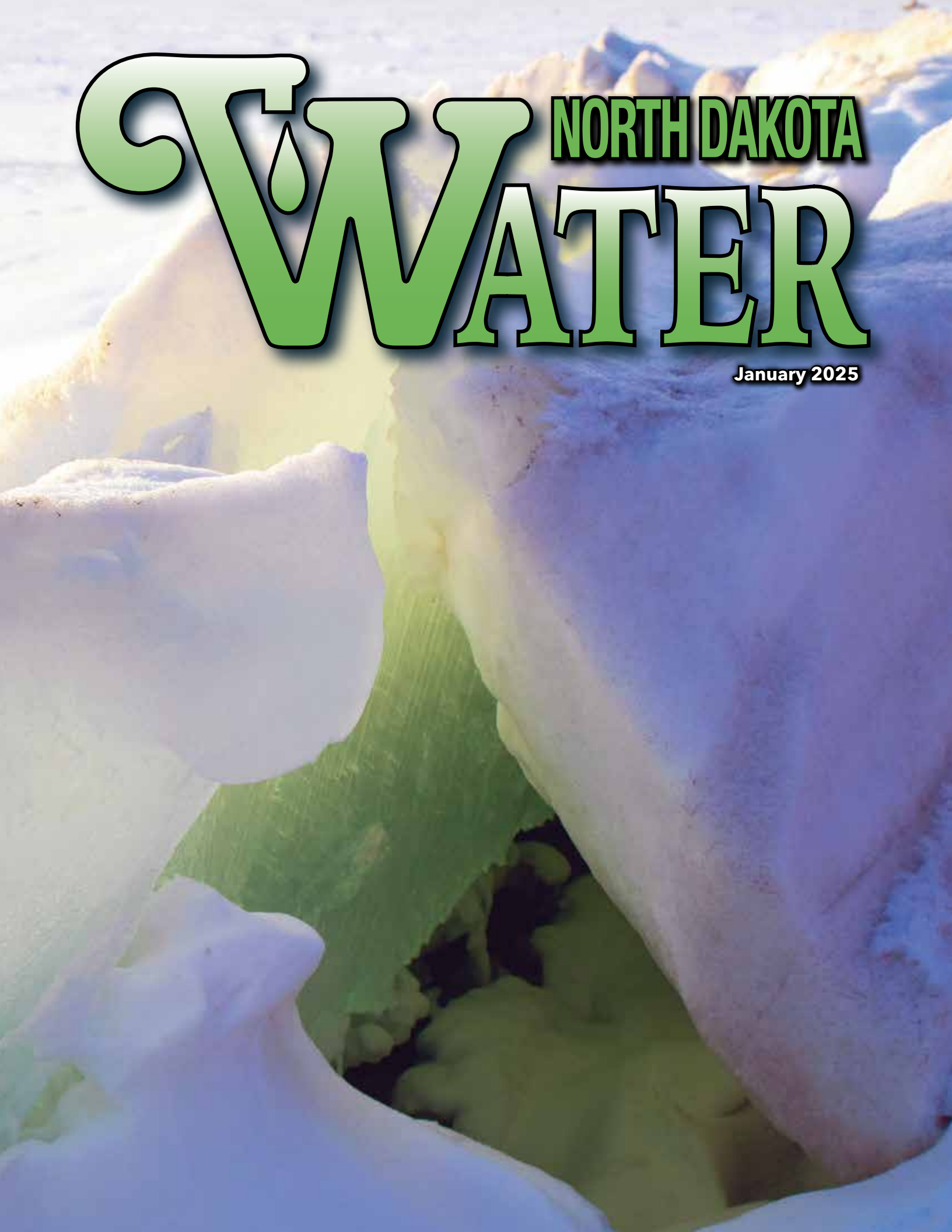


NORTH DAKOTA WATER

January 2025

CHEERS TO A NEW YEAR

Dani Quissell
Executive Director
ND Water Education Foundation

Merry Christmas and Happy 2025 to all! I hope everyone had as restful a holiday season as Marvin did (see photo).

As 2024 drew to a close, the Water Education Foundation held its annual silent auction to benefit the Dushinske & Jamison Water Resources Scholarship. This silent auction is held every year the second week in December in conjunction with the Joint Water Convention and Irrigation Workshop in Bismarck. Thanks to the generosity of the many bidders and donors, the scholarship raised more than $6,000 during the convention. Thank you to all who participated.

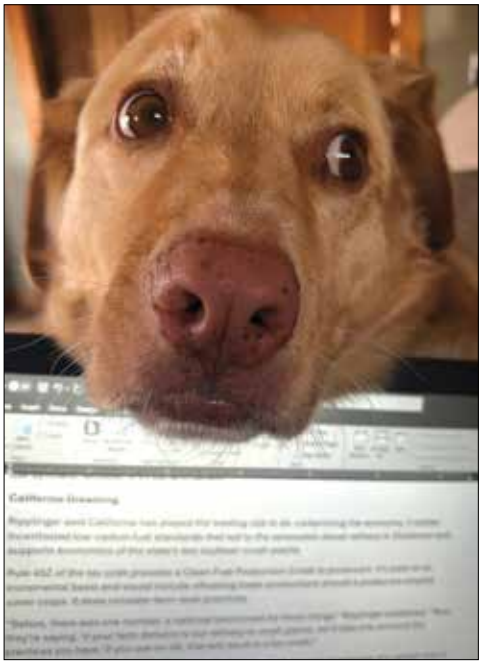
If you weren't at the convention (make plans to attend next year, December 9-12 at the Bismarck Hotel and Conference Center!) or missed out on supporting the scholarship, you can make a donation by sending a check to the Water Education Foundation office at:

1605 E. Capitol Ave
Bismarck, ND, 58501

Please make checks out to the North Dakota Water Education Foundation with "Scholarship Fund" in the memo line.

Marvin

At the convention, we honored and recognized the four scholarship winners for 2024: Jayden Bondy or Petersburg High School; Aria Braaten of Grafton High School; Carter Schmitz of Killdeer High School; and Kara Siemieniewski of Lidgerwood High School. The Dushinske & Jamison Water Resources Scholarship has awarded scholarships to 60 students since 1999. With your support, we look forward to supporting the educational aspirations of future water leaders for many years to come.



Buddy

As I write this, my four-legged boss, Buddy, has become more and more concerned about the length of this editorial … or maybe he's just concerned about the length of time since he's had a treat. I'm not sure. Either way, he's hinting to me that it's time to wrap up.

Best wishes to you and yours as we start 2025!

NORTH DAKOTA WATER

Volume 33 Issue 1 January 2025

North Dakota Water (ISSN 1085-8466) is published monthly except for February, May, August, and September by the North Dakota Water Education Foundation, 1605 E. Capitol Ave., Bismarck, ND 58501.

