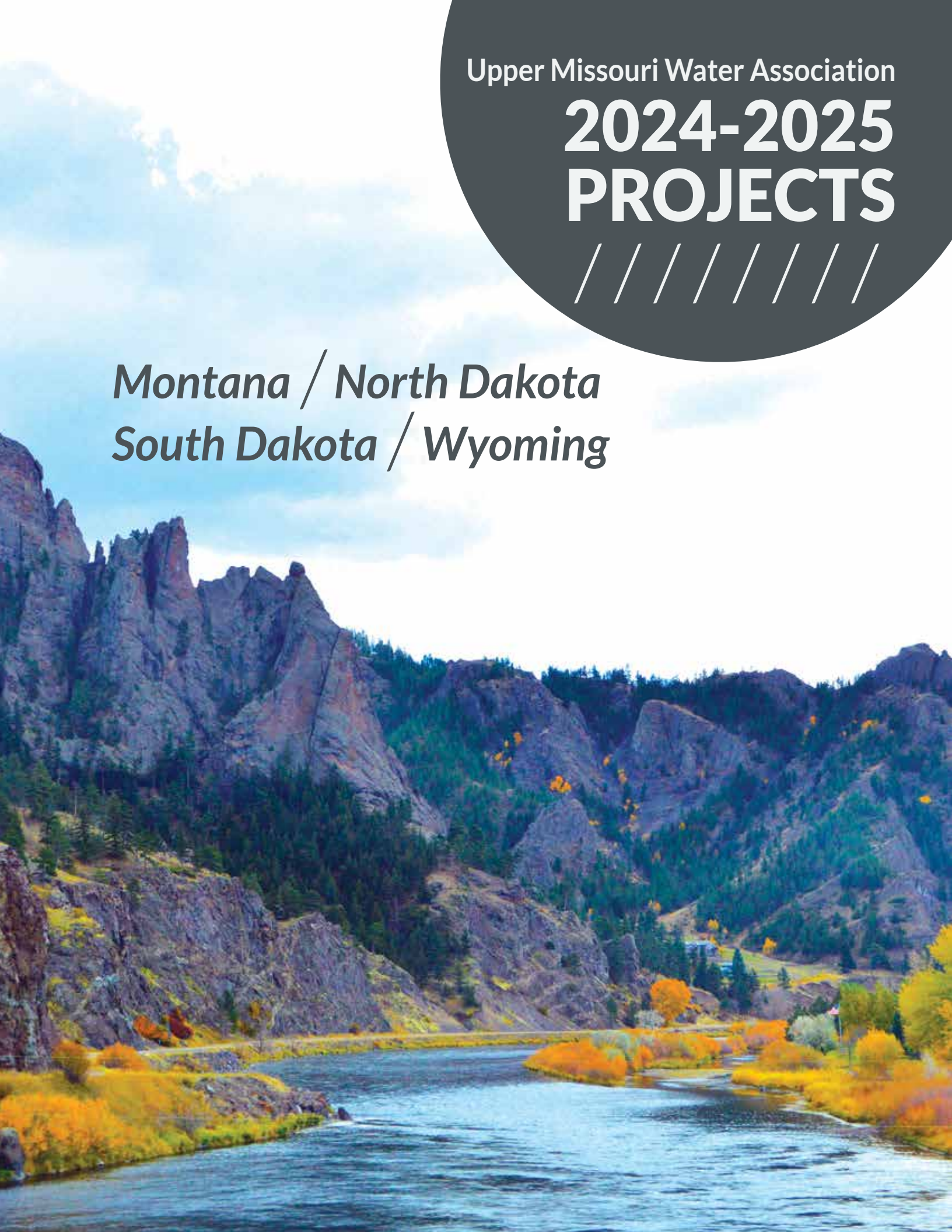
Upper Missouri Water Association

2024-2025 PROJECTS

Montana / North Dakota
South Dakota / Wyoming



Upper Missouri Water Association

Purpose

The Upper Missouri Water Association (UMWA) is a regional water organization comprised of the states of Montana, North Dakota, South Dakota, and Wyoming. The mission of the UMWA is to protect, develop, and manage Upper Missouri water. By working together through the UMWA, water interests can become stronger and more effective. Instead of four separate states, each with a congressman and two senators, we are a region with five congressmen and eight senators. Through unity, we can accomplish our goals.

Goals

The UMWA has nine priority goals.

- Communication and education of projects, issues, and programs in Upper Basin states.
- Coordination and consensus among water, power, tribal, and related resource interests of the Upper Missouri.
- Complete water development projects in Upper Basin states.
- Support Pick-Sloan ultimate development and the Pick-Sloan Missouri Basin Program.
- Achieve Missouri River operation and management beneficial to upstream states.
- Achieve solutions to Missouri River bank erosion and silt formation impacts and other water quality issues in the four states.
- Support Missouri River recovery programs.
- Preserve and support state water associations.
- Work towards solving potential conflicts involving mutual river basins.

Members

Members of the UMWA include all types of large and small businesses, individuals, farmers, ranchers, irrigators, engineers, contractors, companies, rural electric and other cooperatives, irrigation districts, rural water systems, cities, and other organizations who are concerned about Upper Missouri water.

Communication

UMWA sends out a monthly briefing on federal legislation, regulatory actions, and other issues concerning water. Other alerts are provided periodically on the latest federal issues impacting the Upper Missouri and western states.

Board of Directors

The UMWA is governed by a board of directors representing a cross section of water interests in the four states. This broad cross-section of water officials ensures that decisions have the consensus and support of the four member states. Board members include:

- Four representatives from each state elected by the state water association of each state.
- The state water agency director, or designee, from each state, as ex-officio members.
- Representatives of federal agencies as ex-officio members.

Table of Contents

North Dakota

South Dakota

Montana

Wyoming

North Dakota

Fargo-Moorhead Area Diversion Project

The Fargo-Moorhead (F-M) Area Diversion project will provide permanent, reliable flood protection to the cities and townships that make up the metropolitan area of Fargo-Moorhead. The project will provide flood risk reduction from the Red River and its North Dakota tributaries, including the Wild Rice, Sheyenne, Maple, Rush, and Lower Rush Rivers.

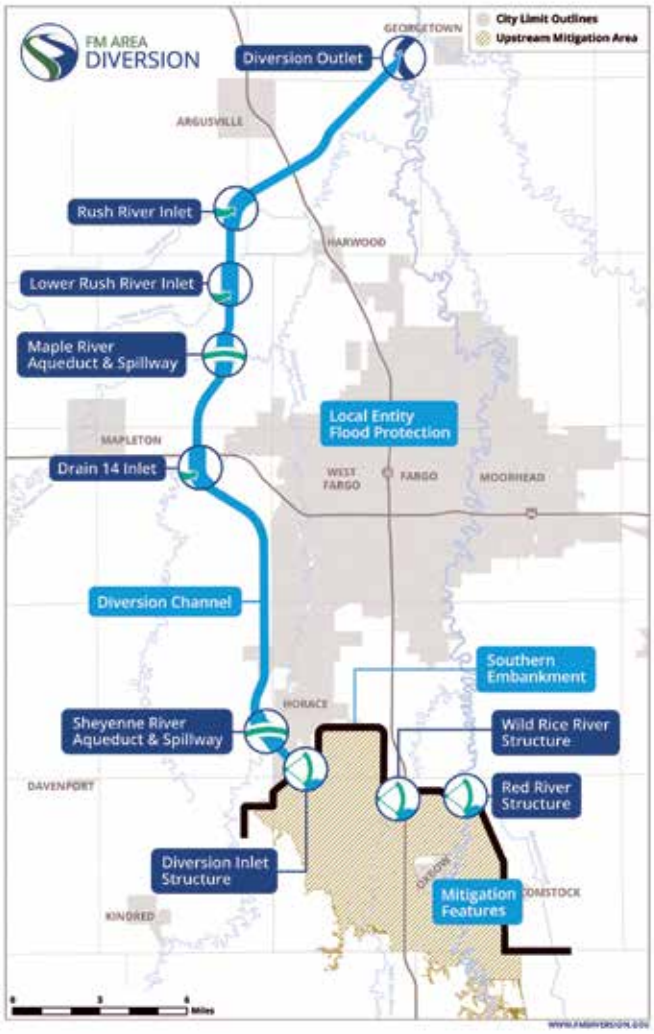
The Congressionally authorized project is being delivered through split-delivery and is the first public-private partnership done in conjunction with the U.S. Army Corps of Engineers. By using a public-private partnership, the F-M Area Diversion project will be completed 10 years sooner and for hundreds of millions of dollars less than with traditional design-bid-build projects.

The project has four major elements, which include:

The Stormwater Diversion Channel and Associated Infrastructure, which is being delivered by the Red River Valley Alliance (RRVA) through a public-private partnership. This work includes excavating roughly 50 million cubic yards of material to build a 30-mile channel that will route floodwater around the community. RRVA's design and construction arm, ASN Constructors, also is working on building aqueducts on the Maple and Sheyenne Rivers, the diversion outlet, 19 channel crossings, and 14 drainage inlets.

The Southern Embankment and Associated Infrastructure, which is being delivered by the U.S. Army Corps of Engineers, St. Paul District, involves constructing three gated control structures and a 22-mile earthen embankment as well as raising a 4-mile stretch of I-29 out of the 500-year floodplain.

Local Flood Protection and Associated Infrastructure encompasses the work being done by the cities of Fargo and Moorhead as well as Cass County in North Dakota and Clay County in Minnesota. This includes work on levees, floodwalls, stormwater lift stations and road improvements, all of which are necessary to ensure proper diversion operations.



Mitigation Features and Associated Infrastructure include the many mitigation features throughout the project, from restoring wetlands to replacing the Drayton Dam with a rock rapids fishway.

OVERSIGHT & LEADERSHIP

The U.S. Army Corps of Engineers and Metro Flood Diversion Authority are overseeing the project's completion alongside their partners, including the City of Fargo, Cass County and Cass County Joint Water Resource District in North Dakota, and the City of Moorhead, Clay County, and Moorhead-Clay County Joint Powers Authority in Minnesota.

North Dakota

2022-2023 PROGRESS

The most visible progress to date took place throughout 2023. Construction began or continued on numerous components and some neared completion. Here's a look at the progress made by component area:

Stormwater Diversion Channel and Associated Infrastructure

- ***Stormwater Diversion Channel:*** ASN Constructors broke ground in August 2022 and started excavation that fall. In 2023, they excavated 16.8 million cubic yards.
- ***Maple River Aqueduct:*** Construction began in 2023 with crews excavating, driving H-piles and doing initial concrete pours.
- ***Diversion Outlet:*** Construction began in 2023 on the outlet west of Georgetown, Minnesota, where the channel will reconnect with the Red River. That connection was completed in 2023 and crews are working to place the remaining riprap and boulder weirs.
- ***Channel Crossings:*** Excavation began on six of the road and railroad crossings that will be built over the stormwater diversion channel.
- ***Channel Inlets:*** Crews also began excavating and placing pipes in 2023 on some of the 14 drainage inlets leading to the stormwater diversion channel.

