Montana

North Dakota

Wyoming

South Dakota

Upper Missouri Water Association

2022-2023 Projects

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 four congressmen and eight senators. Through unity, we can accomplish our goals.

Goals

The Upper Missouri Water Association 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 Engineer or state water agency director, or designee, from each state, as ex-officio members.
- Representatives of federal agencies as ex-officio members.

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Fargo-Moorhead Area Diversion Project

The Fargo-Moorhead Area Diversion Project (Project or FMAD) aims to reduce flood risk to the cities and townships that make up the metropolitan area of Fargo-Moorhead. The Project provides flood risk reduction from the Red River and its North Dakota tributaries, including the Wild Rice, Sheyenne, Maple, Rush, and Lower Rush Rivers.

The Project has three major elements which include:

(i) The in-town levee system located in Fargo and Moorhead involving the construction of more than 22 miles of in-town levees;

(ii) The Diversion Channel and Associated Infrastructure (DCAI) which requires the excavation of approximately 50 million cubic yards of earth for a thirty-mile diversion channel along with construction of two aqueducts, fourteen drainage inlets, twelve county highway bridges, three railroad bridges and two interstate highway crossings; and

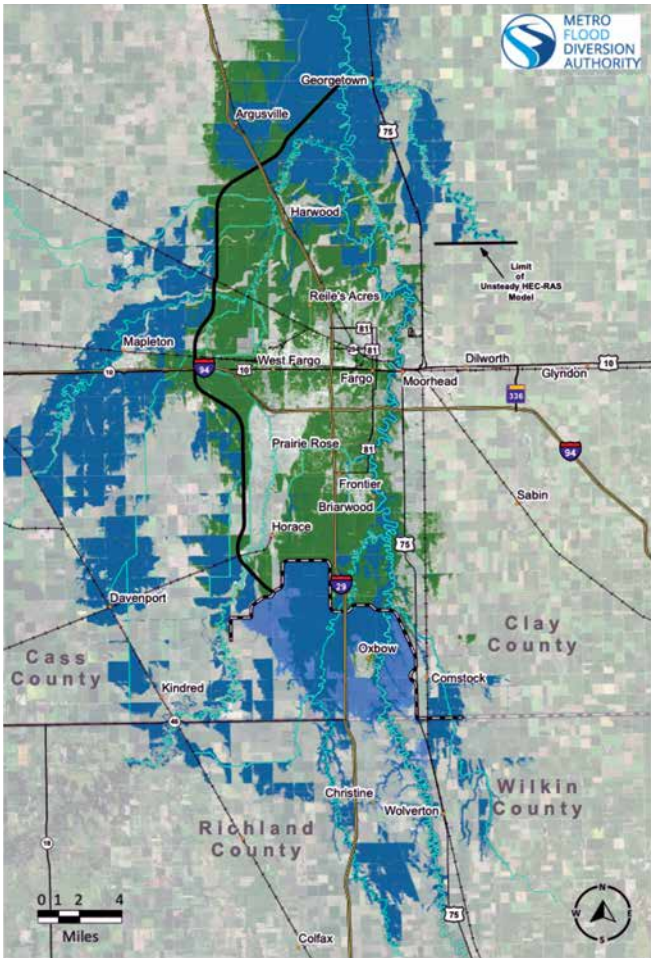
(iii) The Southern Embankment and Associated Infrastructure (SEAI) which involves construction of three gated control structures and 20 miles of earthen embankment on the south side of the metro area.

THE DIVERSION AUTHORITY

The communities of Fargo and Moorhead, along with Cass County, Clay County, and the Cass County Joint Water Resources District, have signed a joint powers agreement, which created the Metro Flood Diversion Board of Authority (the "Diversion Authority"). The Diversion Authority is led by thirteen board members from the stakeholder entities, and its purpose has been to work with the US Army Corps of Engineers (USACE) to build, finance, operate and maintain the Comprehensive Project to provide the Fargo Moorhead metropolitan areas permanent flood protection for floods from the Red River of the North and its tributaries.

US ARMY CORPS OF ENGINEERS

The Project is a Federal project and is being completed as a Partnership with the Diversion Authority and the USACE. A Project Partnership Agreement (PPA) was formed between the Diversion Authority and USACE on July 11, 2016 and as amended on March 19, 2019.



Flooding Conditions

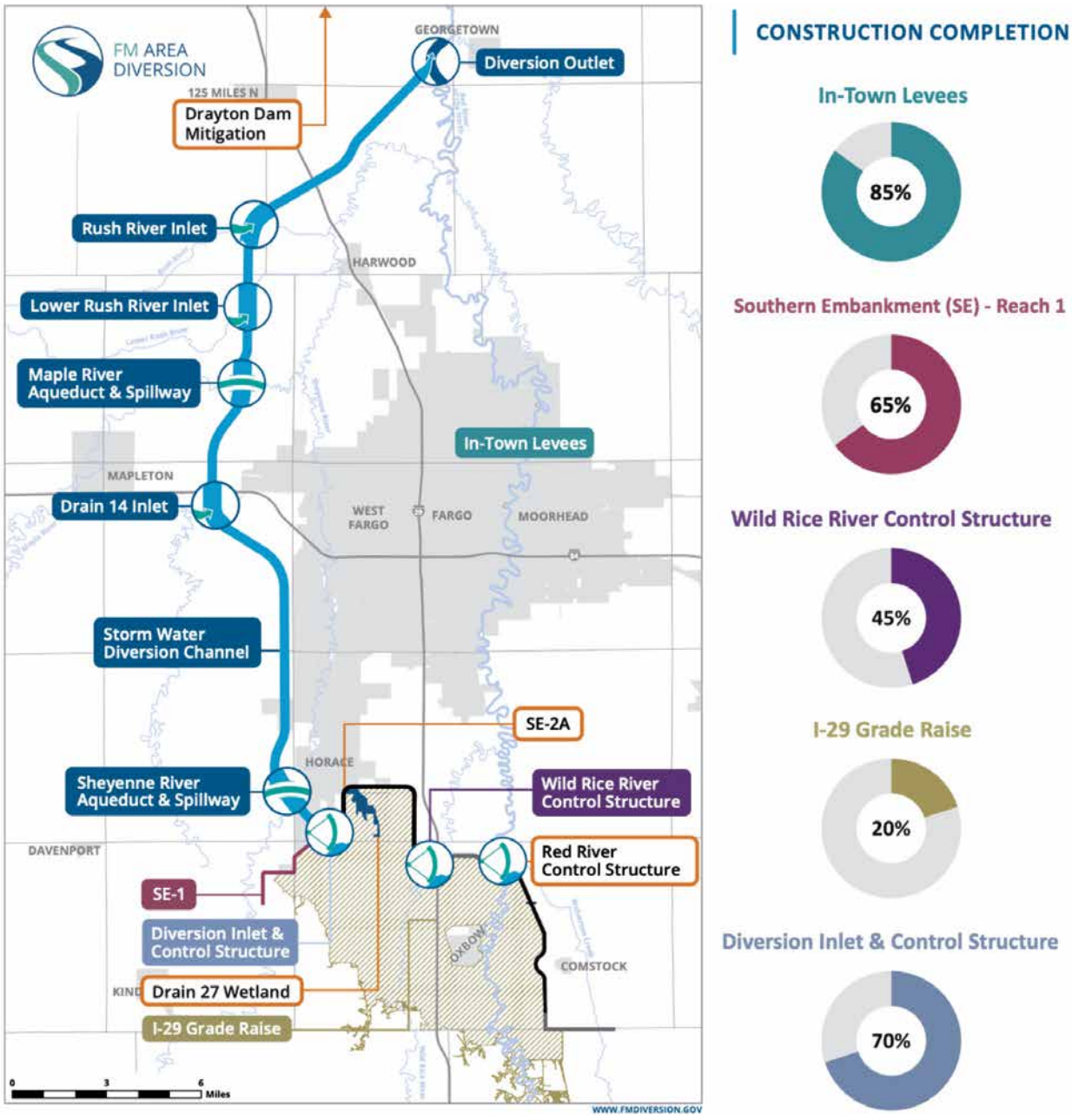
PUBLIC-PRIVATE PARTNERSHIP (P3)

The Diversion Authority has entered a P3 agreement with a private developer to design, construct, and finance the DCAI as well as operate and maintain the DCAI for 30 years after construction is complete. P3's allow for significant innovation and, in this case, resulted in shortening the DCAI project by 10 years. A Limited Notice-to-Proceed, for some surveying and other initial services, was issued in August 2021 with the full Notice-to-Proceed anticipated by the end of 2021.