SUBMISSIONS: North Dakota Water welcomes manuscript, photography and art submissions. However, the right to edit or deny publishing submissions is reserved. Submissions are returned only upon request. Letters to the Editor with name, address and phone number of the author are welcome. All letters are subject to editing.

SUBSCRIPTIONS: Yearly subscription rate is $25 for one year. POSTMASTER: send address changes to North Dakota Water magazine, ATTN: Circulation, P.O. Box 2254, Bismarck, ND 58502, or contact at staff@ndwater.net, (701) 223-8332, or FAX to (701) 223-4645. Periodicals postage paid at Bismarck, ND and at additional mailing offices.

ADVERTISING: North Dakota Water accepts quarter-, half- and full-page ads. Contact our office for advertising rates.

The purpose of the North Dakota Water Education Foundation is to develop and implement water information and education programs to increase awareness, understanding and knowledge about water resource issues in North Dakota. The Foundation publishes the North Dakota Water *magazine, sponsors summer water tours, and supports the Water Education Today (WET) for teachers and students.* North Dakota Water *is supported by several private, federal, state and local organizations and agencies.*

The opinions and viewpoints expressed by the various authors and sponsoring entities in this magazine do not necessarily reflect the opinions and views of the North Dakota Water Education Foundation board and staff or other sponsoring entities.

North Dakota Water is printed on recycled paper.

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Features

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On the Cover

"Pressure Ridge" by Lori Frith, Devils Lake. This photo was an Honorable Mention in the 2024 North Dakota Waterways Photo Contest, sponsored by the North Dakota Water Education Foundation.

Quality Water for Southwest North Dakota

SOUTHWEST PIPELINE PROJECT

There are a lot of reasons continuing the construction of the Southwest Pipeline Project makes sense. For one, it makes economic sense, not only for the region, but for the state of North Dakota. It helps ensure a quality of life for the thousands of people working and living in rural southwest North Dakota. It keeps communities, family farms and ranches viable for generations. Clean, reliable, quality water for drinking and household use is one of life's necessities, and the Southwest Pipeline Project has hundreds of people who continue to wait. That's why we are not done!

SOUTHWEST WATER AUTHORITY

swwater.com

SWA Attends Upper Missouri Water Association Conference

Five representatives from the Southwest Water Authority (SWA) attended the 2024 Upper Missouri Water Association (UMWA) conference October 15-16, 2024, in Fairview Hot Springs, Mont. With responsibility for management, operations and maintenance of the Southwest Pipeline Project (SWPP), SWA shares common interests and goals with the UMWA.

The UMWA is a nonprofit regional water organization that includes the states of Montana, North Dakota, South Dakota and Wyoming. The UMWA mission is to protect, develop and manage Upper Missouri water. Its members 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 concerned about Upper Missouri water.

Representing SWA at the UMWA conference were SWA manager/CEO Jen Murray and directors Harold Gaugler, Grant County; Bob Leingang, city of Mandan; Rick Seifert, Bowman County; and James Odermann, Billings County.

At the conference, UMWA presented a Distinguished Service Award to one individual from each of its four constituent states "in recognition of distinguished service in the field of water resource development and a quality environment." Awards from Montana, Wyoming and South Dakota were presented to Stan Schweissing, Patrick Tyrrell and Sen. John Thune, respectively. UMWA presented the award for North Dakota to SWA Chair (Jim) Odermann.

With nearly 30 years of service on SWA board of directors, Odermann has been instrumental in defining and refining the mission of the SWPP and SWA. As a dedicated champion for rural water, he was appointed to the North Dakota State Water Commission by Gov. Doug Burgum in 2021 to represent the Little Missouri, Upper Heart and Upper Cannonball River basins. Odermann has remained steadfast in communicating the importance of quality water for the livelihood and enjoyment of the state of North Dakota.

Odermann has been a vocal advocate of SWA involvement with other rural entities and working for consensus to develop sensible, sustainable water policy for the state.

Back row left to right: Ken Royse, Rosie Erhardt, Bob Leingang, Jodie Gaugler, Harold Gaugler, Julie Ellingson, Clay Carufel, Dani Quissell. Front row left to right: Jack Dwyer, Leona Odermann, James Odermann, Jen Murray, Rick Seifert.

A major theme of the UMWA conference was how best to utilize the Missouri River as an asset to the four states. Presentations from the Bureau of Reclamation and from state agencies highlighted discussions focusing on water use from the river's six major reservoirs in accordance with the U.S. Army Corps of Engineers operating plan.

Two of the conference's featured presentations covered Managed Aquifer Recharge (MAR), a process of capturing excess or abundant surface water and storing it in an aquifer for later use. Major benefits of MAR include better water supply reliability for agriculture and communities, drought preparedness, improved water quality, ecosystem enhancement and flood risk reduction. It is also important for aquifer replenishment during land-use changes or periods of high development or prolonged drought.

Conference participants learned about a variety of considerations for MAR suitability, including need-based considerations, hydrogeological considerations, source water considerations, water quality considerations, environmental impact considerations, regulatory considerations, stakeholder considerations and MAR ranking considerations.

U.S. Army Corps of Engineers Manager Joe Bonneau presented on the ecosystem restoration efforts of the Missouri River Recovery Program (MRRP), whose mission is to implement actions to accomplish Missouri River ecosystem recovery goals in coordination and collaboration with agency partners and stakeholders. The presentation included a report on the monitoring of pallid sturgeon response to test flows from Fort Peck Dam in Montana.

Additional speakers presented on the Missouri River Joint Water Board's Educate Advocate and Engage Program, aging infrastructure, water right adjudication, and an update on South Dakota's Lewis and Clark Regional Water System.

Those interested in learning more about the Upper Missouri Water Association may contact Dani Quissell at North Dakota Water.

SWC Seeks Highest Level Design for West Zone Improvements

The West Zone of the SWPP serves communities and rural areas along the Old Highway 10 corridor from Dickinson to Beach. This key transmission line not only supplies six communities but also extends through a network of distribution lines to deliver water to rural customers north and south.