Southern Embankment and Associated Infrastructure

- ***Southern Embankment:*** Construction on reach 1A wrapped up in 2022 and work on reach 2A got to 68% completion in 2023. Five additional segments will be constructed by 2027.
- ***Diversion Inlet Structure:*** The U.S. Army Corps of Engineers turned the Diversion Inlet Structure over to the Metro Flood Diversion Authority for operations and maintenance at the end of 2023.
- ***Wild Rice River Structure:*** The Wild Rice River was rerouted through the control structure in 2023 and work neared completion that December.
- ***Red River Structure:*** Construction on the largest of the three control structures began in 2022 and reached 47% completion by the end of 2023.

Local Flood Protection and Associated Infrastructure

- ***City of Fargo/Cass County:*** Fargo has completed 85% and Cass County has completed 5% of their flood-related infrastructure projects, which involve 18 stormwater lift stations, 259 property acquisitions, 4.4 miles of county road improvements and grade raises and 26.2 miles of levees and floodwalls.
- ***City of Moorhead/Clay County:*** Moorhead has completed 79% and Clay County work isn't scheduled yet. Upon completion, there will be 19 storm structure modifications, 276 property acquisitions, four miles of road improvements/grade raises, and 12.7 miles of levees and floodwalls.

Mitigation Features and Associated Infrastructure

- ***Drayton Dam:*** About 120 miles north of the Fargo-Moorhead metro area, the U.S. Army Corps of Engineers removed an old, unsafe dam and replaced it with a rock rapids fishway. Work concluded in 2023.
- ***Drain 27 Wetland Mitigation:*** The U.S. Army Corps of Engineers restored 320 acres of wetland and planted 485 acres of native grasses, wrapping up work in 2023.
- ***Oxbow Wetland Mitigation:*** The Metro Flood Diversion Authority restored 10.6 acres of wetlands, built 8.2 acres of upland buffers, and planted 63.1 acres of seedlings.

Wild Rice River Structure.

North Dakota

Red River Valley Water Supply Project (RRVWSP)

The Red River Valley Water Supply Project (RRVWSP) is a drought resiliency project and economic development initiative to deliver Missouri River water to central and eastern North Dakota through a buried pipeline.

An emergency water supply will be delivered to communities and rural water systems during moderate to severe droughts. Additionally, the water will provide opportunities for industrial development, as a current lack of industrial water supply has driven industries to obtain water through less desirable means and/or relocate out of North Dakota.

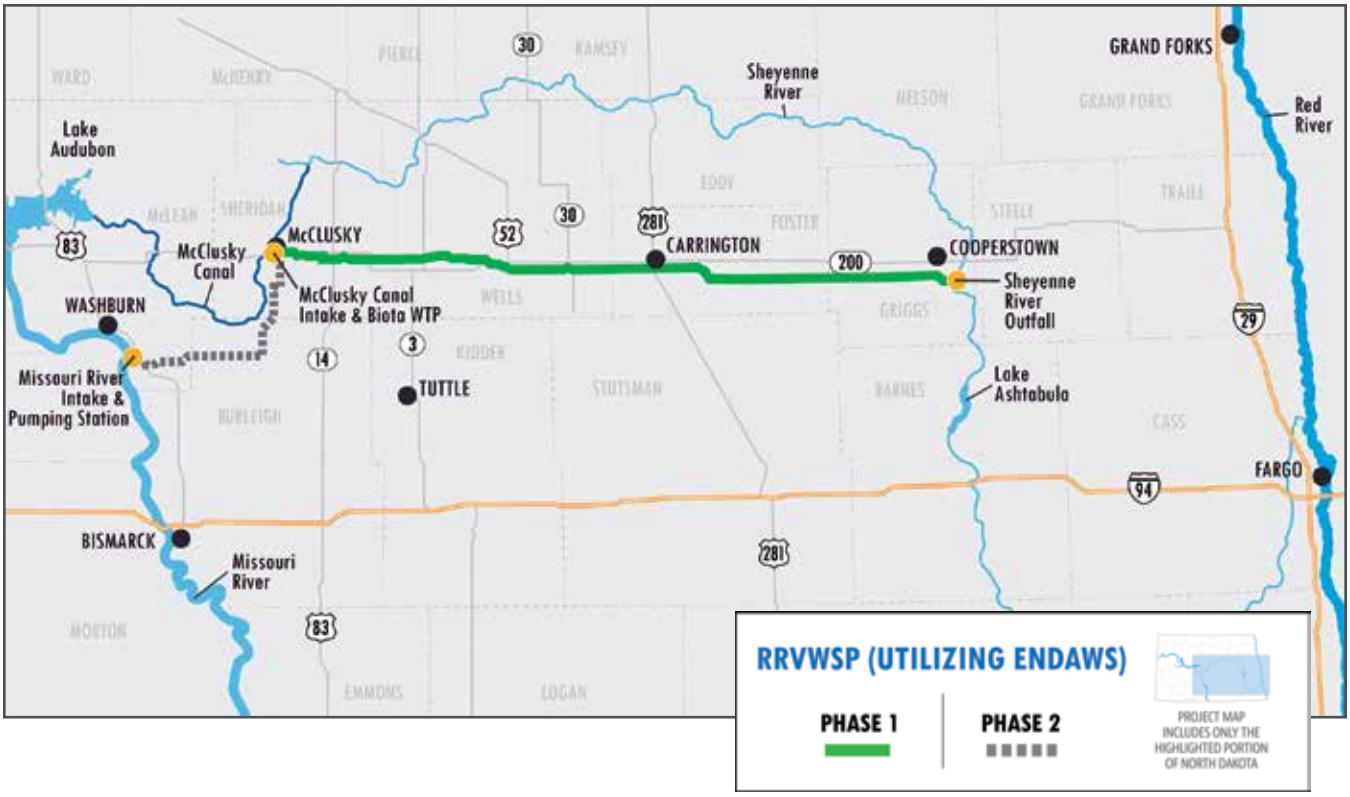
The RRVWSP will bring Missouri River water from the McClusky Canal in central North Dakota to the Sheyenne River, closely running along the Highway 200 corridor in central North Dakota. Upon completion, the RRVWSP will benefit about half of North Dakota's population.

The RRVWSP has made significant advancements in recent years, and construction of the drought mitigation project is underway.

TRANSMISSION PIPELINE

The 72-inch pipe will have the capacity to convey water at 165 cubic feet per second (cfs) during peak demands. Multiple construction contracts will be awarded to complete the 125-mile pipeline.

- ***Contract 5A:*** Construction of 1.25 miles of 72-inch pipeline about one mile south of Carrington, trenchless crossing of U.S. Highway 52/281, and a trenchless crossing of the Red River Valley and Western Railroad. The contract was awarded to Garney Construction and completed in 2022.
- ***Contract 5B:*** Construction of nine miles of 72-inch pipeline and a trenchless crossing of the Canadian Pacific Railway southeast of Carrington in Foster County. The contract was awarded to Garney Construction. Three-and-a-half miles of pipe installation remain in the contract, which is expected to be complete by November 2024.



- ***Contract 5C:*** Construction of eight miles of 72-inch pipeline and three major trenchless crossings east of Carrington. The trenchless crossings will be located at the James River, Kelly Creek and an interstate gas pipeline. The contract was awarded to Oscar Renda Contracting. Construction will begin in 2024 and is expected to wrap up in the spring of 2026.
- ***Contract 5D:*** Construction of 10 miles of 72-inch pipeline and a trenchless crossing of Pipestem Creek in eastern Wells County and western Foster County. The contract was awarded to Carstensen Contracting, who will begin construction in 2024, with an anticipated completion of spring 2026.

SHEYENNE RIVER DISCHARGE

The Sheyenne River Discharge structure is located approximately six miles south of Cooperstown, ND, near the Sheyenne River. The site includes a 3,330 square-foot concrete energy dissipation structure and flow apron, 100 feet of 54-inch pipe, site grading and access roads. The construction contract was awarded to Industrial Builders, Inc., and work was completed between May 2021 and July 2022.

In the future, this location will be the terminus of the RRVWSP transmission pipeline, and the site will include a control valve structure building.

MISSOURI RIVER INTAKE

The Missouri River intake and wet well site is located four miles south of Washburn and adjacent to the Missouri River. ICS Inc. and Michels Corp. completed two separate contracts between December 2020 and October 2023. The site will serve as a backup water supply intake for the RRVWSP, and studies are underway to determine additional potential users.

MOVING THE PROJECT FORWARD

The RRVWSP 2023-2025 biennium budget totals $244 million and consists of $180 million from the state of North Dakota, $61 million from the local users and $3 million from the Municipal, Rural and Industrial Program.

In addition to the aforementioned pipe installation, 2023-2025 biennium priorities include:

- Design 52 miles of pipeline
- Complete preliminary designs of McClusky Canal intake, McClusky Canal pumping station, biota water treatment plant, and hydraulic break tanks
- Secure remaining easements
- Provide financial planning support
- Provide support and/or studies for RRVWSP end users

Overall, the project has a 10-year construction plan.

Mouse River Flood Protection Project

The Mouse River Enhanced Flood Protection plan is a project spanning four counties in north-central North Dakota – Renville, Ward, McHenry, and Bottineau. The preliminary plan calls for protection measures in urban areas from Mouse River Park in Renville County to Velva in McHenry County, including the city of Minot. The project consists of levees, floodwalls, river diversions, road closure structures, pump stations, bridge replacements and a number of acquisitions within the project footprint. Levees make up nearly 90 percent of the alignment, totaling approximately 22 miles. Approximately three miles of floodwalls are also included in the plan.

Rural flood risk management activities include efforts to acquire property, relocate structures out of the floodplain, construct ring dikes, and implement improvements to increase conveyance capacity along rural reaches of the Mouse River.

The project is designed to pass a flood similar to what was experienced in 2011, with flows of approximately 27,000 cubic feet per second in the Mouse River. The estimated total cost of the project is $1.1 billion.

North Dakota

Sheyenne River Flood Protection

Valley City sits along the Sheyenne River and is the first community downstream from Baldhill Dam. During the spring of each year, the Sheyenne River swells from snow melt with water levels peaking in March and April. During the spring of 2009, the community encountered a record flood, only to repeat it with a near record flood in the spring of 2011.

In the fall of 2011, Valley City began developing investment strategies for permanent flood protection. This flood protection consists of a combination of clay levees, floodwalls, and property acquisitions. Funds for Phase 1 of the city's project were approved in the 2013-2015 N.D. legislative biennium. Phase 1 of the project, protecting residential property and Valley City State University, was completed in the fall of 2016.