2019-2021 PROGRESS

Construction and land acquisition made significant progress during the 2019-2021 biennium:

- The U.S. Army Corps of Engineers has awarded construction contracts for the:
  - o Diversion Inlet Structure in December 2016 with anticipated completion in June 2023;
  - o Wild Rice River Structure in November 2019 with anticipated completion in October 2023;
  - o I-29 Grade Raise in April 2021 with anticipated completion in January 2024; and
  - o Southern Embankment Reach-1 in March 2021 with anticipated completion in July 2022.
- In-Town Levee work in Fargo and Moorhead is nearing completion.
- The Public-Private Partnership (P3) Project for the DCAI selected its Developer in June 2021 with Notice to Proceed 1 anticipated in mid-October 2021.



Progress and status of the major components as of September 2021.

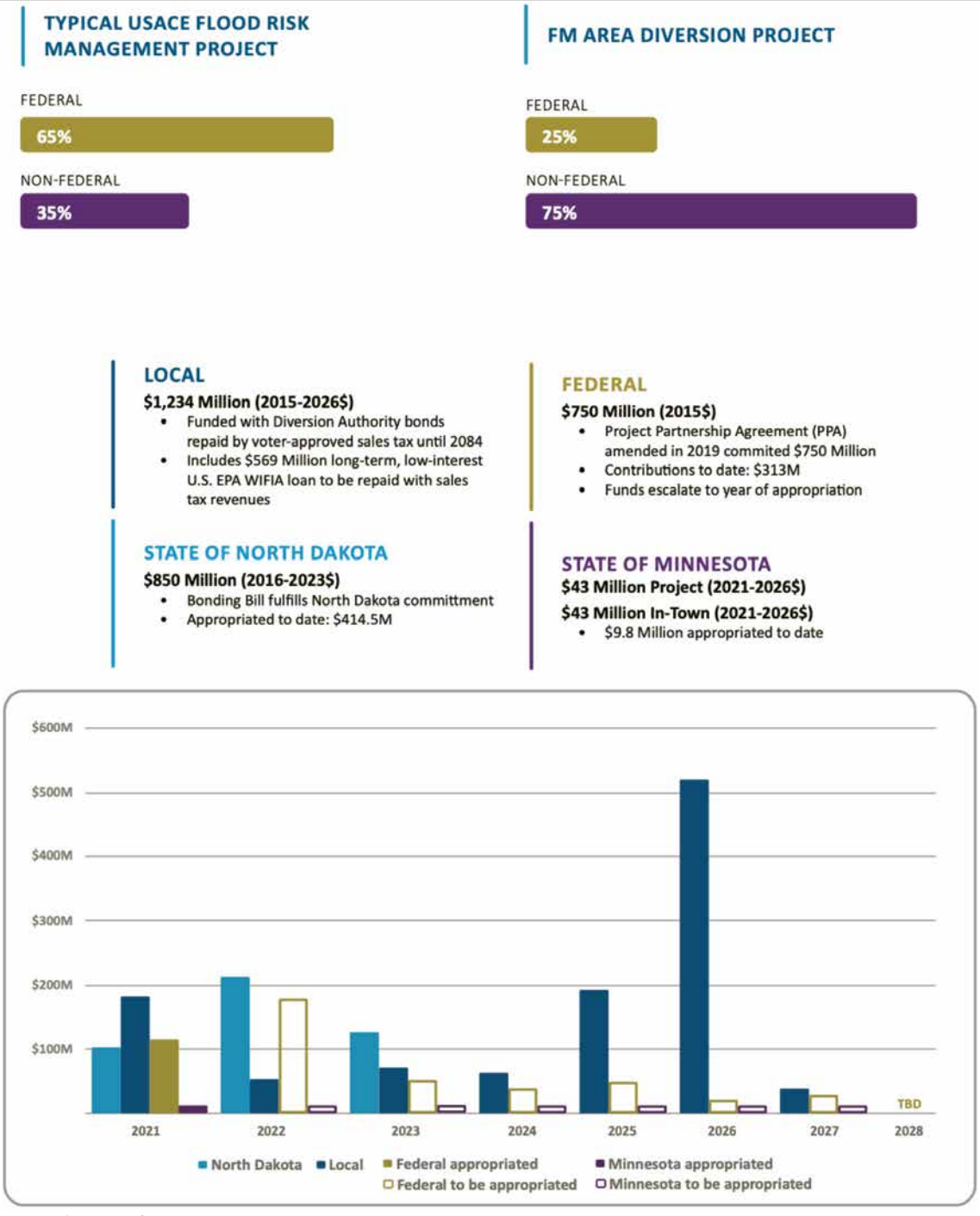
North Dakota

2021 FUNDING STATUS

The Diversion Authority has developed a comprehensive and prudent financial model for the Project with significant amounts of funding being secured. The plan, including a funding comparison of the typical split between Federal and Non-Federal funding, is depicted on Figure 4.

ADDITIONAL INFORMATION REGARDING INNOVATION

P3 projects are utilized to provide innovative means of funding as well as to allow the Developer the chance to innovate in design and construction of the project, generally resulting in an optimized design, shorter design-construction time and lower cost.



2021 Funding Status
The Diversion Authority financial model for the Project.

Red River Valley Water Supply Project (RRVWSP)

The Red River Valley Water Supply Project (RRVWSP) will provide water for central and eastern North Dakota communities and rural water systems in times of moderate and severe drought by delivering water from the Missouri River to the central and eastern parts of the state through a buried pipeline.

The pipeline will begin at the Missouri River near Washburn and continue along Highway 200 to the Sheyenne River. The 72-inch pipe will have the capacity to convey water at 165 cubic feet per second (cfs) during peak demands.

Water from the project will be for municipal use and industrial development, in addition to providing an emergency water supply during droughts. Upon completion, the RRVWSP will benefit nearly 50% of North Dakota's population.

The RRVWSP has made significant advancements in recent years, and construction of the drought mitigation project is underway. Crews are making progress on three major features of the project.