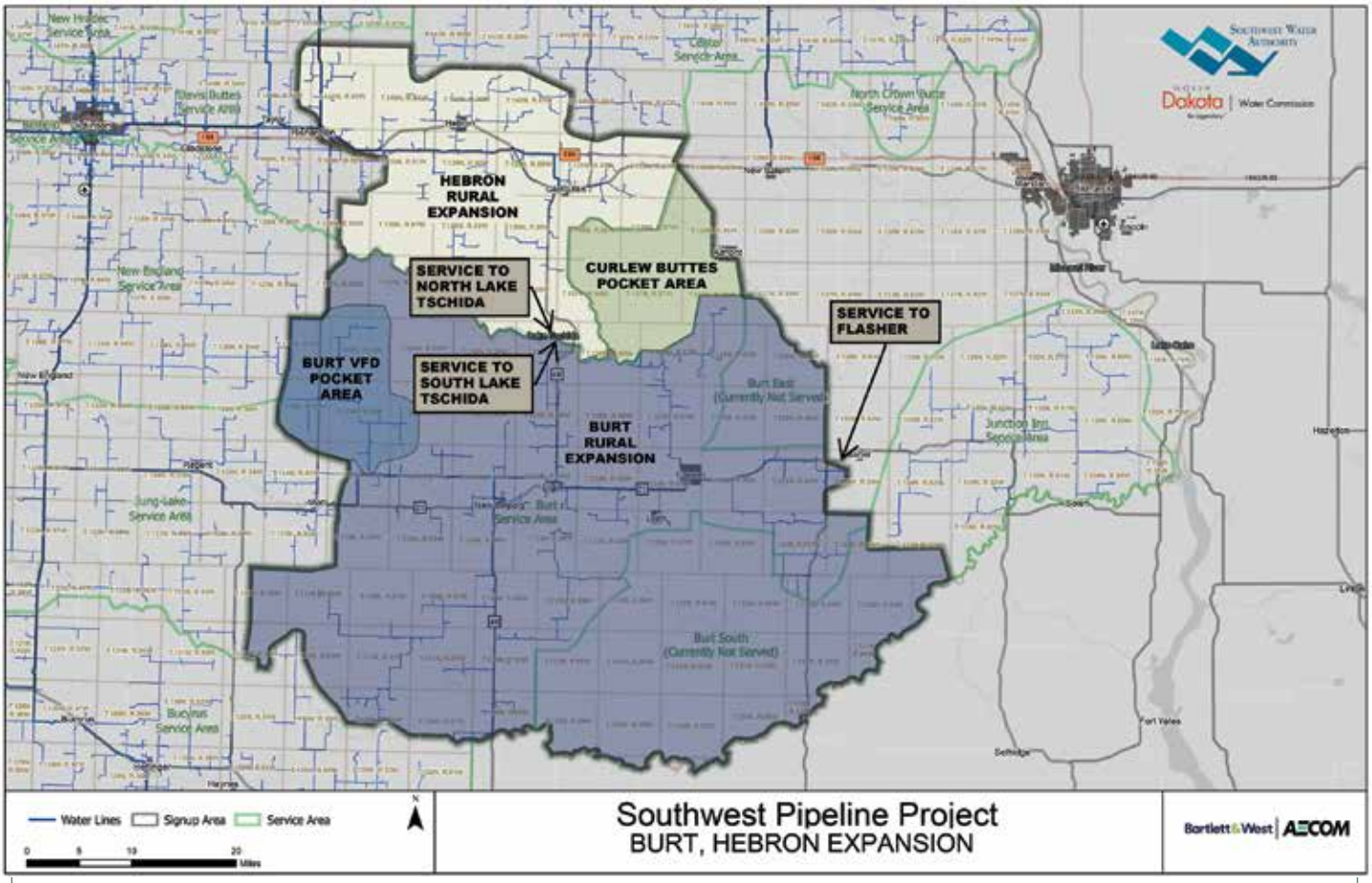
The Department of Water Resources (DWR) and SWA, in collaboration with Bartlett & West/AECOM, have conducted a comprehensive analysis of future water demands for the West Zone. Discussions at the SWC level have highlighted both current and future needs, as well as the potential for additional development. Based on these findings, the SWC has authorized a plan to maximize the capacity of the transmission system in the West Zone.

West Zone Main Transmission Facility Improvements were included in the SWPP's 2023-2025 biennium budget, with $17.6 million allocated for the project. Over the past two years, stakeholders have consistently emphasized that the original and current infrastructure is undersized. Following preliminary designs and discussions about future needs, the SWC directed the DWR to develop cost estimates for three potential scenarios. The first would address current identified needs. The second would increase capacity by an additional 25%. Finally, a third would implement a "blue sky" approach to reach the system's full potential.

At the SWC's October meeting, the DWR presented the three options along with associated costs. After thorough evaluation, the commission approved moving forward with the "Design 3" – the most ambitious plan – based on staff recommendations.

The initial phase of the project involves constructing the Buffalo Gap Tank, a 400,000-gallon storage reservoir west of Medora. This tank will provide temporary additional capacity while work progresses on upgrading the main transmission line. Construction of the tank is expected to be completed by June 2026, marking an important milestone in meeting the growing water needs of the region.

West Zone improvements reflect the commitment of the SWPP, DWR, SWA, and SWC to support long-term water sustainability and economic growth in the area.



Moving Forward with Hebron Rural Service Area Expansion

Since the SWPP was first constructed, demand has consistently outpaced capacity, leaving many areas underserved. In response, the Southwest Water Authority board of directors prioritized expansion efforts to address the significant water service needs in the most underserved areas of the project.

The Hebron Rural Service Area Expansion – Phase One of this plan – is now in the final design stage. Initial signups began in 2021, and thanks to updated feasibility criteria and strong public interest, the project is gaining momentum. This phase will provide water service to rural users north of Lake Tschida, a critical step toward addressing the area's longstanding challenges.

Residents in the expanded service area will benefit from improved access to quality water. "This expansion is unique as it marks the first time we are returning to a previously developed service area," said SWA Manager/CEO Jen Murray. "While this presents challenges, including high cost and the rural nature of the region, the need for water is undeniable, and we are committed to meeting that need."

Throughout 2024, SWA and the DWR partnered to refine feasibility criteria, ensuring the project delivers optimal service to the greatest number of customers. In October, the State Water Commission (SWC) approved these adjustments, paving the way for final design and funding efforts. The project will rely on funding from the North Dakota Resources Trust Fund, with additional appropriations sought during the upcoming legislative session.

"This is an exciting step forward," Murray said. "We encourage anyone within the expansion boundary who hasn't signed up yet to do so now."

Residents who missed the initial signup campaign can still join the project. However, as of January 1, the signup fee has increased to $2,500 for all residents north of Lake Tschida. A final cutoff date for signups will be announced before the project moves to bidding and awarding contracts this fall.

Construction is expected to begin in spring 2026, marking the start of a new chapter for the Hebron Rural Service Area and its residents, who will soon gain access to the reliable water service they have long awaited.

WATER MATTERS

61st Annual Joint North Dakota Water Convention and Irrigation Workshop

By Scooter Pursley

So, you're having a bad day? The city's water pump is on the fritz and a pipe under main street has ruptured and a crew is having trouble getting to town because of the raging snowstorm. What you're actually having is a tough day and not a bad day, according to Hunter Pinke, who says there are no bad days.