The second phase focused on protecting the I-94 business loop, Valley City's main street, a portion of the downtown area and one of the city's distribution power substations. Phase 2 work started in 2017 and was completed in the summer of 2020. Phase 2 was funded as part of the 2015-2017 legislative biennium.

Phase 3 of the project is protecting the city's sanitary master lift station. Work started in the fall of 2019 and was completed in the summer of 2020. Phase 3 was funded as part of the 2017-2019 legislative biennium.

Funding for Phases 4 and 5 have been approved in previous legislative biennia. These phases of the flood protection project are in the planning phase as the city recently received an approved Conditional Letter of Map Revision (CLOMR) for the entire permanent flood protection system. As discussed before, only Phase 2 covers a portion of the downtown area, leaving a number of critical infrastructure components unprotected. Phase 4 focuses on building flood protection to protect this critical city infrastructure, including City Hall, the Fire Department, Police Department, Public Works, Mercy Hospital and two medical clinics. Phase 5 focuses on connecting the Phase 2 project that protects the downtown area with Phase 3 that protects the master lift station. Phase 5 will protect numerous residential dwellings, a public school and other critical infrastructure. Construction of future phases are scheduled to start in 2025.

Preliminary and design engineering work is ongoing for future phases of permanent flood protection in Valley City. These projects will be shovel-ready when funds become available and cost-share requests are made to the State Water Commission. Valley City is currently looking at a 10- to 15-year timeline for the overall project completion, depending on the availability of state funding resources.

Valley City permanent flood protection at 4th Street SW.

North Dakota

Devils Lake Outlet Operations

Devils Lake in northeast North Dakota continues to be an important aspect of water management in the state. Record high lake levels over the past quarter century have impacted the region, and future lake-rise continues to be a concerning possibility. Two pumped outlets lower the risk of flooding by gradually transferring water from Devils Lake to the Sheyenne River. The East End Outlet was designed to operate down to 1446.0 feet and the West End Outlet to 1445.0 feet (NGVD29 Datum). The outlets have a maximum combined discharge capacity of 600 cubic feet per second (cfs) and their operation is managed according to downstream water quality and quantity limitations. As of November 2023, the outlets have removed more than 1.4 million acre-feet of water. More information regarding the Devils Lake Outlets is available through the ND Department of Water Resources website: dwr.nd.gov.

Wetter-than-normal conditions in 2022 and 2023 resulted in high water surface elevation of approximately 1,451 feet in July of 2022 and June of 2023. The Devils Lake outlets were started in June of 2022 and May of 2023 with the maximum allowable discharge, which is limited by channel capacity and water quality standards within the Sheyenne River. The discharge volumes from the outlets increased greatly for 2022 and 2023 when compared with 2021. In 2023, the West End Outlet operated between 250 cfs and 175 cfs, and the East End Outlet operated between 200 cfs and 50 cfs. The total combined discharge from both outlets was approximately 148,000 acre-feet in 2022 and 2023. Devils Lake's elevation was 1449.2 feet on November 29, 2023. Devils Lake Outlet operations are funded from the operating expenses of the North Dakota Department of Water Resources (DWR) agency. DWR has contracted with Bartlett & West/AECOM to complete a comprehensive capital improvement plan for the West End Outlet, which is under development.

Southwest Pipeline Project

Encompassing more than twenty percent of the state, the Southwest Pipeline Project (SWPP) is the foundation of economic development, quality of life, quality of place and the future growth of southwest North Dakota. Managed by Southwest Water Authority (SWA), the SWPP delivers award-winning, quality water to nearly 60,000 residents through 5,300 miles of pipeline to 7,600 rural locations and 33 communities. Raw and potable water from the SWPP is being utilized by 25 raw water customers and 25 contract customers,

SWA Water Treatment Plant.

including Red Trail Energy, Missouri West Water System and South Dakota's Perkins County Rural Water System. The SWPP currently serves an area of more than 15,000 square miles.

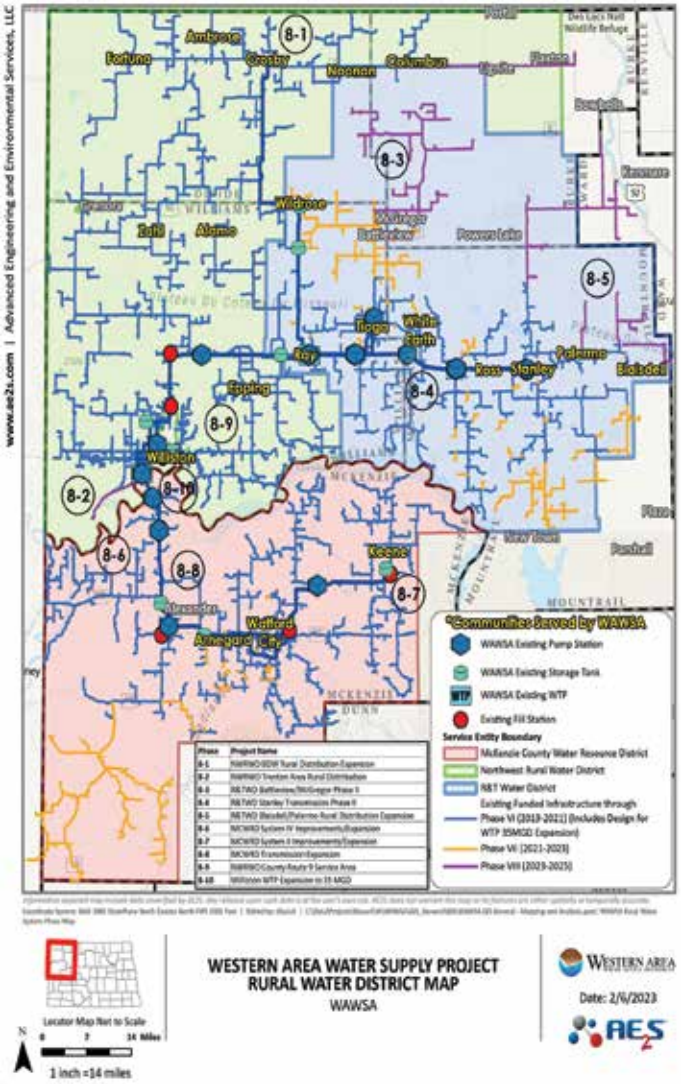
With quality water, local economies are strengthened, and the state is steadily repaid for its important water infrastructure investment in the SWPP. SWA customers will reach a milestone in 2024 – $100 million in repayment to the state's Resources Trust Fund.

SWA was specifically authorized as an agent for the North Dakota State Water Commission (SWC) to manage, operate and maintain the SWPP. This relationship with the SWC, and now the North Dakota Department of Water Resources, has proven to work well for those SWA serves throughout southwest North Dakota. For nearly four decades, the state of North Dakota has been empowering the kind of economic development, quality of life, and future growth that can only be sustained by quality water. SWA remains dedicated to the mission: *Quality Water for Southwest North Dakota* and focused on the vision: *People and Business Succeeding with Quality Water*.

Ongoing construction includes expansion of the Southwest Water Treatment Plant to 18 million gallons per day, design for main transmission expansion to the west zone, strategic hydraulic improvements systemwide, rural expansion to serve those on the waiting list, and to meet the growing water needs in the region.

Northwest Area Water Supply

The Northwest Area Water Supply (NAWS) project is in north central North Dakota and will serve 16 public water systems, including the city of Minot, with Missouri River water. Phase I, a 24.5 million gallon per day biota water treatment plant in Max, ND, designed to address the risk of transfer of aquatic nuisance species from the Missouri River basin to the Hudson Bay basin, is under construction and expected to be completed in 2024-2025. Intake modifications to the Bureau of Reclamation's Snake Creek Pumping Plant are under construction. A hydraulic control structure and 10-million-gallon reservoir on the raw water line is substantially complete. The second of three rounds of improvements to the Minot water treatment plant, final treatment to drinking water standards, are substantially complete. Design is commencing for the third and final round of improvement. All pipeline segments on the distribution system are complete, as is a 4.5-million-gallon reservoir and pump station near Lansford, ND. A reservoir and pump station near Bottineau is under construction, to be finished in late 2024, and a pump station and reservoir near Souris has been designed.



//// North Dakota

Western Area Water Supply Project

The Western Area Water Supply Project (WAWSP) is a domestic water project that utilizes Missouri River water treated at the Williston Regional Water Treatment Plant and supplemented by groundwater through the R&T Water Treatment Plant in Ray to meet the municipal, rural and industrial water needs for all or parts of five northwestern North Dakota counties. The service area includes the cities of Williston, Watford City, Ray, Tioga, Stanley, Wildrose, Crosby, Fortuna, Noonan, Columbus, and Ross. In addition to expanding the existing Williston Water Treatment Plant, the Western Area Water Supply Authority (WAWSA) has constructed more than 1,900 miles of transmission lines and rural water distribution networks, as well as pump stations, reservoirs, and other critical infrastructure, in order to serve an estimated 60,000 people in the service area.

The WAWSP business plan is a first-of-its-kind public-private partnership in North Dakota. In order to repay its loans, WAWSA is selling the system's unused water capacity to the oil industry during the population growth period to pay for a significant portion of the project's estimated $583 million cost.

Dickinson

Dickinson Dam and Reservoir (Edward Arthur Patterson Lake) stores water for irrigating valley lands downstream from the dam. Some 400 acres of irrigable lands, in isolated tracts, are served by privately constructed pumping plants located along the Heart River near Dickinson. Fish, wildlife and recreation benefits also are realized.

Heart Butte

The Heart Butte unit of the Pick-Sloan Missouri Basin Program lies in scattered tracts along the Heart River from Heart Butte Dam to the Missouri River. There are about 13,000 acres of irrigable land available. The Western Heart River Irrigation District currently contains 7766.3 acres of irrigated land which is served by individual project pumping plants. Releases from Heart Butte Dam are coordinated during the irrigation season to enable the district to pump directly from the Heart River.

General Water Management

In addition to the many large-scale water projects being developed across the state, there are also dozens of smaller local water management projects that benefit individuals and local communities. The State Water Commission provides support for these water management projects by cost-sharing with local entities, primarily water resource districts. Joint water boards also play a key role in these local water management projects. Examples of general water management projects that typically receive cost-share assistance from the state include rural flood control, snagging and clearing, channel improvements, recreation projects, dam certification and repairs, planning efforts, special studies, and other water management projects.

North Dakota

Irrigation

North Dakota has approximately 300,000 acres of irrigation used in the production of a variety of crops including corn, soybeans, and cereal grain, livestock forage, and high value crops such as potatoes, sugar beets, and onions. Especially in dry years, irrigation is vital to supporting agriculture and value-added processing in the state. The current irrigated acres are small in comparison with the number of acres statewide that are considered irrigable, and there continues to be strong interest in expanding irrigation acres in the state. By far the greatest potential for irrigation development is in areas where Missouri River water can be used. As such, North Dakota has spent time focusing on those opportunities and barriers to development using Missouri River water.