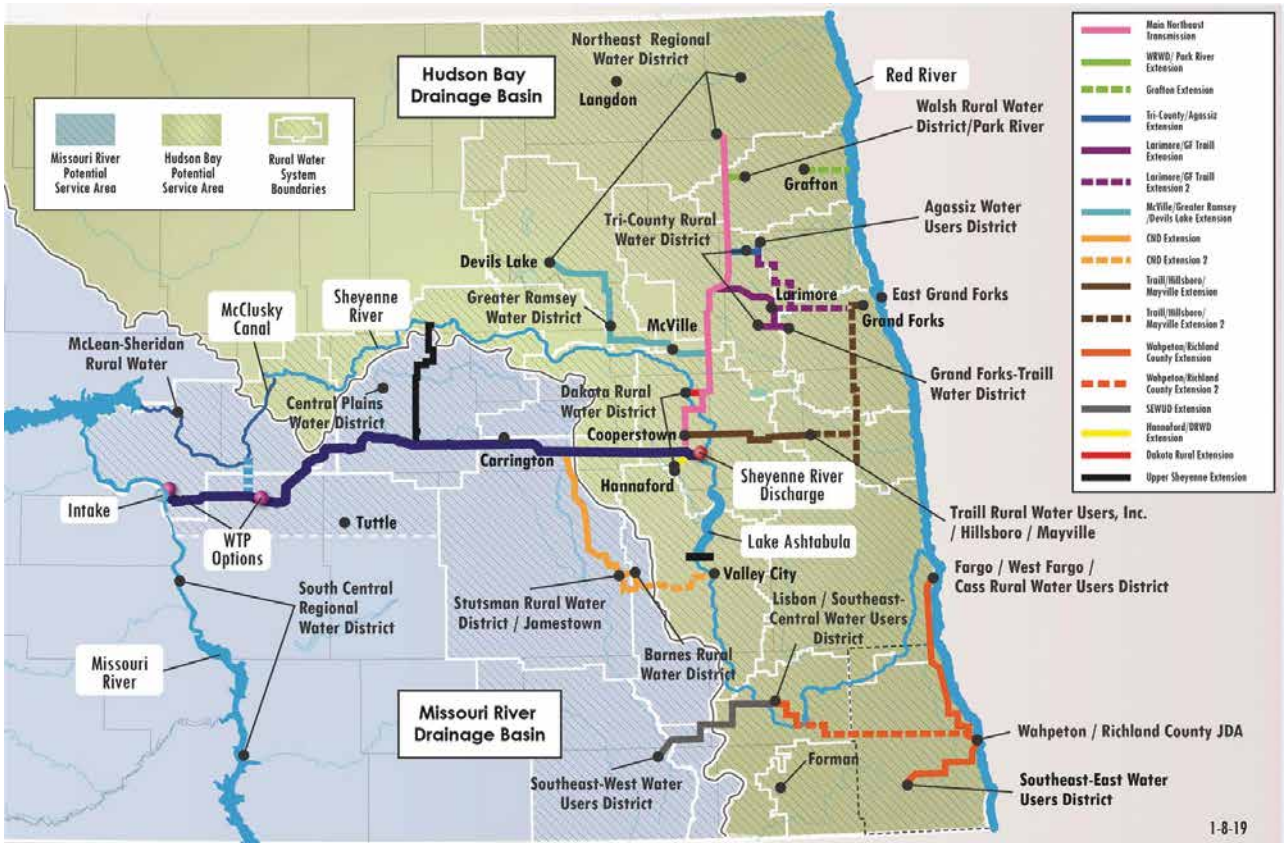
Missouri River Intake

In December 2020, ICS, Inc. began work on the Missouri River intake and wet well site development. The intake site is located four miles south of Washburn and adjacent to the Missouri River. The site work, access road improvements and installation of the secant piles for the wet well were significantly completed by the first week in September.

A second contract was awarded to Michels Corp for construction on the Missouri River intake, screen structure and wet well. The contractor is mobilizing equipment throughout September, with the construction to begin in October 2021. The contract's estimated completion is for September 2022.

Sheyenne River Discharge

In early May 2021, Industrial Builders, Inc. began site development for the discharge structure located six miles south of Cooperstown near the Sheyenne River. Construction at the discharge site included a 3,330 sq ft concrete energy dissipation structure and flow



Red River Valley Water Supply Project
Graphic showing all users who participated in the development phase of the Red River Valley Water Supply Project (RRVWSP). The project anticipates reaching approximately 50% of North Dakota's population.

apron, 100 feet of 54-inch pipe, site grading and access roads. In the future, this location will be the terminus of the RRVWSP, and the site will include a control valve structure building. At this time, the concrete portions of the discharge structure are completed, and the contractor is awaiting the delivery of the 52" ductile iron pipe to finish out the construction contract. Final restoration of the site will take place in July 2022.

Transmission Pipeline

The initial pipeline construction involves the installation of 1.2 miles of 72-inch pipe about one mile south of Carrington on the west side of U.S. Highway 52/281 and the Red River Valley & Western Railroad. In mid-May, Garney Construction began stripping topsoil to prepare for open-cut pipeline work. The contractor is tunneling underneath the railroads and highway, with additional pipeline installation to run east for one mile. On August 3, construction crews placed the very first 50-ft length of pipe in the ground during a groundbreaking ceremony. Pipe installation is expected to be completed by late October this year, with final restoration of the ground taking place in July 2022.

Moving the Project Forward

Garrison Diversion is seeking critical funding to move the project forward. The funds would be used to construct a 9-mile section of the 72" main transmission pipeline, design an additional 44 pipeline miles to be bid-ready and towards additional land acquisition along the pipeline route. Overall, the project has a 10-year construction plan.

Souris/Mouse River Flood Protection Project

The Mouse River Enhanced Flood Protection plan consists of an overall project from the 49th Parallel (Sherwood) to 49th Parallel (Westhope). The preliminary alignment for urban protection measures is an area from the Mouse River Park to Velva and consists of levees, floodwalls, river diversions and closure features, transportation closure structures, interior pump stations, ring dikes, and residential and commercial property acquisitions in the flood alignment boundary. Levees comprise nearly 90 percent of the alignment, totaling 21.6 miles. The remainder of the alignment consists of 2.8 miles of floodwalls and 30 transportation closure structures (19 roadway and 11 railroad). In addition, the project would require 33 stormwater pump stations.

The estimated project cost for urban features is $820 million, based on the current level of design based on a 27,400 cfs flood event. Of this estimated cost, $565 million is related to construction, $154 million is related to property acquisition, and the remaining $101 million covers planning, engineering, and program management costs. In addition to the urban portion from Mouse River Park to Velva, there is also a rural reaches portion that is the StARR program, which is looking at structure acquisition, ring dike, and relocation options. There are also plans to look at enhanced conveyance from Velva to the Canadian border. The rural reaches portion is approximately $180 million, bringing the entire project to over $1 billion.

Sheyenne River Flood Protection

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 during the 2013 N.D. Legislative Session. 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 I94 Business Loop, Valley City's Main Street, and one of the City's Distribution Power Substations. Phase 2 work started in 2017 and was completed in the summer of 2020. Phase 3 of is protecting the City's Sanitary Master Lift Station. Work started in the fall of 2019 and was completed in the summer of 2020. Preliminary and design engineering work is ongoing for future phases of Permanent Flood Protection here 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 completion of future phases of permanent flood protection project, depending on the availability of State funding resources.

Devils Lake Outlet Operations

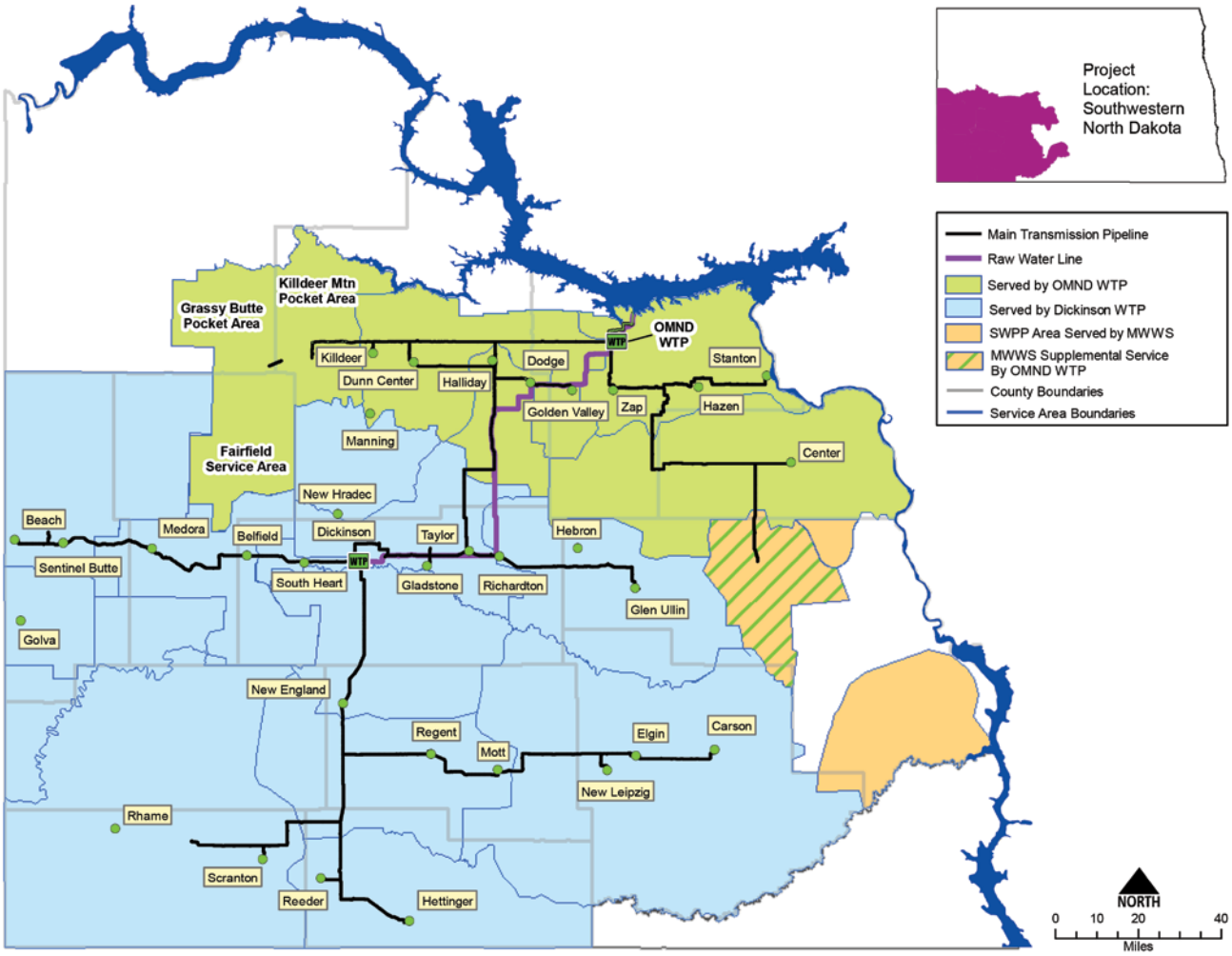
Devils Lake in northeast North Dakota continues to be an important aspect of water management in the state. Record high lake levels over the past quarter century have impacted the region and future lake-rise continues to be a concerning possibility. Two pumped outlets lower the risk of flooding by gradually transferring water from Devils Lake to the Sheyenne River. The outlets have a maximum combined discharge