If anybody would know, it's Pinke, a University of North Dakota tight end-turned-motivational speaker whose life trajectory changed in the blink of an eye but for whom there are No Bad Days.

Pinke kicked off the 61st annual Joint North Dakota Water Convention and Irrigation Workshop in Bismarck on December 10 with this message: "There are no bad days," a message delivered from the wheelchair he's lived in since being paralyzed from the chest down in a skiing accident in 2019.

"I'm not trying to motivate, my goal is to inspire," Pinke said. "Hopefully you can take something from my story and apply it to yours and change your life,"

Instead of wallowing in self-pity about everything he lost in those fateful few seconds on a mountain in Colorado, the former Wishek High School all-around athlete and valedictorian has set about trying to make others see what's good in their lives.

Hunter Pinke

"Standing up I was 6-foot-6, I won't be doing that today. Sitting down, I'm 4-10," said Pinke, whose life trajectory was to follow in his grandfather, Fred Lukens', footsteps to UND to play basketball. Instead, his life took its first detour when his closest friend was killed in an auto accident. He gave up on basketball, but UND still wanted him, but to play football. It was just the escape Pinke needed.

"I had such a good time. What I got to do was really cool, but who I got to do it with is what made it special," Pinke said. "I know that's true in Bismarck. I know it's true

in Wishek, too. What we're going to talk about today, it's important. But the person to your left and your right far outweigh that. That's what makes life special."

Instead of those people in Pinke's life being players and coaches and thousands of fans in the stands, they were family, friends, surgeons, doctors, nurses, rehab specialists and those at the water conference.

Pinke used humor, emotion and details some may have found uncomfortable to emphasize that everybody has tough days, and that there are no bad days.

"I remember so many times," Pinke recalled, "the nurses, the therapists saying 'Hunter, it's OK to have a bad day.' … It got to the point I said just stop telling me I'm going to have a bad day. You don't get to tell me how my day is going. I'm not going to have any more bad days.

"If you take one thing from today, there's a difference between a bad day and a tough day."

STATE OF WATER


Andrea Travnicek

North Dakota Department of Water Resources (DWR) Director Andrea Travnicek is looking for good days ahead as she presented an update on the DWR's activities in 2024 as well as Governor Burgum's budget for the 2025-2027 biennium.

The DWR solicited long- and short-term requests for funding this summer. The result is that there are more than $1.4 billion in needs for the 2025-27 biennium. That is up from $1.05 billion in the last biennium due to tougher areas to build in and replacement costs for existing projects. Governor Burgum included more than $500 million in Resources Trust Fund dollars for water projects in his budget. He also suggested the legislature consider a bonding package that would provide funding for large infrastructure projects, including the Mouse River Flood Control Project and the Red River Valley Water Supply Project. The Governor's budget also includes an additional nine FTEs to add to the existing 93 team members. The funding total could change when Gov. Kelly Armstrong presents his budget in January.

The department has 11 agency-sponsored bills to eliminate red tape, clean up language, and continue to refine the responsibilities of the Northwest Area Water Supply (NAWS) Authority established last session.

On the irrigation front, Travnicek reported that the state is reaching full appropriation in several areas and is studying managed aquifer recharge. Several federal studies and plans are ongoing or being planned.

CARBON SCORE AND IRRIGATION


David Ripplinger

Carbon. It's what everybody is thinking about now, and like it or not, irrigators in North Dakota are going to have to deal with California rules going forward. That's the message from North Dakota State University associate professor and bioenergy economist David Ripplinger to the Irrigation Workshop December 12 in Bismarck.

"In production ag, this is the hand we've been dealt. This is how we're going to operate. Some (irrigators) are going to win, and some are going to lose," Ripplinger said. "We are eventually going to have to satisfy regulators."

People are using the Carbon Intensity (CI) Index that lumps every producer – irrigators or not – into one group regardless of location. He said people are using that to make policies or decisions at the corporate level. One of the problems? Everybody's number is different.

"We're going to get to that point where we'll know your number and that will be a value to you, but right now all the folks like the nation of Denmark take these estimates and run with it," Ripplinger said.

Ag's relationship with the environment gives it an opportunity to take atmospheric CO2 and put it in the soil through practices like no-till farming, a fantastic practice, Ripplinger said, and cover crops.

"It's important that countries are looking for others to help them out, and often they're looking at agriculture," Ripplinger added. Corporations have sustainability offices. In terms of greenhouse standards, supply chain is the most likely to affect irrigators in North Dakota.

While agriculture is being singled out for its role in greenhouse gasses, Ripplinger presented details that showed the carbon footprint to be small based on the positive impact ag, including irrigated ag, has on feeding the world. "We have significant emissions from agriculture. Greenhouse gas emissions are extremely large, but then taking into context you're feeding hundreds of thousands of people from your farms, it's absolutely minuscule."

Ripplinger said synthetic nitrogen fertilizer is a major player in carbon emissions but added this caveat. "Four billion people are alive today, half the people on earth get their calories because we use synthetic fertilizer. It's cost and benefit."

CALIFORNIA DREAMING

Ripplinger said California has played the leading role in de-carbonizing the economy. It earlier incentivized low-carbon fuel standards that led to the renewable diesel refinery in Dickinson and supports economics of the state's two soybean crush plants.

The tax code provides a Clean Fuel Production Credit to producers. While the guidance on what practices will need to be implemented at the farm level to qualify has not been released, it's top of mind for many producers who are anxiously awaiting that information.

"Before, there was one number, a national benchmark for these things," Ripplinger explained. "Now they're saying, 'if your farm delivers to our refinery or crush plants, we'll take into account the practices you have.' If you use no-till, that will result in a tax credit."

Europe and California are pushing climate disclosure, which requires businesses of a certain size to report emissions – and that could include North Dakota farms. Anyone doing business with California will need to have a readily available score, Ripplinger noted.

"If we don't have a number, Canada does, and they'll buy from there. This becomes an issue of market access. Without that information, you won't have a chance to be a supplier," Ripplinger said.

Ripplinger indicated that is not bad news for North Dakota producers, including irrigators, who currently are lumped with producers from Montana to Ohio and Oklahoma under the label Midwest Corn.

"The state of California has a single category for corn used by Midwest corn ethanol refineries (about 200 plants)," Ripplinger said. "All has the same carbon footprint. That number is wrong, but that's what they're using. Think about what impact that is having. It's just a weighted average for all of it.

"We're going to see a swing from one big number to at least the farm level. … The advantage is it's better for irrigation. If you are already no-till or you convert to no-till, you are going to leap-frog ahead in terms of value of your crop.

"That's where differentiation can be a big plus, more so for folks in our region where no-till dominates. We're geographically well-positioned and we want things more specific. They want to be able to monitor it in real time."

The Hankinson refinery has a certified carbon intensity of 68 megajoules, and gasoline has a score of 100. Red Trail and Blue Flint are close to zero emissions.