About 7,500 acres have been developed along the McClusky Canal beginning in about 2010. This development is enhanced by a robust cost share program with the state and a reduced power pumping rate authorized by the Dakota Water Resources Act of 2000. The Act authorizes the irrigation of 23,700 acres in the Turtle Lake and McClusky Canal service areas. In addition, it authorizes project use power rates for irrigation of an additional 28,000 acres in other areas of the Missouri River Basin. Stakeholders in North Dakota are working with the North Dakota congressional delegation to clarify language in the Dakota Water Resources Act to allow access to project pumping power in these 28,000 undesignated acres within the Missouri River basin.

Rural Water Supply

Regional and rural water systems provide a safe, reliable, high-quality, and affordable water supply to North Dakota residents, farms, industries, subdivisions, and small communities. To meet the growing statewide water needs, the Garrison Diversion Conservancy District, the State Water Commission, the four Tribal Nations, and the North Dakota Rural Water Systems Association are working cooperatively to solve water quality and quantity issues.

Projects for the 2023-2025 biennium include, but are not limited to, expansions of Agassiz Water Users District, All Seasons Water Users District, Cass Rural Water District, Central Plains Rural Water District, East Central Rural Water District, Fort Berthold Rural Water, Greater Ramsey Water District, McLean-Sheridan Rural Water District, Northeast Rural Water District, South Central Rural Water District, Southeast Water Users District, Stutsman Rural Water District, Turtle Mountain Public Utilities, Tri-County Water District and Upper Souris Rural Water District. Without assistance, many systems could not reasonably afford to bring water to people who desperately need it, or systems could not comply with complex water quality regulations and mandates.

Municipal Water Supply

Municipal water projects sustain water infrastructure requirements of water demand and quality through one-time capital investments, with an affordable local and state funding partnership. Municipalities support a strong, growing state economy by providing critical water infrastructure projects.

During 2023, the State Water Commission approved $54 million in municipal water supply projects across the state to be constructed over 2023 and 2024. The municipal water supply "bucket" was appropriated $90.2 million by the legislature for the 23-25 biennium, of which $50 million was for a water treatment plan in Bismarck and $40.2 million for other municipal water supply projects across the state. This is far short of the projected $211 million in needs as outlined in the Department of Water Resources 2023-2025 Water Development Plan. However, this is a significant investment in municipal water supply development projects to help city residents access clean drinking water. The Resources Trust Fund is a vital asset to the 355 communities across North Dakota in assisting the development of water infrastructure.

South Dakota

America Rescue Plan Act

The Impact of the American Rescue Plan Act on South Dakota's Water Infrastructure

INTRODUCTION

In 2022, the U.S. Federal Government enacted the American Rescue Plan Act (ARPA), a significant legislative move aimed at providing financial support to various sectors affected by the global crisis. South Dakota, a state known for its rich natural resources and agricultural heritage, received approximately $1.3 billion from this federal ARPA legislation.

ALLOCATION OF ARPA FUNDS IN SOUTH DAKOTA

The distribution of ARPA funds in South Dakota was a multifaceted process. A substantial portion was allocated to counties, municipalities, and Indian tribes. The state government was entrusted with more than $900 million, earmarked for specific expenses, including critical infrastructure projects. In a landmark decision during the 2022 South Dakota legislative session, it was agreed upon to allocate two-thirds of the ARPA funds, amounting to $600 million, exclusively for water and wastewater projects.

LEGISLATIVE JOURNEY AND PUBLIC SUPPORT

The bill proposing this allocation navigated through the legislative session with remarkable support from various quarters. The governor's administration, legislators, and a wide spectrum of the general public backed this initiative. This collaborative effort resulted in the largest single appropriation ever considered and made by the South Dakota Legislature, highlighting the state's commitment to addressing its water infrastructure needs.

ADMINISTRATION AND PROJECT VETTING BY DANR

Following the governor's endorsement, the South Dakota Department of Agriculture and Natural Resources (DANR) undertook the responsibility of vetting projects and appropriating the funds. The response was overwhelming, with nearly $2 billion worth of water and wastewater projects applying for a share of the ARPA funds. DANR set a cap on grants from these funds to a maximum of 30% of the total project cost. This strategic move ensured a broader distribution of funds, enabling numerous projects to benefit.

REMAINING FUNDS AND FUTURE PLANS

As it stands, about $110 million of the ARPA funds allocated for South Dakota remain unspent. The water community, recognizing the unmet needs and opportunities, is gearing up to advocate for these remaining funds to be channeled toward additional water projects. The argument is compelling, underscoring water as an essential resource for life and sustainability.

LOOKING AHEAD

There is a strong sentiment that further investments in water projects are not just beneficial but necessary for the state's overall well-being. The community is preparing to engage in what is anticipated to be another vigorous and successful legislative period, continuing their efforts to enhance South Dakota's water infrastructure.

CONCLUSION

The allocation and utilization of ARPA funds in South Dakota, particularly in the water sector, reflect a significant stride towards sustainable environmental management and infrastructure development. It exemplifies effective collaboration between government entities, legislators, and the public. As South Dakota looks forward, there is a renewed sense of purpose and commitment to ensure that water, the most vital of all resources, is managed and preserved for the benefit of all its residents.

South Dakota

Western Dakota Regional Water System

Western Dakota Regional Water System (WDRWS) is a non-profit corporation, formed to understand the need for water in western South Dakota. The West Dakota Water Development District (WDWDD), holder of Missouri River Future Use Water Permit #1443-2 (the permit), initiated the effort in 2020 when it learned that there was not enough water for the current population in western Pennington County during a drought. Before the most recent renewal of the permit, WDWDD commissioned the South Dakota School of Mines to study the need for additional water supply in western Pennington County. The conclusion of the study was "a strong need for new sources of water within the study area exists. . . local entities with a stake in our water security should pool their resources to ensure that they are proactive in securing future sources of water" (South Dakota Mines 2019).

Projected population growth and the ongoing threat of drought illustrate the need for the WDRWS to bring supplemental water to western South Dakota. In addition to current population growth, the region will soon see a population increase associated with a projected 3,500 military personnel and 4,200 dependents with the arrival of the new B-21 "Raider" Bomber at Ellsworth Air Force Base in Pennington and Meade counties (Ellsworth AFB 2020). This growth will significantly increase demand on existing supplies. A supplemental water supply will also be needed to mitigate drought conditions in the future. The continued study of the feasibility of water delivery from the Missouri River is prudent.

Work is currently underway to characterize current and future demand in western South Dakota and to evaluate potential sources of water. WDRWS has received $8 million from the state's ARPA funding and $2 million from the state's water and environment fund for initial planning for the project. Local communities, water systems, and other organizations have contributed more than $300,000 in match requirements. The engineering team of AE2S, Black and Veatch, and KLJ leads the planning work. When completed, the WDRWS will address water needs in western South Dakota and may serve as a catalyst for collaboration among many differing interests e.g., federal government (Ellsworth AFB, federal lands), Tribes, local governments, and water development districts.

Large and small public water systems, associate members, and individuals make up the membership of the WDRWS. The board of directors includes President Doug Curry, City of Box Elder Public Works Director; Secretary/Treasurer Dale Tech, City of Rapid City Public Works Director; Teresa Hall, Mayor of New Underwood; Jake Fitzgerald, Manager of West River/Lyman Jones Rural Water Systems; Adam McMahon, City of Spearfish Acting Public Works Director; Todd Williamson, Butte-Meade Sanitary Water District Operator; and Jim Martin, Colonial Pine Hills Sanitary District Manager.

Water Investment In Northern South Dakota

Project collaboration of WEB Water Development Association, the City of Aberdeen, and BDM Rural Water System to provide a reliable water source for rural water providers and communities in northcentral and northeast South Dakota

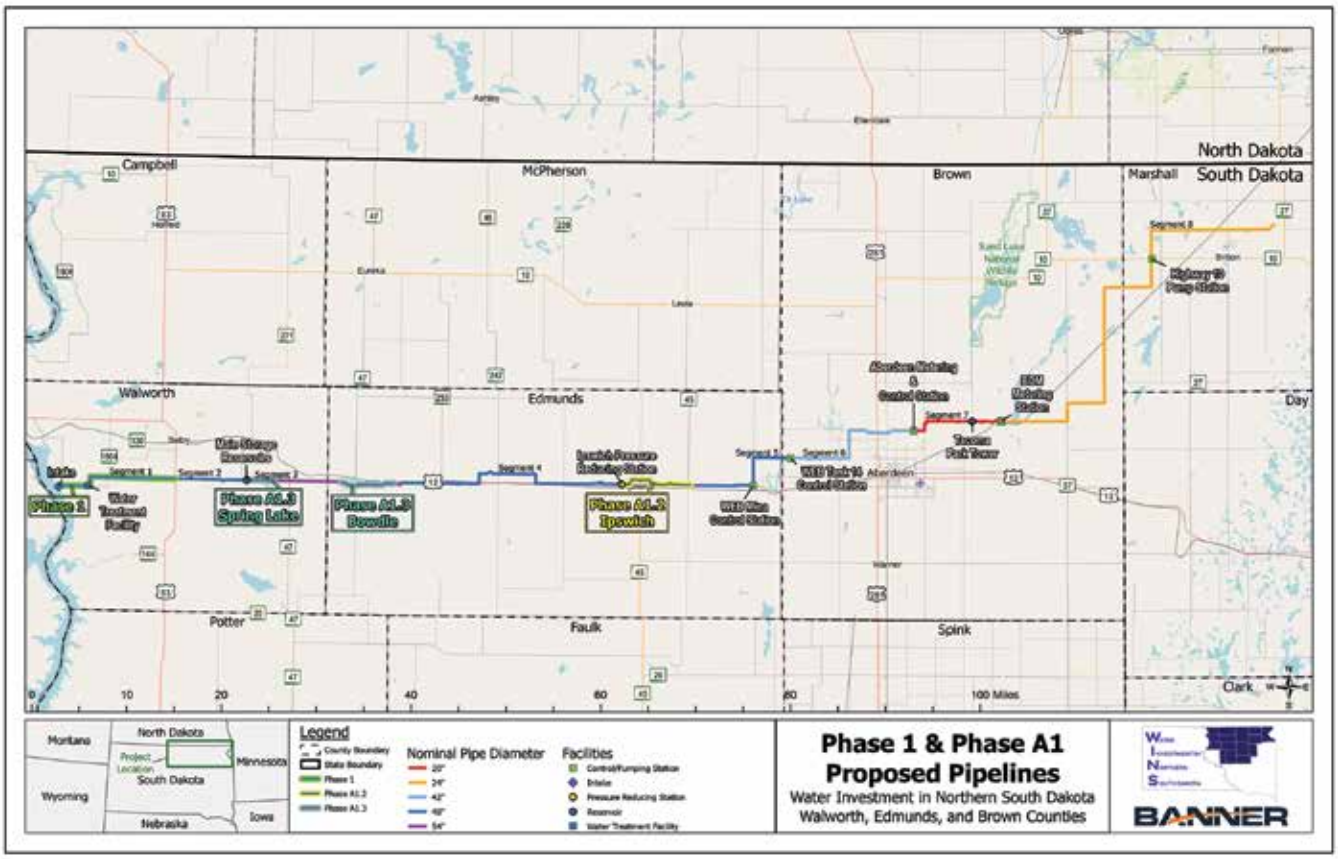
Due to the increasing water demands seen within northcentral and northeast South Dakota, the WEB Water Development Association (WEB), BDM Rural Water System (BDM) and the City of Aberdeen formed the Water Investment in Northern South Dakota (WINS) collaborative project to provide a long-term solution for reliable drinking water and to address capacity and treatment issues within the region. This project collaboration can provide reliable drinking water that will improve public health and safety while providing drought mitigation and economic development for approximately 110,000 people or approximately 12.4% of the state's population. It is projected that the total water demand for northcentral and northeast South Dakota will be 53.3 million gallons of water per day (MGD) in 2056. With WEB in the process of expanding their current system to 17 MGD, the additional treatment capacity required for the WINS project is 36.3 MGD.