capacity of 600 cubic feet per second and their operation is managed according to downstream water quality and quantity limitations. As of August 2020, the outlets have removed over 1.25 million acre-feet of floodwater. More information regarding the Devils Lake Outlets is available through the ND State Water Commission website.

Operations in 2021 have been limited with only very limited testing of the East End Outlet, and reduced discharges from the West End Outlet. The drought and little base flow in the Sheyenne River have made blending water from the outlets to meet water quality limitations difficult. The West end has operated between 160 cfs and 50 cfs, which it is currently operating at, and we plan to continue the 50 cfs for the remainder of this pumping season. Devil Lake elevation is down to 1447.2 and water available at the intakes are also causing an issue. The East End Outlet was designed to operate down to 1446' and the West End Outlet to 1445'. Devils Lake Outlet operations are still funded in the operating expenses of the water appropriation bill for the 2021-2022 biennium which started this July.

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 7,350 rural locations and 33 communities. Raw and potable water from the SWPP is being utilized by 24 contract customers, 22 raw water customers, two raw water depots, Missouri West Water System and South Dakota's Perkins County Rural Water System. The



Southwest Pipeline Project

North Dakota

SWPP currently serves an area of more than 15,000 square miles.

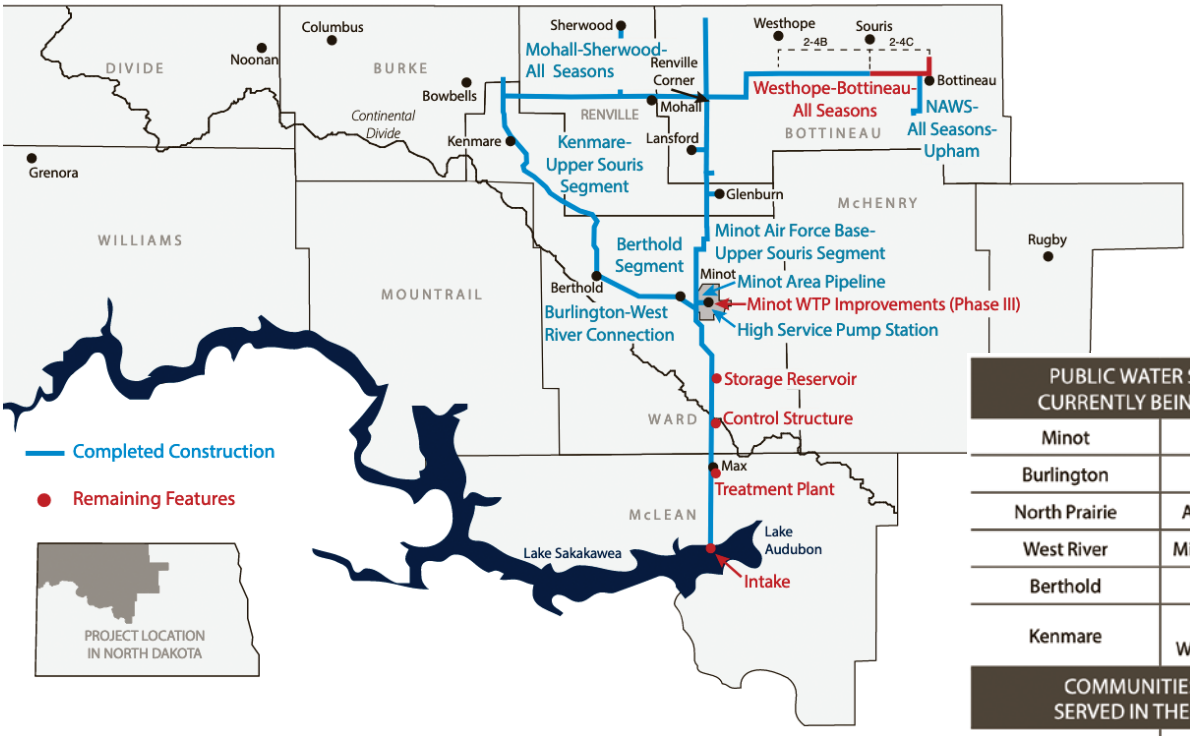
With quality water, local economies are strengthened, and the state is steadily repaid for its important water infrastructure investment in the SWPP. To date, SWPP's customers have returned over $82 million back into the state's Resources Trust Fund.

Since 1996, 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 Department of Water Resources has proven to work well for those we serve throughout southwest North Dakota. For over three decades, the state of North Dakota has been empowering the kind of economic development, quality of life, future growth, and quality of place 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*.

Current construction includes additional storage reservoirs, design and easement acquisition for main transmission expansion, strategic hydraulic improvements and rural signup campaigns to serve those on the waiting list and to meet the growing water needs in the region.

Northwest Area Water Supply (NAWS)

This project is in north central North Dakota and will serve sixteen public water systems including the city of Minot with Missouri River water. Phase I of 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 to be completed in 2024. The design of intake modifications to Reclamation's Snake Creek Pumping Plant are nearing completion, and a hydraulic control structure and 10-million-gallon reservoir on the raw water line are ready to be this fall. The second of three rounds of improvements to the Minot water treatment plant where final treatment to drinking water standards are nearing completion. The final pipeline segment on the distribution system is under construction to be completed this fall. A 4.5-million-gallon reservoir and pump station are under construction near Lansford, ND and reservoirs and pump stations near Bottineau and Souris are under design.



PUBLIC WATER SYSTEMS CURRENTLY BEING SERVED	
Minot	Sherwood
Burlington	Mohall
North Prairie	All Seasons-Antler
West River	Minot Air Force Base
Berthold	Des Lacs
Kenmare	Upper Souris Water Users District
COMMUNITIES TO BE SERVED IN THE FUTURE	
Westhope	Bottineau
Souris	Lansford

Northwest Area Water Supply

The Western Area Water Supply Project (WAWSP)

The Western Area Water Supply Project (WAWSP) utilizes water from the Missouri River in Williston, treats it at the Williston Regional Water Treatment Plant, and then transports it to cities and rural areas in all or parts of Burke, Divide, McKenzie, Mountrail, and Williams Counties in northwestern North Dakota. The WAWSP's service area is forecast to reach 125,000 people by the year 2038, according to a 2014 study completed by the North Dakota State University Department of Agribusiness and Applied Economics. The Western Area Water Supply Authority (WAWSA) has already constructed more than 1,400 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.