"If (California) swapped out "Midwest Corn" with North Dakota no-till, that 68 number would go down. Benefits are incremental. Every reduction there is a value for it," Ripplinger said. "In the case of most North Dakota production, you have better numbers to share and as that's incorporated, that corn ethanol plant score can go down and you should be able to get a piece of that. There will be on-farm reporting. It's a big change in policy," Ripplinger noted.

WATER AND ECONOMIC DEVELOPMENT

Localized carbon footprinting might be a new economic driver in North Dakota, but water accessibility is not new to those in economic development. Access to clean, plentiful, reliable water is essential to the state's future. That message delivered by a panel of economic leaders and water managers.

"There are two keys outside of the human element that leads to the growth of communities and that is access to and quantity of power and water. We're fortunate in North Dakota to have a good quality and quantity of water. There are other states that would kill for what we have," said Nathan Schneder, vice president of Bismarck-Mandan Chamber EDC. Schneider was joined on the panel by Jim Murphy of Traill County EDC and Lindsay Harriman of Williams County EDC.

"When you look at the business side of things, we're competing on a global level," Schneider said. "We have to utilize the advantages we have."

In the development world, "There's never a day that you lace your shoes on that you're going to have the same day you had yesterday," Murphy said. "Learning more and more about the water situation, all of us in this room … want business to grow and to thrive."

Murphy, from Hillsboro, said it's important for economic developers to know the people who know about water issues and work with them. "I'm fortunate to be in a market with good resources."

Murphy referred to the book *13 Ways to Kill your Community*. Chapter one is titled "Forget the Water" and talks about the importance of a reliable water supply to community growth. Murphy pointed out education as one of the keys to successful development, and sharing information on how development would impact a specific area.

Harriman echoed those thoughts while also emphasizing the importance of educating the public about the rules and regulations surrounding access to water that is managed by many agencies. Understanding funding and how other water projects in the state affect yours is also important.

"We're all trying to pull the rope in the same directions. But we're not experts in water," Schneider said. "Helping to educate us … we're able to talk intelligently about what we have. The last thing we want is a project to come in the door and say we can make this work, and go to our water district who says, 'we're not going to make that work.'"

WATER CONVENTION A SUCCESS

Overall, the 61st Water Convention was a success with more than 300 attendees over the two days. Mark your calendar for the 62nd convention: December 9-12, 2025, at the Bismarck Hotel and Conference Center.

Dushinske-Jamison Water Resources Scholarship Winners

The Dushinske-Jamison Water Resources Scholarship fund provides four $1,500 scholarships to deserving students whose family has taken an active role in North Dakota water management.

This year the scholarships were awarded to Jayden Bondy from Petersburg, Aria Braaten from Grafton, Carter Schmitz from Kindred, and Kara Siemieniewski from Lidgerwood.

Jayden Bondy, a graduate of Dakota Prairie High School in Petersburg, North Dakota, will attend Valley City State University, where she will pursue a degree in education. Jayden's lifelong goal is to teach and be a youth leader. Her parents are John and Melissa Bondy.

Aria Braaten, a graduate of Grafton High School, is set to begin her educational career at North Dakota State College of Science, focusing on agriculture studies. Her ambition includes additional studies at North Dakota State University to major in agriculture education. Her parents are Sarah and Jason Johnston.

Carter Schmitz, a 2022 graduate of Kindred High School, is currently studying civil engineering at North Dakota State University. His interest with engineering began while working at a local company specializing in grain bin engineering and construction. His parents are Staci and Chris Schmitz.

Carter Schmitz, Jayden Bondy, Kara Siemieniewski, Aria Braaten, and Diane Jamison-Richards.

Kara Siemieniewski, a graduate of Lidgerwood High School, will attend North Dakota State School of Science, specializing in precision agronomy with a minor in animal science. Her post-college goal is to contribute to the growth and expansion of her family's agricultural enterprise. Her parents are Lucas and Sadie Siemieniewski.

2024 Water Award Winners

The following state water leaders were recognized for their contributions.

- **TOM MUND** received the Irrigation Excellence Award from the North Dakota Irrigation Association for leadership and outstanding service and advancement in the irrigation industry.
- **JAMES ODERMANN** received the Riverman Award from the Missouri River Joint Water Board in appreciation for a lifetime of leadership, resource management and water development in the Missouri River corridor.
- **JERRY HIEB** received the Oarsman Award from the Upper Sheyenne River Joint Water Resource Board for efforts to support the board's mission of managing the basin's water for the benefit of citizens.
- **JOSH IHRY** was awarded the Thompson Varnson Steamboat Award, given by the Red River Joint Water Resource District annually for distinguished service in managing water resources in the Red River watershed of North Dakota. The award is named in recognition of Robert Thompson and Ben Varnson's dedication to North Dakota water resource districts and exemplification of the pioneering spirit of the settlers who traveled the Red River by steamboat.
- The Water Wheel Awards, given by the North Dakota Water Users Association and the North Dakota Water Resource Districts Association, were awarded to **LAURA ACKERMAN**, **RYAN ACKERMAN**, **JEFF FRITH**, **GENEVA KAISER**, and **TAMI MADSEN** in recognition of distinctive leadership and perseverance in protecting, developing, and managing North Dakota's water resources, thereby fostering a better quality of life for our people.
- **BRUCE ENGELHARDT** and **WARD KOESER** were awarded the Commodore Awards, given by the governor of North Dakota for outstanding leadership, dedication and commitment to the development and management of North Dakota's water resources. This individual is commissioned as a commodore in the North Dakota Mythical Navy.
- **LANCE YOHE** was inducted into the North Dakota Water Users Association Hall of Fame for his dedication to protecting, developing and managing North Dakota's water resources. These individuals are among North Dakota's water giants.

2025 Dushinske & Jamison Water Resources Scholarship

Applications Due April 15

The North Dakota Water Education Foundation (NDWEF) is now accepting applications for the 2025 Dushinske & Jamison Water Resources Scholarship Endowment. The deadline for applications is April 15, 2025. All applications must be postmarked by that date.

The Dushinske & Jamison Water Resources Scholarship Endowment was established by the NDWEF within the North Dakota Community Foundation in memory of Russ Dushinske and Warren Jamison and their distinguished service, dedicated leadership and lifelong devotion to water development in North Dakota.

"The Dushinske & Jamison Water Resources Scholarship Endowment is a lasting legacy that Russ and Warren leave behind," says NDWEF Executive Director Dani Quissell. "Thanks to their legacy, we're able to support future generations of water leaders through scholarships awarded every year."

Each year, four $1,500 scholarships are awarded to deserving students. Applicants must be enrolled in a North Dakota college or university, with preference given to, but not limited to, those pursuing water-related fields or those whose families have actively contributed to state water resource management.