South Dakota

WEB, the city of Aberdeen, and BDM are located in northcentral and northeast South Dakota which serve rural areas and communities within all or portions of 15 counties in South Dakota and three counties in North Dakota, including: Beadle, Brown, Campbell, Clark, Day, Edmunds, Faulk, Hand, Hyde, Marshall, McPherson, Potter, Roberts, Spink, and Walworth Counties in South Dakota and Dickey, Emmons, and McIntosh Counties in North Dakota. WEB authorized Banner Associates, Inc. (Banner) to complete an engineering study to summarize system deficiencies, evaluate alternatives, and recommend improvements for a projected regional water demand of 53.3 MGD.

The WEB water treatment plant can currently produce approximately 11 MGD, and improvements are in process to increase capacity to approximately 17 MGD. Water demands within the WEB system have been steadily increasing since its inception; however, significant increases have been seen in recent years. These increases are due to new customers, higher water usage by existing customers, and severe drought conditions. As a result of these increases, WEB has issued moratoriums on new services in several areas and a system wide moratorium on new bulk users. In the previously completed long range planning report for WEB, a future demand projection was calculated using an annual growth percentage for both rural and bulk users. The overall projected demand was based on the average growth percentages for rural users and a 4% bulk growth percentage. The WEB system projected water demand reaches 26.2 MGD in 2056. By comparing the previous projection to the most recent theoretical peak day demand, Banner assumes that the previous projection is still reasonable. After the completion of the current treatment plant expansion, WEB will require approximately 9.2 MGD of additional treated water capacity to meet demands.

The city of Aberdeen water treatment plant currently has a capacity of 12 MGD and the



current peak day demand is 10 MGD. Aberdeen has also seen a steady increase in water demand over the years and therefore has been proactive in securing water use and future use permits. As a result, the city currently holds water permits for 5.5 MGD of groundwater and 19.2 MGD of surface water from the Elm River. Although the city has adequate permitted water for the increased demand, the treatment issues and drought susceptibility of the Elm River have plagued Aberdeen for a century. During the late 1930s and early 1940s, the city was forced to purchase water from nearby private sources due to the Elm River having insufficient flow. Due to these concerns and the increasing water demand, the city has been pursuing viable long-term options to meet the growing water demand and improve the city's drought resiliency.

In 2021, Aberdeen procured Bartlett and West, Inc. to prepare an engineering report for transmitting raw water from Lake Oahe near Mobridge, SD, to the city of Aberdeen's water treatment plant. This report highlights the city's increasing water demand, unreliable water source, and desire to work with other entities to secure a long-term reliable water source for the city. Based upon this report, Aberdeen is requesting a total of 24 MGD capacity for the city, with 16 MGD based on population projections and the city's historical usage, while maintaining 8 MGD for economic development partners, based on bulk water requests from private entities.

The BDM water treatment plant has a design capacity of approximately 1.97 MGD from its well field. Since originally constructed, BDM has experienced a growing demand not only within its service area but also the surrounding area. This resulted in BDM going through several expansions from the late 1990s through the 2000s to include communities, Hutterite colonies, Sisseton Wahpeton Oyate housing sites, and rural customers within Brown, Day, Marshall, and Roberts counties. In the summer of 2021, due to severe drought, BDM experienced a peak day demand of 2.19 MGD.

Due to exceeding design capacity and additional water requests, BDM procured AE2S in 2021 to provide a preliminary engineering report for facility upgrades, treatment expansions, and pipeline improvements to their existing system. BDM also reached out to WEB to explore a long-term solution to improve drought resiliency and to provide redundancy to their system. Although BDM is in the process of building an additional water treatment plant to increase their immediate capacity, they have requested 3.1 MGD from the WINS project as a supplement to improve drought resiliency and to provide redundancy to their system.

Planning for an additional treated water source must begin now to ensure that all three systems will be able to adequately serve their current customers as well as provide capacity for future growth and drought mitigation. The proposed WINS project improvements consist of a raw water intake, 36.3 MGD water treatment plant, two ground storage reservoirs, one pressure reducing station, one control station, one elevated storage reservoir, two metering and control facilities, one pump station, and approximately 161 miles of water distribution pipeline. These improvements will increase WEB's treated water capacity and allow water to be supplied to Aberdeen and BDM to meet the future demands of the northcentral and northeast South Dakota region.

The construction of these improvements is not anticipated to have any long-term impacts on the environment. It is proposed that this project will be completed in phases as critical funding becomes available. An estimated probable cost for the recommended improvements was $793,730,700 (in 2022 dollars).

The WINS project will be an opportunity for South Dakota to gain some of the promises that were given under the Pick-Sloan Missouri Basin Program. Today, rural water systems are only utilizing a small portion of the water promised to South Dakota.

South Dakota

Dakota Mainstem Regional Water System

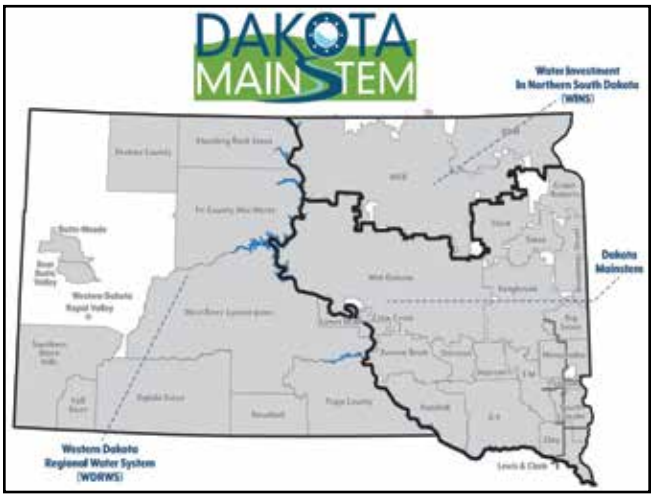
In eastern South Dakota, a new initiative is taking shape to address a critical concern: water availability. The Dakota Mainstem Regional Water System (DMS), designed to serve the central and southern regions of eastern South Dakota, emerges as a viable solution amidst the growing water scarcity challenges.

THE RISING NEED

South Dakota has witnessed recent development of significant water systems, such as the Water Investment In Northern South Dakota (WINS) and the Western Dakota Regional Water System. As clearly needed as these systems are for their region, their rise has highlighted the urgent need to tackle the looming water crisis in the central and southern parts of the state.

THE DAKOTA MAINSTEM SOLUTION

The DMS project is not just a response to the current situation but a proactive step towards sustainability. It aims to provide solutions to prolonged drought conditions and support economic development, especially in water-intensive sectors. The project addresses long-standing issues of water quality and quantity that have affected the region for years. DMS will be an alternative source or an augmenting source of water to many utilities in the region.



A CALL TO ACTION

The urgency of the situation cannot be overstated. Water crises are complex, costly, and often controversial issues. As South Dakota has already witnessed, projects of this scope can take decades and hundreds of millions of dollars to construct. Delaying action only exacerbates all these challenges. As such, the call for immediate action on the DMS project is clear and pressing.

REGIONAL DEVELOPMENTS

Meanwhile, the Lewis & Clark Regional Water System, which is on the final stages of its initial federally authorized construction, is already undergoing expansion, eyeing future growth and potential further expansion. Similarly, Sioux Falls, a rapidly growing city, is actively seeking to bolster its water supply, whether through Lewis & Clark or other sources.

COMMUNITY IMPACTS

The problems are not unique to South Dakota's largest city either. For example, Mitchell is grappling with its increasing water demands. Brookings and Watertown, which rank among South Dakota's most significant communities, are not currently served by regional water sources. They also stand to benefit significantly from additional water supplies.

BROADER BENEFITS

The DMS project is set to extend its benefits to numerous other communities within its service area. The project's outreach and involvement of these communities are vital for its success and regional sustainability. Soon DMS will engage its outreach efforts to gather data and identify the myriad of other communities and regional systems that also need to address their water supply challenges.

ORGANIZATIONAL PROGRESS

To date, the DMS project has laid its foundational framework, including filing its Articles of Incorporation, adopting unique set of

governing bylaws, and organizing as an IRS 501(c)(4) entity. An initial board of directors has been established and a strong executive committee has been selected by the membership to move the project forward.

FINANCIAL AND LEGISLATIVE SUPPORT

The South Dakota Department of Agriculture and Natural Resources (DANR), through the Board of Water and Natural Resources (BWNR), has recommended a $1 million grant to kickstart the project. This funding is intended for essential studies like a needs assessment, feasibility study, and preliminary engineering report. There will certainly be needs beyond the initial studies. There will be environmental work, cultural resources surveys, route selection, easements, and many other equally important steps. The probable costs for this project are not known and will depend upon the number of systems that ultimately sign on to the effort, the amount of water they will require, along with the pipeline routes and treatment methods. While not knowing the total costs, it is assumed that the cost will be significant and likely to be in the hundreds of millions of dollars.

FUTURE STEPS

Currently, the project team is drafting a request for proposals (RFP) to engage engineering firms for the necessary studies. The RFP is expected to be issued towards the end of the 2024 legislative session, marking a significant step forward in this ambitious initiative.

In conclusion, the Dakota Mainstem Regional Water System stands as a pivotal project for South Dakota. By addressing the water needs of a vast region, it not only aims to solve current water scarcity issues but also lays a foundation for sustainable growth and development in the years to come.