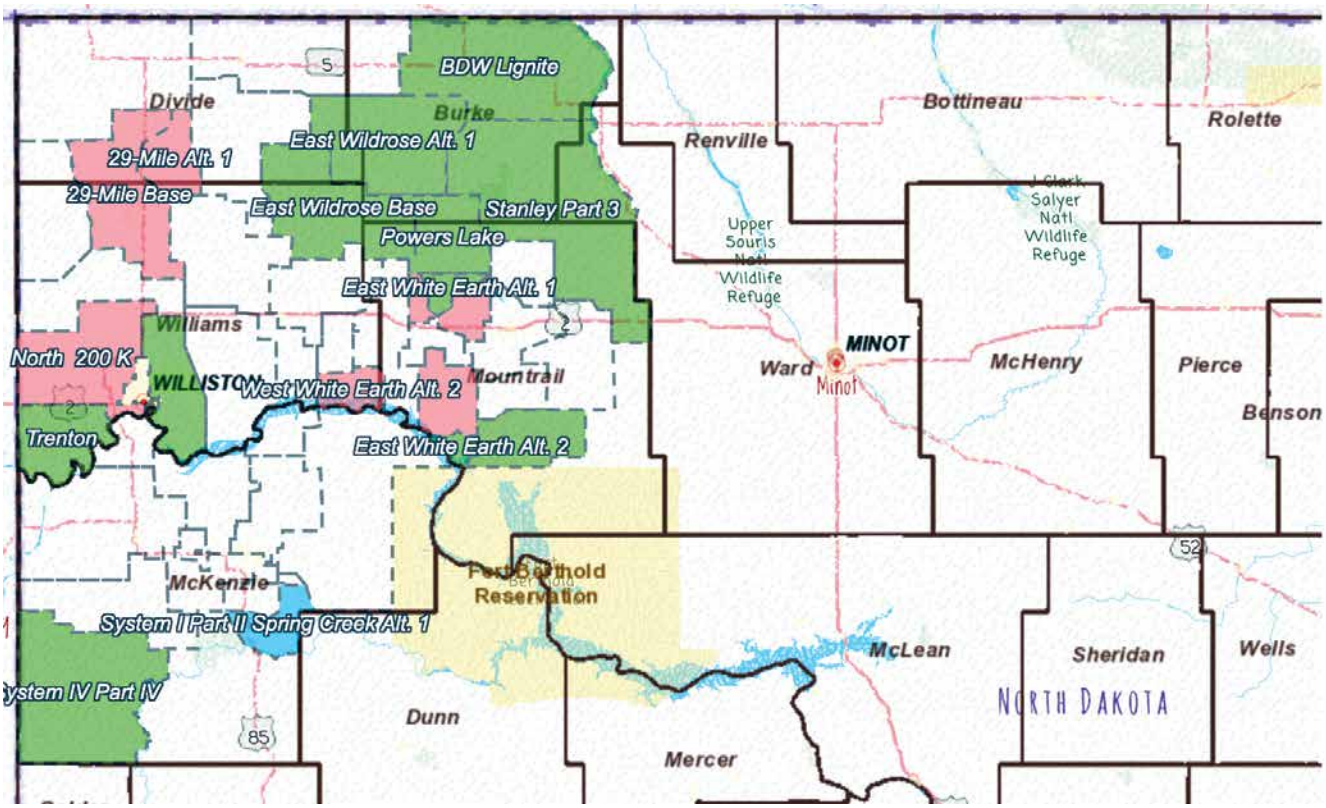
The WAWSP Business Plan is a first-of-its-kind public-private partnership in North Dakota. Typically, rural water systems are subsidized heavily by grant dollars. In order to repay its loans, WAWSA is selling the system's unused water capacity to the oil industry during the population growth period to pay for a significant portion of the project's estimated $469 million cost.

Dickinson

Dickinson Dam and Reservoir (Edward Arthur Patterson Lake) store 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 and 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 contains 7,662.5 acres of irrigated land. This land is served by individual project pumping plants. Features include Heart Butte Dam and 69 river pumping plants and 25 private pumping plants, 1 relift plant, and 17 miles of laterals.



Western Area Water Supply Project

Under Construction | Funded / Bid | Funded / Not Bid | Not Funded / Bid | Future Project | Complete

North Dakota

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.

Irrigation

There are about 300,000 acres of land under irrigation in North Dakota, the least of any of the western states. Irrigation development has been limited to 2,000 acres or less annually during the past decade likely due to generally adequate precipitation, favorable government programs, and the investment for irrigation development. High value crops such as potatoes, onions, carrots, and others have been grown very successfully in the state; however, the lack of reliable and economic markets has limited their production. High-value crops could greatly enhance the profitability and perhaps the expansion of irrigation in the state; studies have shown that irrigation can generally improve profits by a ratio of 3:1 over most dryland crops under average conditions.

About 7,200 acres have been developed along the McClusky Canal beginning in about 2010. This development is enhanced by a cost share program with the state and a reduced power pumping rate authorized by the Dakota Water Resources Act of 2000. Additional land is under consideration adjacent to the canal for development and a study has been completed by the Garrison Diversion Conservancy District to determine feasible lands for irrigation development within ten miles on each side of the canal. 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.

A 2012 study completed by the North Dakota Irrigation Association found potential for the irrigation development of about 550,000 additional acres in North Dakota. A majority of this potential would be irrigated from the Missouri River which contains about 95 percent of the water supply in the state.

North Dakota State University research sites in the Carrington, Oakes, and Williston areas provide a wealth of information to potential irrigators and producers of products under irrigated agriculture.

Rural Water Supply

Regional/rural water systems provide a safe, reliable, high-quality, and affordable water supply to North Dakota residents, farms, industries, subdivisions, and small communities. In order to meet the growing statewide water needs, 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 problems.

Projects for the 2021-2023 biennium include, but are not limited to, expansions of Agassiz WUD, All Seasons WUD, Barnes RWD, Cass RWD, Dakota RWD, East Central RWD, Garrison RWD, Missouri West Water System, McLean-Sheridan RWD, Missouri West Water System, Northeast RWD, South Central RWD, Southeast WUD, Stutsman RWD, Turtle Mountain Public Utilities, Upper Souris RWD and Walsh RWD.

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.

For the biennium 2019-21, there were 29 municipal water projects completed for approximately $60 million. In 2021-23 there were 94 projects submitted by 59 cities at a projected cost of over $156 million. The municipal water supply "bucket" was appropriated $45 million based on the request from North Dakota League of Cities as some projects were for future years and some projects were put on hold due to local cost-share concerns.

Legislative direction is requiring information and data on municipalities that may be candidates for regionalization by partnering with rural water over the next 5-10 years.

New Endeavors

1. American Rescue Plan Act (ARPA)

The State of South Dakota to receive $1.366 billion in funds from the American Recovery Plan Act (ARPA). It's believed likely, that a significant amount of available funds will be targeted towards infrastructure projects, further it's anticipated that water will (or should) be a high priority in the infrastructure allocation.

SD Rural Water managers were requested to submit a description of any projects they wish to be included on a list of projects put forward by South Dakota Association of Rural Water Systems (SDARWS). If known, the system should include an estimated cost of the project. SDARWS then composed a letter, which included the list of projects and send it to the governor for consideration. Contemporaneously, managers were encouraged to send a copy of the letter to their local Legislator's, so they are aware of the information provided to the governor. The list of Projects included nearly $500 million of work that could be ready and constructed within the time parameters of the ARPA funding.

DANR advised South Dakota state government was awarded $975 million under ARPA (there are additional $'s awarded directly to Counties and Municipalities). However, it is unknown at this time what portion of this funding will be allocated specifically to water infrastructure as the Legislature will ultimately have to determine the level of funding it intends to commit to these projects. The Governor plans to make a recommendation to the Legislature in early December as to the level of funding she would propose be committed to water infrastructure.

In terms of eligibility, DANR advised that if a system or project would otherwise be eligible for funding under the Clean Water and Drinking Water State Revolving Funding (SRF) Program then it would also be eligible for ARPA funding. However, the Department made it clear that systems should not expect to receive 100% funding for any one project using ARPA funds. Rather, only a percentage of the total project cost would receive ARPA funding, and the remainder would need to be funded by another source, such as an SRF loan.

There are important dates that must be considered when a project is evaluated. First, the funds must be "obligated", or under contract, no later than December 31, 2024. Second, the ARPA funds must be fully spent by December 31, 2026. However, DANR indicated that while normally grant funds are disbursed at the percentage awarded it is possible, they may be willing to consider an alteration of this normal processes. If this were to occur, the system may be able to expend the ARPA funds first to meet the deadline and then utilize any other funding source received. Obviously, current contractor, labor and supply chain factors may play a role in all of this which was also discussed.