The scholarship recipients will be recognized at the North Dakota Water Convention awards program on December 11, 2025. The 2025 scholarship winners will be selected by an impartial judge and announced in May, with the results published in *North Dakota Water* magazine.

2025
SCHOLARSHIP APPLICATION

DEADLINE APRIL 15, 2025

NORTH DAKOTA WATER

_____
Name of Student *Date of Birth*

_____
Address *City* *State* *Zip*

_____
Student's Telephone *Student's Personal Email (not school-linked)*

_____
Parent(s) Name *Parent(s) Telephone*

_____
Parent(s) Mailing Address *City* *State* *Zip*

_____
Names and relationships of relatives/guardians involved in water management, protection or development and how they are involved in the industry.

EDUCATION

_____
High School *City* *Graduation Year*

_____
Principal's Name *Grade Point Average*

_____
Name of College or University (attending or planning to attend) *Expected Graduation Date*

_____
Mailing Address *City* *State* *Zip*

_____
Intended Major *Intended Minor*

_____
Other Education or Training

ESSAY *(ATTACH)*

In a two-page essay (12-point type, double-space), write about YOUR MOST VIVID MEMORY CONCERNING WATER.

Please provide the following information in no more than one page (please type):

1) Honors and awards
2) Non-academic school activities and special interests
3) Career plans after college graduation
4) Reason(s) for applying for this scholarship

FOR MORE INFORMATION OR TO APPLY

North Dakota Water Education Foundation
PO Box 2254
Bismarck, ND 58502
701-223-8332
Fax: 701-223-4645
editor@ndwater.net
https://ndwater.org/scholarships/

I certify that the above information and data are correct and I consent disclosure of public information. I understand that the essay I wrote for the purpose of this scholarship competition may be used and distributed by the North Dakota Water Education Foundation without further approval from me.

Signature of Applicant _____ Date _____

Our Missouri River ... The Corps Looks into 2025

KEN ROYSE
Program Manager, Missouri River Joint Water Board

The Corps of Engineers unveiled its 2025 Missouri River system operations to the public at a meeting in October 2024 in Bismarck.

The Annual Operating Plan (AOP) meeting is typically held at various locations throughout the basin in upstream and downstream states. If you missed the North Dakota meeting, you could have caught the Montana meeting (Fort Peck, Montana) or perhaps the South Dakota meeting (Fort Pierre, South Dakota). Those in the state of Missouri had the opportunity to attend two such meetings in that state. Having two meetings in Missouri appears to highlight the importance and interest Missouri River system management has for that state. Although in fairness, in the year 2023, the state of South Dakota also had two such public meetings.

The public is invited to the meetings, comments are taken and recorded and a question-and-answer session is held on any Corps program or activity.

Corps system management has two areas of focus. One focuses on development of a plan that recognizes all federal laws and mandates, particularly the mandates of the Flood Control Act of 1944 and of other acts such as the various versions of the Rivers and Harbors Acts (starting in 1912), Flood Control Acts (starting in 1936), Flood Protection Acts, Water Supply Acts and environmental protection acts.

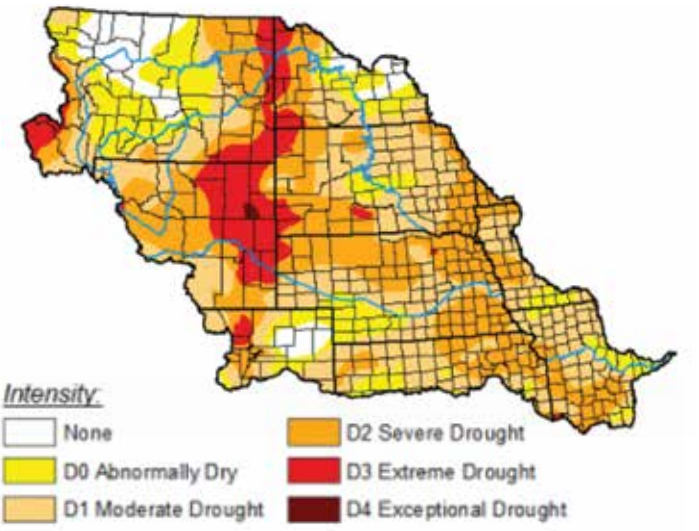
The 1944 Flood Control Act is what many of us now routinely call the Pick Sloan plan. It lays out specific purposes for which the Missouri River system is to be managed by the Corps. Readers of these articles will recognize and know that the act's specific purposes include flood control, navigation, hydropower, water supply, fish and wildlife, irrigation, water quality control, and recreation. All are important, all are desired. And all are mandated by the act to the Corps as the reason the Missouri River dams were constructed.

The other focus involves climate –temperature and precipitation – within all areas of the basin. These vary significantly from year to year and while the Corps recognizes and desires to provide all the benefits of the system to all the states of the basin, it often is constrained by elements of the climate. Years of too much precipitation, except for flooding concerns, are typically not as problematic as years of too little precipitation. In dry years, the Corps must decide which, if any, Pick Sloan benefits will be adversely affected.

How important is climate relative to North Dakota receiving its fair share of Pick Sloan benefits? Nearly two-thirds of the Missouri River flow in the state comes from the mountains of Montana and Wyoming. It's comforting to know that even during the dry 1930s, the Missouri River system in North Dakota still flowed at nearly the long-term recorded average, with no significant or disruptive low flows occurring. While other rivers and streams throughout the basin ran dry, the Missouri River maintained enough flow to meet the state's needs. The flow in those drought years were supported by snowpack and snowmelt from the mountains to the west.

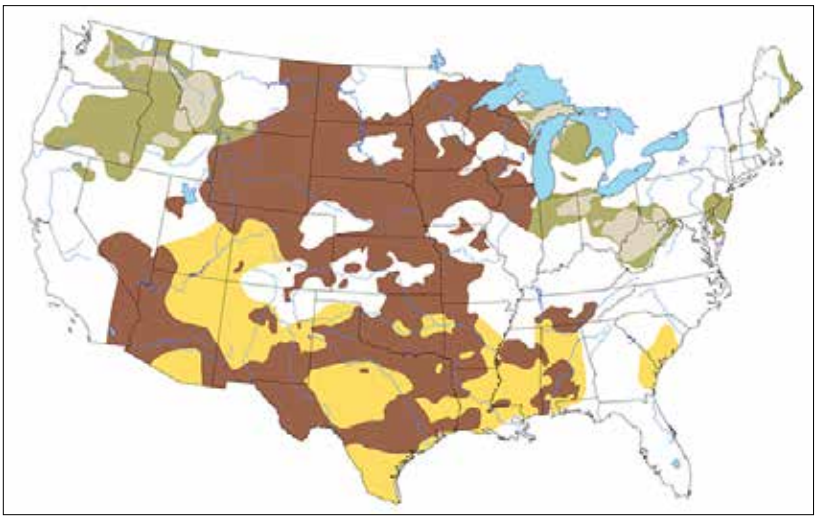
What happens when those mountains have a "snow drought?" Pick Sloan dams can store nearly 73 million acre-feet of water, for all practical purposes, a storage equal to approximately three years of both mountain snow and plains precipitation runoff.