BUREAU OF RECLAMATION

Mni Wiconi RWS

The Mni Wiconi Rural Water Supply Project (Project) is significant in that it is providing, and will provide, a quality water supply for a very large area in west central South Dakota. The Project's service area is 12,500 sq. miles with a service population of 52,000 which continues to grow. The Project is creating jobs and improving the quality of life in eight counties and on the Pine Ridge, Lower Brule, and Rosebud Indian Reservations. Funding shortfalls have delayed the completion of this much-needed project and have increased the overall cost. The beneficiaries will complete all drinking water facilities but will sacrifice livestock features to overcome the cost increases due to funding shortfalls. The Project has received all funding within the statutory construction ceiling. Statutory operation, maintenance and replacement funding (OM&R) from the Bureau of Reclamation has not kept pace with completion of construction and increased water use over the

last five years. Inadequate budgeting threatens the integrity and reliability of the system on and off the Reservations. The Project sponsors are seeking corrective action through administrative and legislative channels in an effort to receive adequate annual OM&R appropriations. The Tribal Project sponsors are also seeking funds for community system upgrades on the Pine Ridge, Rosebud, and Lower Brule Reservations. For the Project to be deemed complete, these community systems must be upgraded and transferred to the respective tribal rural water system as intended by the Mni Wiconi Project Act.

Lewis & Clark RWS

Lewis & Clark Regional Water System (L&C) is a wholesale provider of treated water to its 20 member cities and rural water systems in southeast South Dakota, northwest Iowa and southeast Minnesota. The source of water is a series of wells that tap into an aquifer adjacent to the Missouri River near Vermillion, SD. L&C was incorporated in 1990 and authorized by Congress in 2000. After getting the environmental clearances to move forward, a groundbreaking was held in 2004. Eighty percent of the construction funding comes from the federal government through the Bureau of Reclamation, 10% from the three states and 10% from the 20 members. An estimated $12 million of federal funding is needed in FY25 to complete construction of the "Base System." Water rates cover 100% of the operations and maintenance of the system.

The first 12 members began receiving water in 2012. Currently all 20 members are receiving water. L&C expects to complete construction of the Base System in 2027 and will be able to deliver firm capacity of 44.19 million gallons a day (MGD). The total cost of the Base System is currently estimated at $687 million. When completed, the project will benefit an estimated 350,000 people in a 5,000 square mile service area, which is roughly the size of Connecticut.

Due to the drought, as well as growth and demand that has exceeded all projections, construction started in 2022 to expand the System to 60 MGD. The members are covering 100% of the cost to expand the system. All three states have provided funding to help offset a portion of the expansion cost (e.g. ARPA funds), but the remaining cost share for the members is still estimated at just over $100 million. Construction on the expansion is expected to be completed in 2031.

Even when L&C is expanded to 60 MGD, it will not be enough capacity to address the long-term needs of the members. Discussions began in 2019 on a possible second expansion of L&C beyond 60 MGD, potentially doubling in size. This second expansion would not involve bringing in new members, but rather providing additional capacity to L&C's 20 members. L&C's engineers are currently working on an "Appraisal Level Study" for a second expansion, which is expected to be completed in the spring of 2024. A full feasibility study would be the next step, followed by working with the tri-state congressional delegation to amend L&C's authorization to provide a cost share for the second expansion.

The proposed Dakota Mainstream Regional Water System (DMS) is a possible alternative to a second expansion of L&C. L&C's staff and members are working to advance both proposals in the hopes that in the near future it will become clear which one is the best option for L&C's members to pursue. A second expansion of L&C and the DMS are both expected to exceed one billion dollars, so L&C's members participating in both plans is presumably not a feasible option.

RURAL DEVELOPMENT

Southern Black Hills Water System

The Southern Black Hills Water System (SBH) is an ongoing effort for a water development project in portions of Fall River, Custer, and Pennington counties of southwestern South Dakota. The project began planning in 2004 and has been successful in identifying the critical water needs of the area and potential solutions to such needs. The SBH system is governed by a volunteer board and includes representation from throughout

the project area. As with most beginning water systems, the SBH board serves without payment for services and meets on an aggressive and regular monthly basis. SBH will be applying for funding with the South Dakota Department of Agriculture and Natural Resources and USDA Rural Development.

The SBH is an approximate $120 million effort (2009 dollars) and has a conceptual design which allows a phasing of the facilities over an extended period of time. When completed, the system will provide a regional water supply and water distribution for ranches, rural residents, communities, and special water needs for the three-county area as identified. The special water needs may include water for the Crazy Horse Foundation, Mount Rushmore National Monument, Custer State Park, and numerous state and federal campgrounds and other recreational sites.

Phase 1 is completed and serves 100 customers. SBH has finalized a USDA Forest Service special use permit to cross the land with a pipeline. This permit will allow access and provide service to approximately 350 users located north of Hot Springs and will also provide infrastructure for future project expansion into the Custer area including water service to the community of Custer. Work is also being pursued for additional phases of facilities which will provide water to users south of Hot Springs and in the Hermosa/ Keystone areas of the system. SBH is also currently serving water in the Hermosa area. Paramount Point has 20 customers, and Spring Creek Acres has 68 customers; both of these systems are north of the town of Hermosa. SBH will be tying these two systems together and picking up an additional 70 customers between the two systems. The project is about five miles between the two systems. SBH has also delivered water to the Rushmore Ranch water system west of Hermosa which has 56 customers. SBH is now looking at obtaining potential customers along Highway 40 between Rushmore Ranch and the town of Hermosa.

Bear Butte Valley Water, Inc.

Like all rural water systems, Bear Butte Valley Water (BBVW) began as an idea among several rural citizens looking for a dependable, high-quality source of water for their homes. Several residents of western Meade County, South Dakota, gathered to see if anyone else was interested. It began by neighbors talking to neighbors, and with the declaration from then president, Neal Rowett, “We don’t want to leave anyone out. If anyone wants to participate in this system, we’ll try to find a way to bring good, clean water.”

The BBVW system is located north and east of Sturgis and includes the area east on Highway 34 to the Belle Fourche River and north on Highway 79 to the Butte-Meade Sanitary Water District service area. The initial construction project included 252 services and 146 miles of pipe at a cost of $11.4 million. The project was funded in part with a $3.1 million WEP loan and $4.5 million grant. The South Dakota Department of Agriculture and Natural Resources (DANR) provided a $2 million grant under the Water Facilities Construction Program. A 25-mile line of pipe in the Alkali Road project, which is funded by Rural Development, was added in 2022-2023. Additionally, 28 livestock producers in the area joined together with the Natural Resources Conservation Service to secure Environmental Quality Incentives Program (EQIP) funding for using rural water service to improve the environmental quality of their livestock operation. The available funding to the water system through the EQIP program is approximately $1.1 million. The remaining funding came from local sources and the customers of BBVW. The well was completed in 2014, the tanks and pump stations in early 2016 and the pipeline was complete at the end of 2016. BBVW is now providing rural water service to its 351 members with an anticipated additional 25-30 by next fall. These new customers will be included in a 20-mile extension in 2024. Funding for these improvements came from a DANR grant with COVID funds and a South

Dakota revolving loan fund of $1.5 million. A second well was drilled to a depth of 3,700' and a 158,000-gallon storage tank will be added in spring 2024. The system has also grown to 200 miles of pipe in the ground.

Since the original construction in 2015-2017, the BBVW has grown 67% (from 209 customers to 351) and there continues to be a lot of interest from new customers within the service area.

Perkins County RWS, Inc.

Using all its allocated funding, the Perkins County Rural Water System (PCRWS) completed the last planned phase of its water distribution system at the end of 2012. PCRWS is still in need of supplemental water sources due to the exponential increase in water users from the initial feasibility study. Originally, two suppliers of water were going to be available to PCRWS; however, PCRWS is working with Tri-County/Mni Waste' Water Company but will not be able to connect to this supplier for an extended period of time. An additional source of water for PCRWS is Shadehill Reservoir, which would help provide additional water for current and future needs as well as lessen the demand on the current sole supplier. A valued engineering study has been completed, and a water treatment plant would have to be constructed in order to utilize water from the Shadehill Reservoir. Currently, PCRWS is working with their engineering firm to update the feasibility of this option. PCRWS is continuing to look for additional sources of water to fill the current and future demand for water for its users.

Mni Waste' RWS

The Mni Waste' Rural Water System (Mni Waste') continues to work toward line upgrades and transmission line extensions primarily through USDA Rural Development (USDA RD). The system was awarded funding through the USDA RD Water and Waste Disposal Program to upgrade main lines north to Timber Lake and will continue working to fund west to Faith, tying into Perkins County Rural Water. The surrounding areas west and north requested water service in early 2000 and have been patiently waiting since, so this would be a significant added service to the region. Mni Waste' continues to seek supplemental construction funds within various federal and state agencies (Indian Health Services and South Dakota Department of Agriculture and Natural Resources) to offset rate increases for current and future users.

Construction of a new water treatment plant, raw water line and 24" treated water transmission line up to the central hub of the system, Eagle Butte, are complete and have been operational since 2017. This was a huge influx to the once outdated facilities, as the plant went from maximum capacity production of 1.2 million gallons per day to a possible 4.4 million gallons per day and projected build out of 8.8 million gallons per day. A 2-million-gallon water tower and extended loop line stabilizing the hospital were constructed under the same 2010 USDA RD funding package.

Prior to these upgrades, the system had been at maximum capacity since 1997, 20 years from project completion. Water restrictions have been slowly lifted according to branch line upgrades. Now that transmission lines are becoming more secure, moratoriums are changing, allowing for economic expansion to the area. Pressure reductions that have squeezed the system since early 2000 are being adjusted in order to meet the demands of current customers.

In late summer the system will begin construction of a new 37 miles service along north Highway 63 to serve the town of Timber Lake. Work continues with the South Dakota congressional delegation and federal agencies to obtain an estimated $350 million in funding for the overall buildout of distribution system serving both on and off reservation users.

South Dakota

OTHER TOPICS

WATER-RELATED STUDIES AND INITIATIVES IN SOUTH DAKOTA

South Dakota is actively engaging in a series of comprehensive studies and initiatives to enhance water resource management and policy. These efforts are pivotal in shaping the state's approach to water-related issues, focusing on economic development, valuation of water resources, and legislative re-evaluation of water rights.

Governor's Office of Economic Development (GOED) and ISG Engineering Study

This study, set to conclude in spring 2024, is crucial in identifying barriers to economic growth pertaining to water quality and quantity in South Dakota. It aims to understand how water issues hinder economic development and proposes solutions to mitigate these challenges.

South Dakota Rural Water Center (SDRWC) and HDR Engineering Initiative

This initiative aims to raise the profile of water issues in the state, particularly among governmental leaders such as the governor, legislature, and related agencies. It advocates for creating a cabinet-level position, like a water secretary, to prioritize water management and suggests methods for generating more funding for water projects, focusing on economic growth.