The exact process for accessing the funds is still unknown at this time. However, DANR would ask that each system that desires funding make application with DANR to get on the State Water Plan per the normal deadlines instead of circumventing the process by making a special appropriation request for an individual infrastructure project. This would ensure that there is a streamlined process for evaluating the applications and determining the level of funding for the project. Hence, if a system wants to be considered for funding under ARPA they need to make sure to get on the State Water Plan. The applications are due October 1st, but there will be opportunities to "amend" the State Water Plan on a quarterly basis with applications due February 1st, May 1st, and August 1st.

The criteria for evaluating the individual projects are still unknown at this time too. The Department did indicate that consideration may be given to rate impact, whether there is a local match (ex; counties / cities), whether there is a regionalized benefit, the innovativeness of the project or whether a feasibility study has been completed. Ultimately, the Legislature will obviously have to determine the level of funding that should be allocated to water and sewer infrastructure, but the Department would like to be involved with the establishing such criteria.

2. West River Missouri River Pipeline

The West Dakota Water Development District (WDWDD) has taken a leadership role in exploring the use of its Missouri River Future Use Water Permit #1443-2 (the permit). Before the most recent renewal of the permit, WDWDD commissioned the South Dakota School of Mines and Technology (SDSMT) 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" (SDSMT 2019). In March 2020, WDWDD asked Banner Associates to coordinate with potential entities in western South Dakota to ascertain their interest in exploring a bulk water transmission line that conveys Missouri River water to various communities, Tribes, and water systems in western South Dakota. The project consisted of two parts: 1) determining interest in joining in discussions about a possible project, and 2) understanding the required steps to undertake such a project. Several representatives from communities, Counties, Tribes, and water systems joined in four discussions to learn more about the opportunities and challenges in beginning a bulk water transmission line project. The speakers were from academia, non-profit organizations, and state and federal government provided information on best practices and programs available to assist in this potential project. In the stakeholder meetings, many recognized the importance of working in partnership, pooling the local and Federal interests in furtherance of these projects. For example, 30 years ago Tribes and rural communities in south central and western South Dakota joined together to successfully form and fund the Mni Wiconi Rural Water System. Key lessons learned included the importance of combining interests, expanding the geographic reach, and articulating the Federal interest in the benefits of the major water projects. The stakeholder meetings concluded with a consensus of next steps, which are summarized, as follows: Governance: Form a new, non-profit corporation to spearhead the continued efforts to pursue a bulk water transmission line from the Missouri River to western South Dakota. Technical Evaluations: To better understand both the need and feasibility of this project, prepare a detailed Needs Assessment. This document will quantify the amounts of current and future water needs and provide detail on the financial commitments. Funding: WDWDD has provided initial funding as a catalyst to begin discussions and evaluations, additional funding to continue the development of a new organization and technical studies is necessary, requiring state and Federal funding. With the increased growth in population in western South Dakota, including the projected 3,500 military personnel and 4,200 dependents with the arrival of the new B-21 "Raider" Bomber at Ellsworth Air Force Base, located in Pennington and Meade Counties (Ellsworth AFB 2020), and with the preparations for possible drought conditions in the future, the continued exploration for the development and distribution of water from the Missouri River is recommended

3. Aberdeen Raw Water Pipeline

Officials in Aberdeen are looking into the possibility of getting some of its water from the Missouri River. The Aberdeen City Council has approved a study on the feasibility of installing a raw water transmission pipeline from an intake site on Lake Oahe near Mobridge to the Aberdeen water treatment plant. The pipeline would run about 90 miles from the Missouri River to the Concord Grain Facility 5 miles west of Aberdeen, then 10 miles east to the city's water treatment plant. Bartlett and West Engineering has been hired to draft plan scheduled to be completed in by 2022. City Administrator Joe Gaa said the water study grew from a facilities review that was completed for the water treatment plant in 2000 and one that is scheduled to be completed this year for the water reclamation plant.

A proposed route for a 104 mile pipeline from the Missouri river to Aberdeen.

Bureau Of Reclamation

1. Mni Wiconi RWS

The Mni Wiconi Rural Water Supply 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 with a service population of 52,000, which continues to grow. The Project is creating jobs and improving the quality of life in 10 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 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.

2. Lewis & Clark RWS

The three states and 20 members have pre-paid 100% of their share of the Lewis & Clark Regional Water System (L&C), a combined $154M. In addition, the three states have approved a combined $60.2M in "federal funding advances" to keep construction moving forward ($44.5M from MN, $8.7M from SD and $7M from IA). These advances are zero interest loans that will be repaid with future federal funding after all 20 members are connected, but before the system is completed. Construction is 82% complete and L&C is delivering an average of 17.1 million gallons a day to 15 of its 20 members: an increase of 32% over the last four years.

L&C officials were very pleased when it was announced on May 28 that the administration proposed $9.22M for the project in its FY22 Budget! This is a significant increase over the $100,000 that was proposed the last three years and is the highest level since $15M was proposed in FY08. "This was great news and put us in a much better starting position than in the past. It still leaves us with work to do though to reach the $17.5M and $18M we received in FY20 and FY21," said Executive Director Troy Larson.

There are still a lot of unknowns in regard to the FY22 appropriations process with the return of congressionally directed spending (CDS) requests – formerly known as earmarks – versus programmatic funding; not to mention the infrastructure bill. Not knowing how the appropriations processes will play out, L&C has been taking an "all of the above approach" by requesting CDS, programmatic funding and infrastructure bill funding. The House on July 27, 2021, passed a "minibus appropriations bill" that includes the Energy & Water Appropriations Bill. It includes an additional $55.7M in programmatic funding for the five authorized water projects. This is in addition to the $72.273M proposed by the administration, so a total of $127.973M. Last year the House's total was $115.787M, so about $12.2M higher! L&C received more great news on August 4, 2021, that the Senate Appropriations Committee approved the FY22 Energy & Water Appropriations Bill, which in addition to the $9.22M proposed by the administration also includes a $21.914M CDS request by Senators John Thune, Amy Klobuchar, Mike Rounds and Tina Smith for a total of $31.134M! L&C's final FY22 funding is expected to be reconciled in an omnibus budget bill. "We cannot thank these senators enough, as well as the rest of our tristate congressional delegation, for continuing to go to bat for us! Although we still have a way to go in the process, we are sitting much better than in previous years," said Larson.

Notwithstanding the apparent success of this year's funding, L&C respectfully requests the congressional delegation continue their successful efforts to secure additional funding for the Rural Water Program in the FY23 Budget. Thanks again to the congressional delegation for its strong support and effective leadership. Please know it is greatly appreciated!