Relative to the issue of climate, the Corps has provided the following ***Drought Status Outlook:***



This figure shows conditions as of October 2024. Note the dark red band running through the western part of North Dakota and South Dakota and in eastern Montana and Wyoming. That is the area of "extreme drought." The areas shown in various shades of orange or tan are either considered in "severe drought" or "moderate drought" and cover most of the basin. Even the yellow-most of shaded areas are titled "abnormally dry." Only the few white-shaded areas on the map are titled "none" relative to drought intensity.

As dire as that all looks, consider the forecast for the ***US Seasonal Drought Outlook*** for October 2024 to January of 2025:



The areas in dark brown are areas where the "drought persists" for the next three months. Based on the information provide herein, and other Corps analysis, the following can be expected for this basin in 2025:

Flood Control: All modeled scenarios (inclusive of dry conditions and wet conditions) indicate adequate flood storage in the reservoirs for 2025. However, the Corps notes that flooding could still occur due to downstream or unexpected significant rainfall events.

Water Supply: There may be, similar to 2024, some access issues for system intakes depending on the actual water introduced into the system. Some water intakes, recreational facilities, irrigation facilities and marinas could be adversely affected.

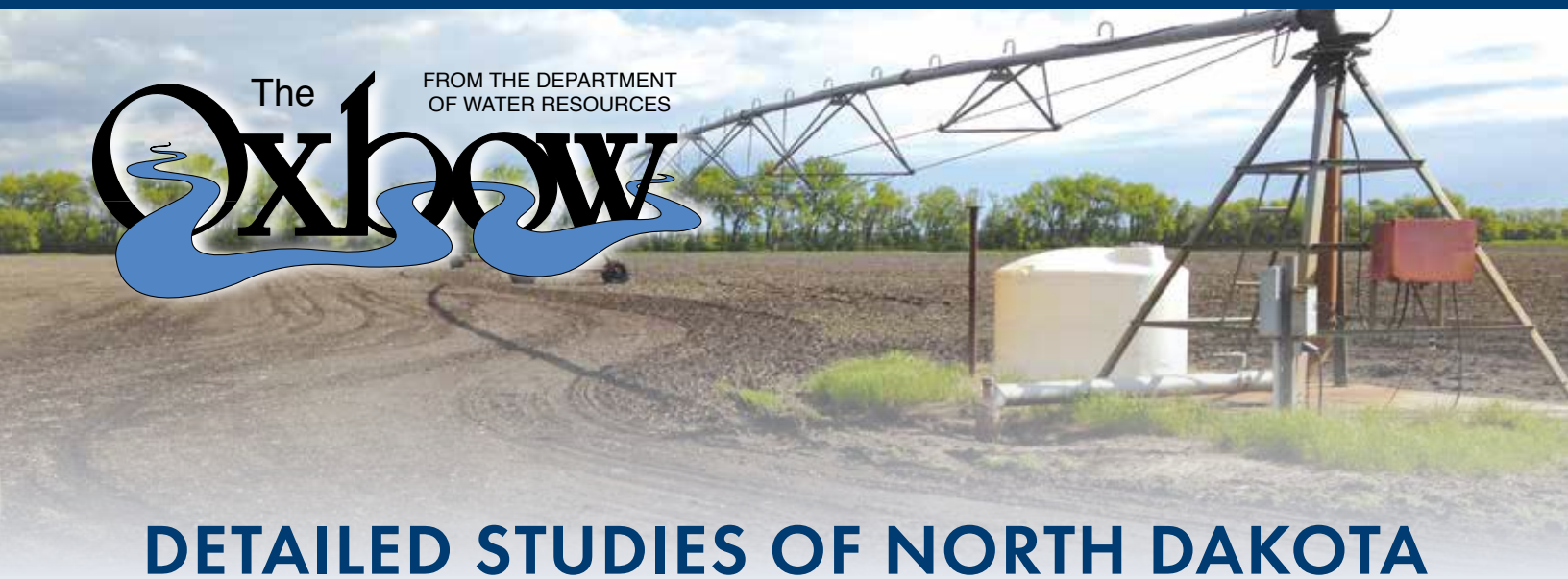
Fish and Wildlife: There is an anticipation of possible steady to rising pool levels in the upper three reservoirs (Fort Peck, Garrison and Oahe) during the fish spawn season. As needed, the releases from Fort Randall could be at zero release. Reservoirs at Fort Peck and Oahe will be favored (maintained) if other system runoff is not sufficient.

Reservoir Elevations and River Flows: Reservoir releases and elevations are likely to be lower than average. Similarly, river flows would be expected to be lower. As in 2024, water conservation measures will continue.

Earlier we asked how important climate is relative to delivery of Pick Sloan benefits. Of course, it is important. But even more important is the management of the river system, climate notwithstanding, through long-term management goals and practices that the Corps uses in the storage and release of water.

In North Dakota, river community leadership and the state have always encouraged a large, involved and engaged interaction with the Corps at AOP meetings. Downstream meetings generate a high level of involvement from local water managers and they, like us in North Dakota, have a vested interest in how the system is managed. Downstream interests do not always align with upstream interests, especially in years of low- or high-water flows.

Get involved in this issue. Those living in a county within the Missouri River basin – 28 of our 53 counties – your county can become a part of the Missouri River Joint Water Board. You can then request to be appointed to serve on such board and need not be a member of any local county water board to be eligible for such service. If your county is not eligible to be part of the joint board, you can still have an impact and voice on issues of the Missouri River. You do have and should have that input. The Missouri River provides benefits to nearly all of North Dakota, from irrigation and drinking water, to economic development opportunities, to power supply and recreation. Missouri River issues are a statewide concern and voices from all of North Dakota are needed and appropriate.



The Oxbow
FROM THE DEPARTMENT OF WATER RESOURCES

DETAILED STUDIES OF NORTH DAKOTA AQUIFERS UNDERWAY

North Dakota's water resources play a crucial role in supporting agriculture, industry and communities across the state. Beneath the rolling plains lies an intricate network of underground aquifers, which are essential for ensuring reliable water supplies. However, these vital resources face challenges, including drought stress, and increased demand. To continue addressing these issues, the North Dakota Department of Water Resources (DWR) is taking a proactive approach by studying three key aquifers.