Dakota Institute's Economic Valuation of Water

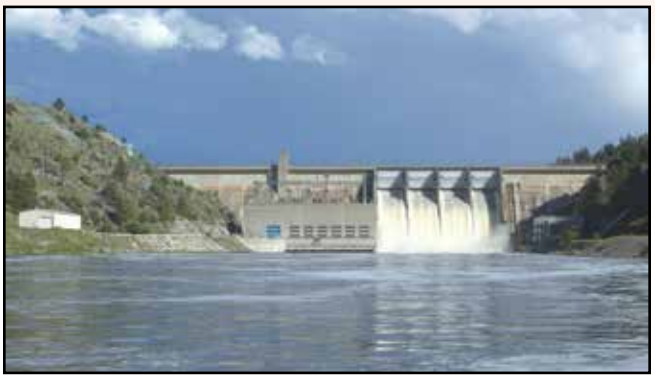
Building upon the insights from the GOED/ISG and SDRWC/HDR studies, the Dakota Institute is working to assign a monetary value to specific volumes of water. This valuation considers the impact of water on aspects like human health, food production, economic development, and its potential resale to areas in need. This approach aims to inform policy decisions and investments in water management.

South Dakota Legislative Research Council (LRC) Issue Paper

Commissioned by the South Dakota Legislature, this issue paper focuses on the ownership and control of water and water rights in the Missouri River. It revisits the terms and obligations under the 1944 Pick-Sloan Act, assessing what benefits and rights are still due to South Dakota.

These studies and initiatives represent a significant stride toward redefining water management and policy in South Dakota. By addressing economic, administrative, and legal aspects of water management, these efforts are charting a new course for water development in the state. The goal is to establish a sustainable, economically viable water management strategy that aligns with South Dakota's developmental goals and environmental responsibilities. This comprehensive approach is expected to impact the region's water policy and resource management.

Montana



Canyon Ferry.

Canyon Ferry

The Canyon Ferry unit of the Pick-Sloan Missouri Basin Program is a multiple-purpose project which makes an important contribution to the power supply, flood control, and irrigation in the upper Missouri Basin. Storage in Canyon Ferry Reservoir makes possible the irrigation of 155,600 acres of new land and supplemental irrigation of 82,000 acres now inadequately irrigated in the upper Missouri area. Principal structures are Canyon Ferry Dam and power plant, about 17 miles northeast of Helena, Montana.

East Bench

The East Bench unit of the Pick-Sloan Missouri Basin Program is in southwestern Montana, along the Beaverhead River. The unit provides full irrigation service to 21,800 acres and supplemental irrigation service to 28,000 acres. Principal features include Clark Canyon Dam and Reservoir, Barretts Diversion Dam, East Bench Canal, and a system of laterals and drains.

Helena Valley

Helena Valley unit of the Pick-Sloan Missouri Basin Program is in central Montana, adjoining the city of Helena, and 3.5 miles west of Canyon Ferry Dam on the Missouri River. The principal purposes of the unit are irrigation and municipal water for the city of Helena. Features of the development are a tunnel, dam and regulating reservoir, canal, pumping plant, and other facilities to furnish water to about 17,000 acres of land and for municipal use.

Huntley Project

The Huntley Project is in south-central Montana. Project works include a rockfill and concrete diversion dam, 32 miles of main canal, 22 miles of carriage canals, 202 miles of laterals, 186.5 miles of drains, a hydraulic turbine-driven pumping plant and an auxiliary electric pumping plant, both in the main canal, and in an off-stream storage reservoir. The project can furnish water to irrigate approximately 30,000 acres.

Lower Marias

The Lower Marias unit of the Pick-Sloan Missouri Basin Program is in north-central Montana along the Marias River. The unit has an adequate supply of irrigation water to irrigate 127,000 acres of land and will also control floods to make possible the multiple purpose use of Fort Peck Reservoir. Tiber Dam and Dike and Lake Elwell have been constructed. The irrigation features were not included because the irrigation district did not negotiate a repayment contract with the United States and those features are no longer part of the Lower Marias unit.

Lower Yellowstone

The Lower Yellowstone project in east-central Montana and western North Dakota includes the Lower Yellowstone Diversion Dam, Thomas Point Pumping Plant, the Main Canal, 225 miles of laterals, and 118 miles of drains. The purpose of the project is to furnish a dependable supply of irrigation water for approximately 54,000 acres of fertile land along the west bank of the Yellowstone River. About one-third of the project lands are in North Dakota and two-thirds in Montana.

Milk River

The Milk River project in north-central Montana furnishes water for the irrigation of about 121,000 acres of land. Project features are Lake Sherburne; Nelson and Fresno Storage Dams; Dodson, Vandalia, St. Mary, Paradise, and Swift Current Diversion Dams; Dodson Pumping Plant; 200 miles of canals; 219 miles of laterals; and 295 miles of

drains. A water supply is furnished to project lands which are divided into the Chinook, Malta, and Glasgow Divisions and the Dodson Pumping Unit. The lands extend about 165 miles along the river from near Havre to a point six miles below Nashua, Montana.

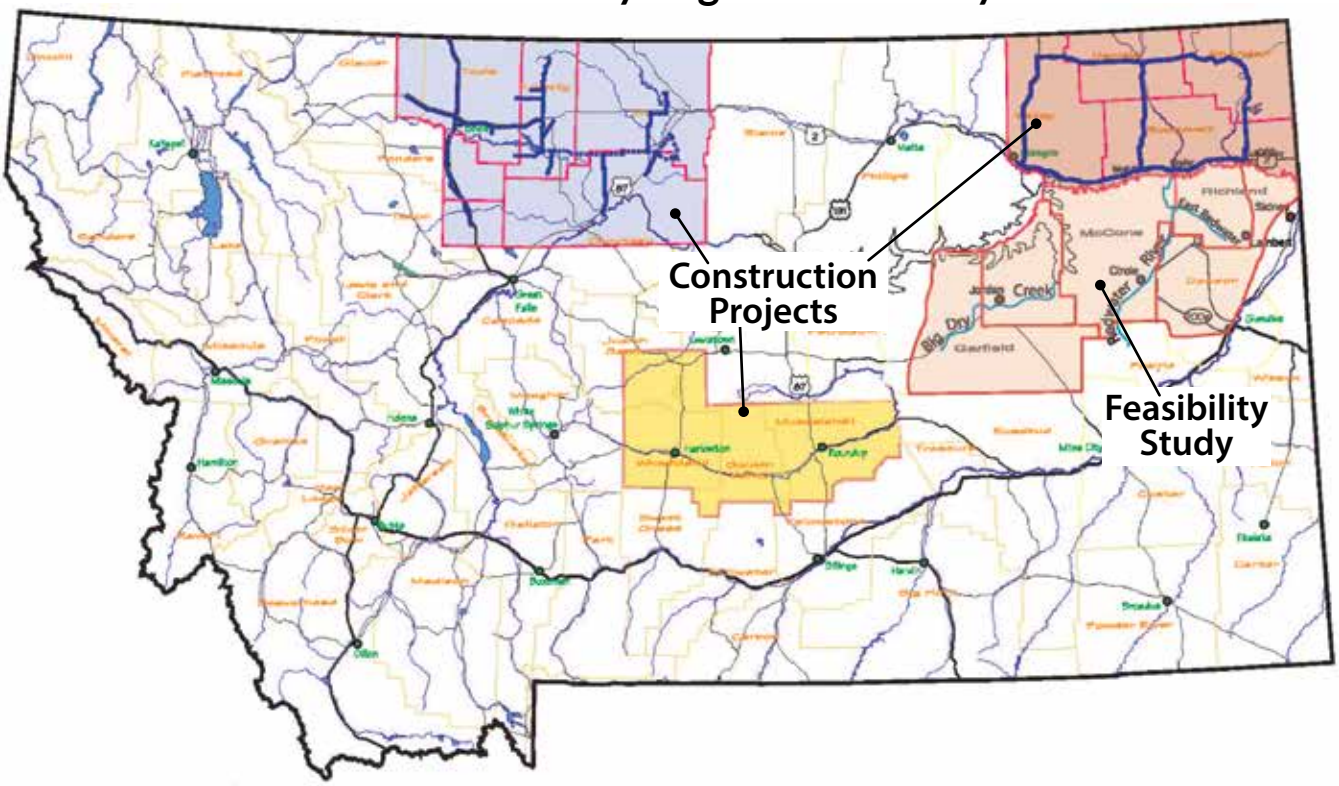
Sun River

The Sun River project is composed of the Greenfields and Fort Shaw divisions in central Montana, west of the city of Great Falls. Principal features are Gibson Dam and Reservoir, Willow Creek Dam and Reservoir, Pishkun Dikes and Reservoir, Sun River Diversion Dam, Fort Shaw Diversion Dam, and nine canal systems.

Yellowtail

The Yellowtail unit in south-central Montana is a multipurpose development providing irrigation water, flood control, and power generation. Facilities consist of Yellowtail Dam and Bighorn Lake on the Bighorn River, Yellowtail Power Plant at the toe of the dam, Yellowtail Afterbay Dam a short distance downstream, and related structures. The Crow Indian Reservation, spreading over about 3,500 square miles, encompasses the dam site, a portion of the reservoir area, and about two-thirds of the area of the potential Hardin unit. The Hardin unit is proposed to use Yellowtail storage for irrigation.

Areas to be Served by Regional Water Systems



Rocky Boy's - North Central Montana Regional Water System

Fort Peck Dry Prairie Rural Water System

Dry-Redwater System

Central Montana Regional Water

Wyoming

Bighorn River Storage Projects

Shell Creek Watershed - Leavitt Reservoir Enlargement *(located north of Shell, WY)*

- Effort to lessen irrigation shortages and reduce drought vulnerability.
- Leavitt Reservoir is an existing off-channel reservoir that is currently 45 acres in size and holds 643 ac-ft.
- Proposed enlargement to approximately 203 acres surface area and storage of 6,604 ac-ft. An additional 4,461 ac-ft of active storage for irrigation on top of the original 643 ac-ft, with a 1,500 ac-ft conservation pool for fisheries and recreation.
- Construction to include recreational facilities, including a boat ramp, picnic facilities, restroom/trash facilities, parking area, and access roads.
- Permits received from Bureau of Land Management (BLM), U.S. Army Corps of Engineers (USACE) and Wyoming Department of Environmental Quality (WYDEQ).
- Construction started in late 2023 and is anticipated to take two to three years to complete.

Nowood River Watershed - Alkali Creek Reservoir *(to be located just west of Hyattville, WY)*

- Efforts to resolve late-season irrigation shortages in the Nowood River Watershed and reduce drought vulnerability.
- Proposed reservoir to be approximately 312 surface acres and 8,965 ac-ft in volume. The volume is comprised of approximately 6,070 ac-ft of active storage for irrigation, 895 ac-ft of active storage for mitigation of potential streamflow impacts, and a 2,000 ac-ft conservation pool for fisheries and recreation.
- Permits received from BLM, USACE and WYDEQ.
- Designs and specifications currently on hold at 50% until landowner easements can be negotiated and acquired.