South Dakota

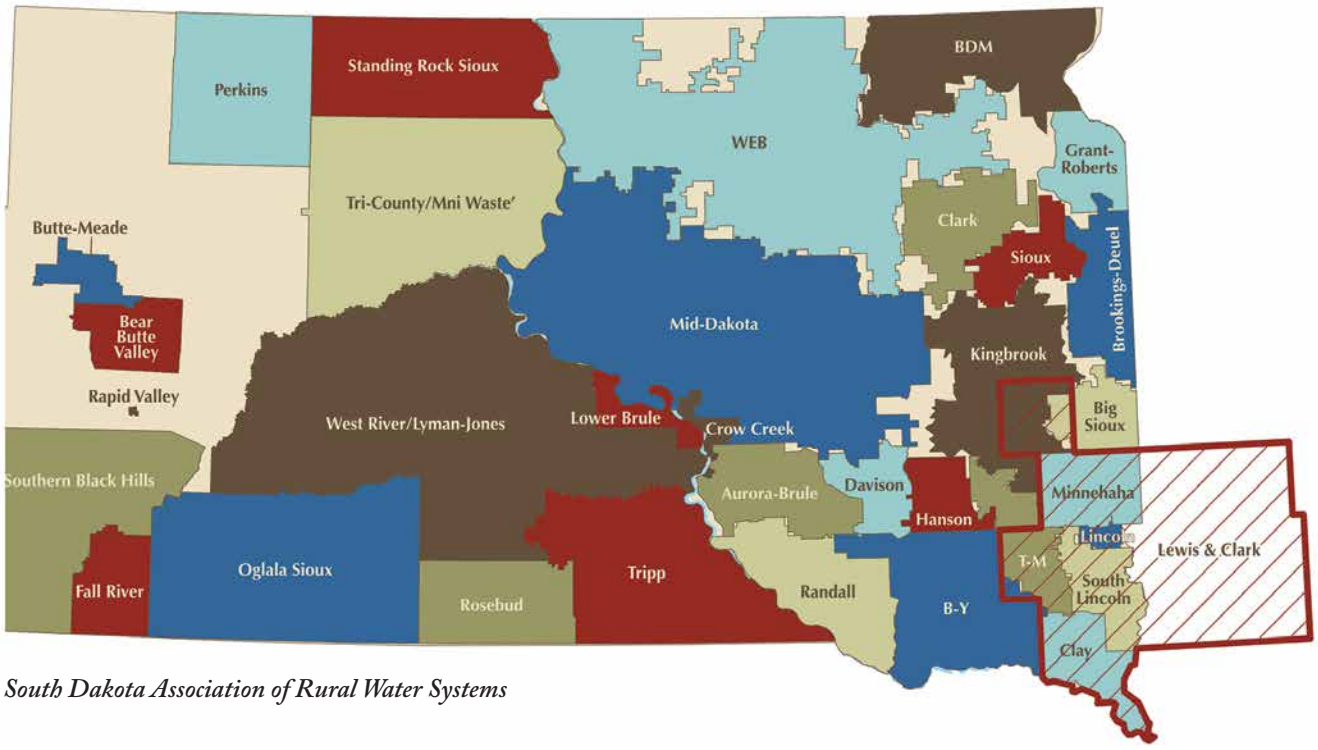
Rural Development

1. 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 DENR and USDA-RD.

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 rural 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, the Mount Rushmore National Monument, the Custer State Park, and numerous State and Federal campgrounds and other recreational sites.

Phase 1 is completed and serving 100 customers. SBH has finalized 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 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.



South Dakota Association of Rural Water Systems

2. 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 together 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 recent construction project included 252 services, 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 Environment and Natural Resources provided $2,000,000 grant under the Water Facilities Construction Program. Additionally, 28 livestock producers in the area have 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 their 272 members with an anticipate additional 35-45 by next fall. These new customers will be included in a new 25-mile line of pipe in the Alkali Road project, which is funded by Rural Development.

Since the original construction in 2015 - 2017, the BBVW has grown 30% (from 209 customers to 272) and there continues to be a lot of interest from new customers within their service area which currently would amount to five miles of extended pipeline.

3. Perkins County RWS, Inc.

Using all of its allocated funding, PCRWS completed the last planned phase of its water distribution system at the end of 2012. PCRWS is still in need of a 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 and PCRWS is working with Tri-County/Mni Wastewater 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.

4. Mni Waste' RWS

The system is working towards line upgrades and transmission line extensions through Rural Development funding. An application is being reviewed within the USDA RD Water and Waste Disposal Program to upgrade main lines north to Timber Lake and 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 service to the region. Mni Waste' continues to seek loan payback dollars within various federal and state agencies (Indian Health Services, EPA, DENR) 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 operational. This is 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 are very near completion and will close out its 2010 USDA RD Funding Package this year.

Prior to these upgrades, the system had been at maximum capacity since 1997, twenty years from initial completion. Water restrictions are slowly being

lifted accordingly. 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.

Mni Waste' was authorized for $65 million in the Water Resources Development Act of 2007 through the Army Corp of Engineers and continues to seek appropriated funding. Work continues with the South Dakota Congressional Delegation and federal agencies to obtain an estimated $350 million in funding for the overall build-out of distribution system serving both on and off reservation users.

Other Topics

1. Missouri River Issues

South Dakota's interests in the Missouri River are in jeopardy. A draft US Army Corps of Engineers (Corps) "surplus water report" threatens South Dakota's interests in at least two major ways.

1. The Corps wants to determine whether water is available from the Missouri River to satisfy certain types of uses as well as existing water uses from the mainstem reservoirs. To this point, allocating water has been reserved to the states, not to the federal government. While not prohibiting South Dakota from allocating water, the state's allocation will be nullified if the Corps does not grant their own approval. Effectively, the Corps gains veto power over state approval.
2. The Corps also plans to start charging a fee to certain water users above the mainstem reservoirs as detailed in a "surplus water report" prepared for Lake Sakakawea in North Dakota. This fee would be assessed despite the availability of sufficient natural flows to meet allocation needs rather than reliance upon water stored in the mainstem reservoirs.

Opposition reasons include: Under this proposal, the Corps would control management of the water used for current and future municipal and industrial use. The ability for states to manage their own water supplies for the benefit of their citizens is a state's right that has long been recognized by the federal government.

It is a state's right to have jurisdiction and access to natural flows through their state water right programs.

Existing uses in South Dakota are less than the natural flows so the Corps has no jurisdiction or authority to charge for water used in South Dakota.

The "Water Resources Reform and Development Act" passed Congress in May 2014. The final version of the bill includes a provision (Section 1046) creating a 10-year moratorium barring the Corps from charging water users a fee for using surplus water from the Missouri River reservoirs. South Dakota believes that water naturally flowing through the state's boundaries belongs to its citizens and should not be subject to a fee assessed by the Corps.

Montana

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 Powerplant, about 17 miles northeast of Helena, Montana.

East Bench

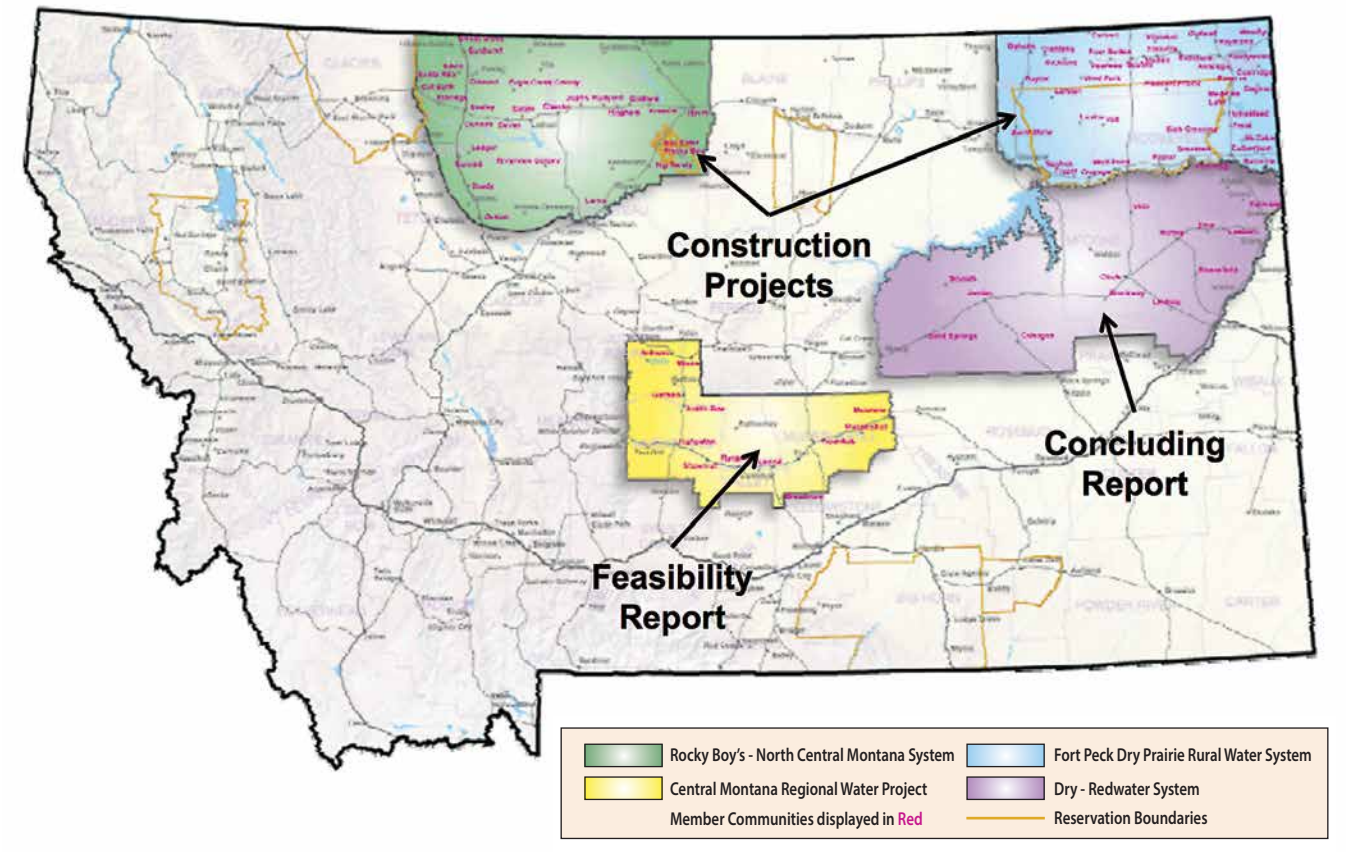
The East Bench Unit of the Pick-Sloan Missouri Basin Program is in southwestern Montana, along the Beaverhead River. The unit provides full irrigation service to 21,800 acres and supplemental irrigation service to 28,000 acres. Principal features include Clark Canyon Dam and Reservoir, Barretts Diversion 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 offstream storage reservoir. The project can furnish water to irrigate approximately 30,000 acres.



