be continuous aquatic connection from the Upper San Miguel to Lake Powell. This Project alone will open approximately 5 miles of habitat upstream of the Reed Chatfield Diversion on the San Miguel.
E3: Encourage research and/or Projects that support Colorado Parks & Wildlife (CPW), Upper Colorado River Endangered Fish Recovery Program, and San Juan River Basin Recovery Implementation Program actions and plans developed in conjunction with other affected stakeholders for Southwest Basin streams. These may include mitigating impacts to native and sport fisheries from physical habitat modifications, insufficient connectivity between fish populations, flow alterations, climate change, water quality impairments, or competition with non-native or invasive fish species: This Project directly aims to mitigate habitat loss for warmwater fish species including the colorado three species, Colorado Pikeminnow, and Razorback sucker. The Project plans include mount points for PIT tag arrays at the diversion structure to detect if tagged fish are swimming upstream, for use by CPW. The array would be the farthest upstream array in the San Miguel system aimed at detecting migratory native species.

Goal F: Promote Healthy Watersheds (Section 4, p. 24)
F2: Support efforts to enhance and maintain watershed health by protecting and/or restoring watersheds to

ensure sustainable water supply, water quality, critical infrastructure, and/or environmental and recreational areas: The Reed-Chatfield Project enhances watershed health by restoring stream connectivity and fish passage through replacement of an aging diversion structure with a fish- and boat-passable rock ramp. It protects water quality and aquatic habitat by reconnecting floodplain features, stabilizing eroding banks, and reducing sedimentation. Additionally, the Project upgrades critical irrigation infrastructure, improving water delivery efficiency while sustaining environmental and recreational values along a priority reach of the San Miguel River.
Goal G: Manage Risk Associated with Colorado River Compact (Section 4, p. 25)
G1: Plan and help preserve water supply options for all existing and new uses and values: The Reed Chatfield diverts pre-Compact water rights. The addition of on-demand measurement and 30% efficiency upgrades, due to replacement of the failing steel corrugated pipeline with HDPE pipe, provides better operational security for the Town of Naturita and agricultural uses on the ditch for current uses. Tailwater capture of return flows offer operational redundancy to fulfill a portion of the water rights of the ditch.

Alignment with Identified Projects and Processes (IPPs)
Primary IPP: Rehabilitation of Diversion Structures (Project-01576)
This concept-level IPP specifically identifies the need to address diversions that obstruct fish and boat passage in the lower San Miguel River. There are three channel spanning diversions on the lower San Miguel River, upstream of the Town of Naturita, and one between the confluence of the Dolores and San Miguel Rivers and the Colorado River -the Wines Diversion. The Wines diversion is specifically mentioned in this IPP. Mention of the Wines diversion alludes to the fact that in most years, hydrologically, the lower Dolores is completely reliant on San Miguel flows. Ongoing work to reconnect the aquatic habitat of the lower San Miguel and Dolores for native fish species and boater safety has reconnected the river through rock fish/boat ladders at the CC diversion (uppermost diversion) in 2011 and ongoing work is occurring on the Wines Diversion by CPW and partners. Completing reconnection work on the Reed Chatfield is a crucial step in reconnecting the entire San Miguel and Lower Dolores to the Colorado River above Lake Powell. Once all reconnection work is complete on the San Miguel, there will be continuous aquatic connection from the Upper San Miguel to Lake Powell.

Secondary IPP: Twin Ponds Project (Project-00336)
Complementary IPP focused on community recreation within Naturita, supporting broader river access. The Reed Chatfield ditch feeds the Twin Ponds. While this Project does not directly focus on the ponds, ensuring sustainable water conveyance to the ponds is crucial for their viability as a community resource.

Secondary IPP: Naturita Raw Water (Project-00338)
Complementary IPP indicating Town of Naturita's desire to develop a raw water system. Pressurizing the Reed Chatfield pipeline to the Town's point of diversion will give Naturita the ability to develop a raw water system in the future using the Reed Chatfield

Related Studies

San Miguel Nonconsumptive Needs Assessment
Strategies and Initiatives for Meeting San Miguel Water Use Needs
San Miguel River Restoration Study
Colorado Low Head Dam Inventory Project

Taxpayer Bill of Rights

N/A