Aging Infrastructure

- Ongoing discussion with Water Development and Select Water Committee.
- Prohibitive costs, support of federal grants.
- Recent examples:

LaPrele Dam (Platte River Basin)

- Ambursen Style Dam – Determined to have reached the end of its useful life.
- The reservoir is under fill restrictions from the WY State Engineers Office.
- Currently progressing through 30% design with the intent to use the Construction Manager at Risk (CMAR) project delivery method to hire a construction contractor and complete design. Expect to start construction in the 2025-2026 time frame.

Goshen Irrigation District Tunnel Collapse (Platte River Basin).

- A tunnel collapse that stopped flow to approximately 100,000+ acres in Wyoming and Nebraska in 2019.
- Temporary repairs were made, and the tunnel is functioning at reduced capacity.
- Currently progressing through 30% design on Tunnels 1 and 2, with the intent to use the Construction Manager at Risk (CMAR) project delivery method. Expect to start construction in the 2024-2025 timeframe.

The state is wrapping up a study that evaluated critical aging irrigation infrastructure to develop a state-wide infrastructure rehabilitation plan and identify potential funding needs to address critical irrigation infrastructure.

The entrance to the Goshen irrigation canal tunnel.

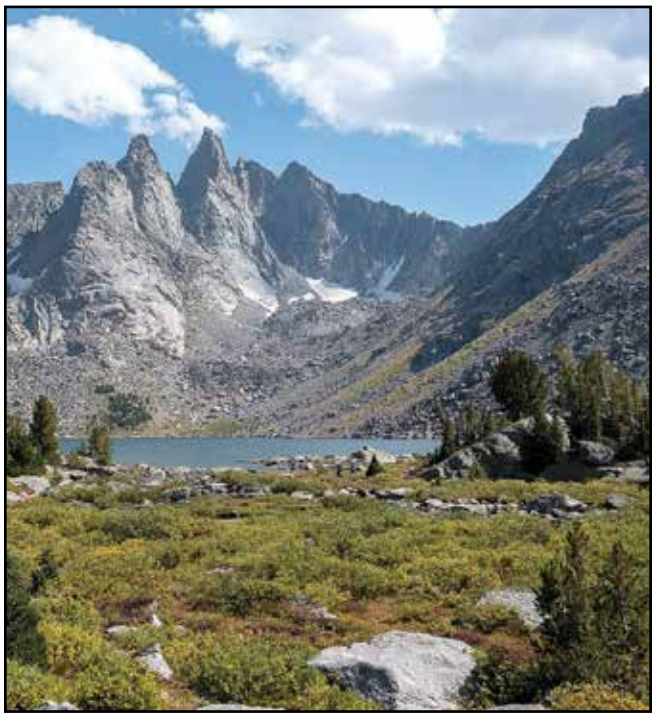
Wyoming

On-going Cloud Seeding Program

Cloud seeding operations in the Wind River Range, operations aimed at augmenting snowpack through the use of ground-based generators for the winter of 2023-24, began on November 1. Additional snowpack produced, and subsequent runoff would benefit the Green and Wind/Bighorn River Basins. Program costs are shared between the state of Wyoming, the Central Arizona Water Conservation District, the Colorado River Board of California, the Southern Nevada Water Authority, Rocky Mountain Power, the Green River-Rock Springs-Sweetwater County Joint Power Water Board, and three trona firms. Operations are scheduled to conclude on April 15, 2024, unless early suspension is deemed necessary. Total contract cost: $796,000.

On-going Planning Studies

- Big Wind River Storage Study, Phase II – Storage
- Clarks Fork Upper Shoshone Watershed Study – Watershed Study
- Clear Creek Storage Study – Storage
- Cloud Seeding Wind River Mountains 2023-2024 – Snow Augmentation
- Cody Canal Rehabilitation – Irrigation System
- Dayton Water Master Plan – Municipal Water System
- Greybull Valley ID Upper Sunshine Outlet Works Rehabilitation – Irrigation System
- Lakeview Irrigation District Rehabilitation – Irrigation System
- Little Wind River Storage Study, Phase II – Storage
- Newcastle Water Master Plan – Municipal Water System
- Nowood River Storage-Meadowlark Lake Enlargement – Storage
- Pavillion Groundwater Supply – Municipal Water System
- Ranchester Water Master Plan – Municipal Water System
- Riverton Regional Water Master Plan – Municipal Water System



- Shoshoni Groundwater Supply & Transmission – Municipal Water System
- Sidon Irrigation District Master Plan – Irrigation System
- Tillard Canal Master Plan – Irrigation System
- Willwood Irrigation District Rehabilitation – Irrigation System

New Approved Construction Projects

- Big Horn Canal Adobe Check Structure 2022
- Deaver ID Rehabilitation 2022
- Enterprise WID Calvert Lateral 2023
- Gillette Regional Extensions, Phase VI 2022
- Heart Mountain ID Lateral R4S 2023
- Lakeview ID Rock Creek Siphon 2023
- Lovell Moncur Lateral Phase II 2022
- Midvale ID Wyoming Canal Phase I 2023
- Northwest Rural Water System Improvements 2022
- Owl Creek Irrigation District System Improvements
- Sheridan Northeast Transmission Main Extension 2023
- South End Water Users ISD Pipeline 2023

Upper Missouri Water Association 2024 Board of Directors

OFFICERS

President

Jeff Cowley, Cheyenne, Wyoming

Vice President

James Brower, Sidney, Montana

Past President

Darrell Raschke, Huron, South Dakota

ELECTED DIRECTORS

Montana

Cole Peebles, Choteau, Montana

Ann Kulczyk, Glasgow, Montana

James Brower, Sidney, Montana

Mike Murphy, Helena, Montana

North Dakota

Duane DeKrey, Carrington, North Dakota

Mary Massad, Dickinson, North Dakota

Dennis Reep, Bismarck, North Dakota

Ken Royse, Bismarck, North Dakota

South Dakota

John Heisler, Newell, South Dakota

Troy Larson, Tea, South Dakota

Shane Phillips, Aberdeen, South Dakota

Darrell Raschke, Huron, South Dakota

Wyoming

Trent Reed, Powell, Wyoming

Leah Churches, Powell, Wyoming

Jeff Cowley, Cheyenne, Wyoming

EX-OFFICIO

Federal Representative

Roxanne Morrissey, Billings, Montana

State Water Agencies

Andrea Travnicek, Director
Bismarck, North Dakota

Eric Gronlund, Chief Engineer
Pierre, South Dakota

Amanda Kaster, Director
Helena, Montana

Brandon Gebhart, State Engineer
Cheyenne, Wyoming

Bureau of Reclamation

Joseph Hall, Area Manager
Bismarck, North Dakota

Ryan Newman, Area Manager
Billings, Montana

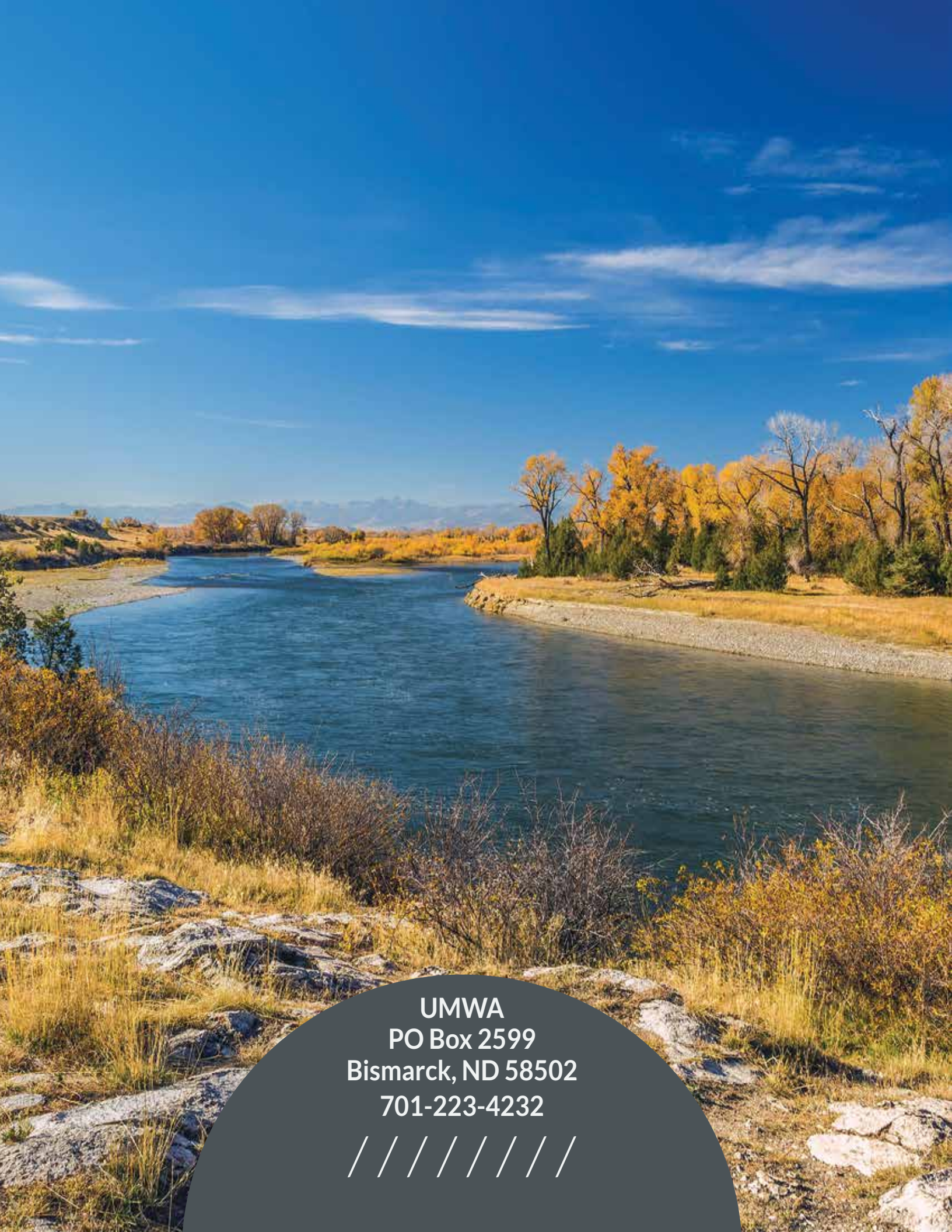
Lyle Myler, Area Manager
Mills, Wyoming

Staff

Jack Dwyer
Executive Director
jack@dwyerlawnd.com

Annika Plummer
Communications & Government Affairs
aplummer@ndwater.net

Julie Ellingson
Events Director
jellingson@ndwater.net



UMWA
PO Box 2599
Bismarck, ND 58502
701-223-4232