Montana Regional Water System Projects

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 also will 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.

Lower Yellowstone Project

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 6 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 Powerplant 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 damsite, 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.

Wyoming

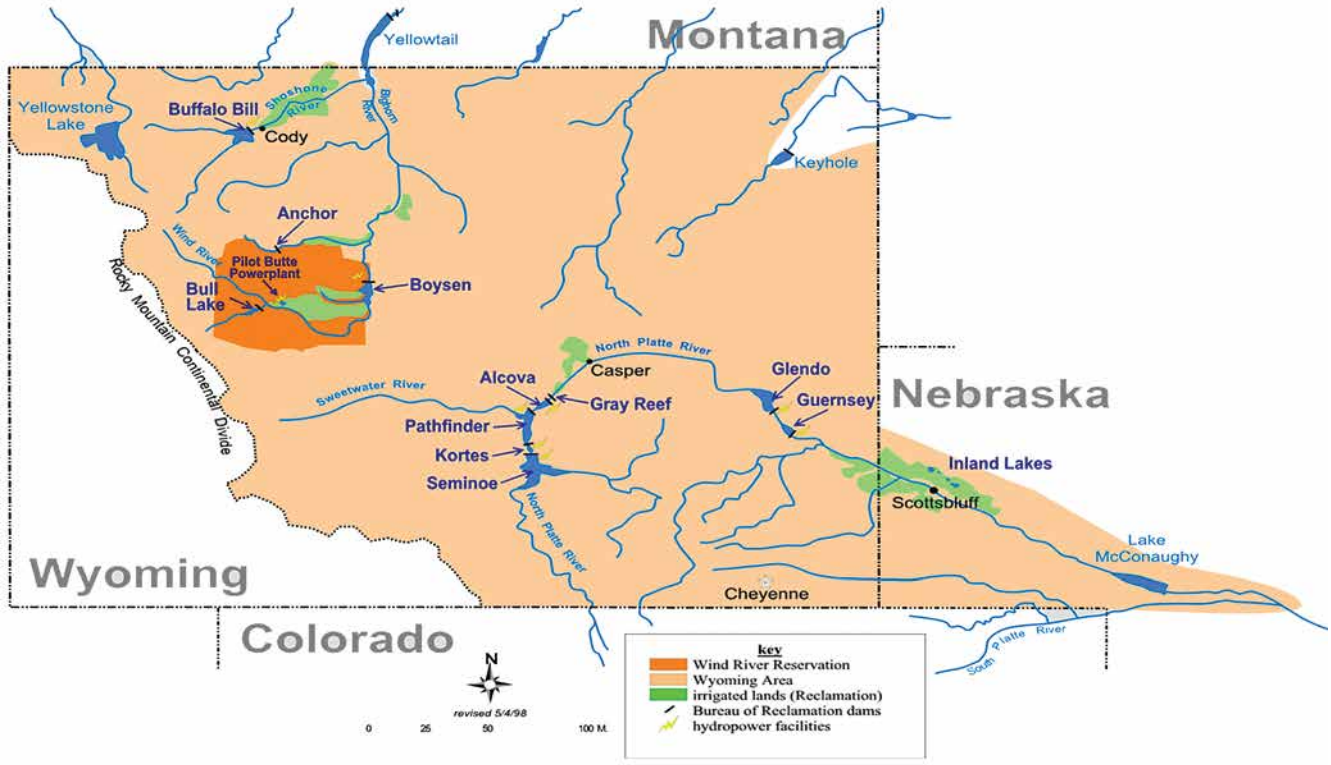
1. Bighorn River Storage Projects

a. Shell Creek Watershed - Leavitt Reservoir Enlargement (located north of Shell, WY)
   i. Effort to lessen irrigation shortages and reduce drought vulnerability
   ii. Leavitt Reservoir is an existing off-channel reservoir that is currently 45 acres in size and holds 643 ac-ft.
   iii. Proposed enlargement to approximately 203 acres surface area and storage of 6,604 ac-ft. An additional 4,461 ac-ft of active storage on top of the original 643 ac-ft, with a 1,500 ac-ft conservation pool for fisheries and recreation.
   iv. Construction to include recreational facilities, including a boat ramp, picnic facilities, restroom/trash facilities, parking area, and access roads
   v. Permits received from BLM, USACE and WYDEQ
   vi. Designs and specifications completed.
   vii. Going to bid before the end of the year.

b. Nowood River Watershed - Alkali Creek Reservoir (to be located just west of Hyattville, WY)
   i. Efforts to resolve late-season irrigation shortages in the Nowood River Watershed and reduce drought vulnerability
   ii. Proposed reservoir to be approximately 294 surface acres and 8,000 ac-ft in volume. The volume is comprised of approximately 6,000 ac-ft of active storage, with a 2,000 ac-ft conservation pool for fisheries and recreation.
   iii. Permits received from BLM, USACE and WYDEQ
   iv. Designs and specifications currently being completed.
   v. Anticipated to be bid for construction in late 2022.

2. Aging Infrastructure

a. Ongoing discussion with Water Development and Select Water Committee
b. Prohibitive costs, support of federal grants
c. Recent Examples:
   i. LaPrele Dam (Platte River Basin)
      1. Ambursen Style Dam – Determined to have reached its useful life



Wyoming Area Water Projects

2. The reservoir is under fill restrictions from the WY State Engineers Office.
3. Currently progressing with the planning of a preferred alternative to replace the dam with a new structure.

ii. Goshen Irrigation District Tunnel Collapse (Platte River Basin).
1. A tunnel collapse that stopped flow to approximately ?? acres in Wyoming and Nebraska.
2. Temporary repairs were made and the tunnel is functioning at reduced capacity. Two similar tunnels within the district are also of concern because of the failure.

d. The State is preparing to conduct a study that will evaluate critical irrigation infrastructure to develop a state-wide capital improvement plan and identify potential funding needs to address critical, irrigation infrastructure.

3. On-going Cloud Seeding Program

a. Cloud seeding operations in the Wind River Range, operations aimed at augmenting snowpack through the use of ground-based generators for the winter of 2021-22 begins on November 15th. 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 JPWB, and three trona firms. Operations are scheduled to conclude on April 15th, 2022 unless early suspension is deemed necessary. Total contract cost: $571,000

On-going Planning Studies

- Big Wind River Storage Study, Phase II - Storage
- Byron Rural Water Supply – Municipal Water System
- Clear Creek Storage – Storage
- Cloud Seeding Wind River Mountains 2021-2022 – Snow Augmentation
- Cody Water Master Plan – Municipal Water System
- Gillette Water System Improvements – Municipal Water System
- Lake DeSmet/Healy Reservoir Utilization – Utilization of Existing Storage
- Lander Test Well Study – Municipal Water System
- Lander Water Master Plan – Municipal Water System
- Little Wind River Storage Study, Phase II - Storage
- Lower Shoshone Watershed Study – Watershed Study
- Nowood River Storage-Alkali Creek - Storage
- Nowood River Storage-Meadowlark Lake - Storage
- Shell Valley Storage-Leavitt Reservoir - Storage
- South End Water Users ISD Transmission – Municipal Water System
- Upton Water Master Plan – Municipal Water System

New Approved Construction Projects

- Lander Well and Transmission Pipeline
- Northwest Rural Water System Improvements
- Shoshone Irrigation District Improvements 2021
- Sidon Irrigation District Rehabilitation 2021

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