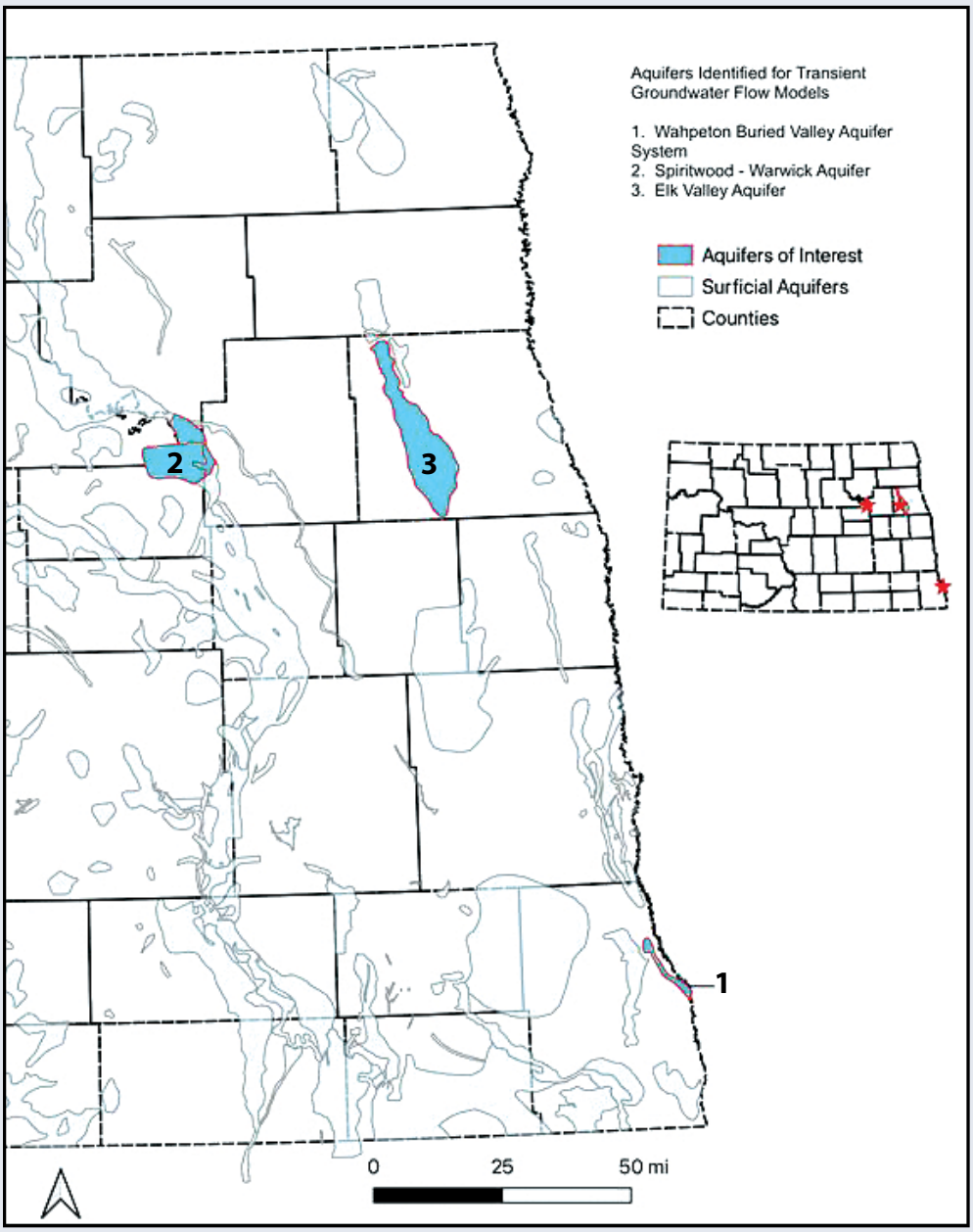
WHY AQUIFERS MATTER

Aquifers are underground layers of water-bearing rock or sand that store and transmit water. They act as natural reservoirs, supplying water for drinking, irrigation and industrial use. In North Dakota, aquifers like Elk Valley, Spiritwood-Warwick and Wahpeton Buried Valley are critical to sustaining agriculture and communities. However, increasing demands and changing climate patterns have raised concerns about their long-term viability, especially during extended droughts.

SPOTLIGHT ON THREE AQUIFERS

The DWR has identified the Elk Valley, Spiritwood-Warwick and Wahpeton Buried Valley aquifers as priorities for study. These aquifers were chosen based on their importance to local water needs and potential for enhancement through techniques like managed aquifer recharge, or MAR.

- **ELK VALLEY AQUIFER:** Spanning 200 square miles, this largely unconfined aquifer supports irrigation and municipal and rural water supplies. Yet its resilience during droughts is a concern. With nearly 50 pending water permit applications, understanding the aquifer's sustainability is crucial. DWR aims to assess its ability to withstand prolonged dry periods and explore recharge methods to enhance its sustainability.
- **SPIRITWOOD-WARWICK AQUIFER:** Part of a larger system stretching from Canada to South Dakota, this aquifer is experiencing declining water levels due to increased use. The DWR is studying how much more water can be safely withdrawn without impacting existing users and whether recharge methods can stabilize its levels for future demands.
- **WAHPETON BURIED VALLEY AQUIFER SYSTEM:** With nearly 50 years of ongoing use and over 40 feet of developmental decline, this aquifer faces unique challenges. Major users, including the city of Wahpeton and industrial facilities like Cargill, depend on this resource. Projections indicate significant stress during drought conditions, particularly if industrial water usage spikes. The study seeks to determine how this aquifer can be managed and potentially enhanced to meet growing demands.



WHAT IS MAR?

MAR includes capturing a portion of excess or abundant surface water flows from rivers and streams (often in the spring) and storing that volume of water in an aquifer for later use.

TOOLS FOR UNDERSTANDING AND PLANNING

To ensure these aquifers remain viable, the DWR is developing detailed groundwater models. These models will simulate various scenarios, such as drought conditions or increased water withdrawals, to predict their effects on water levels and availability. They also explore the feasibility using MAR.

BALANCING NEEDS AND SUSTAINABILITY

The studies aim to strike a balance between current water usage and the long-term sustainability of these aquifers. For example, deferred water permit applications may be revisited to determine which ones can proceed without compromising existing users. Additionally, these models help identify when and how MAR can be implemented to support agriculture, municipalities and industries.

LOOKING AHEAD

North Dakota's proactive efforts highlight the importance of understanding and managing water resources in a changing environment. By focusing on these three aquifers, the DWR is paving the way for sustainable water use that benefits everyone – from farmers irrigating crops to families relying on clean drinking water.

Groundwater may be hidden from sight, but it is critical to the state's prosperity. Through careful study and innovative solutions, North Dakota is ensuring that this resource remains a reliable foundation for the future.

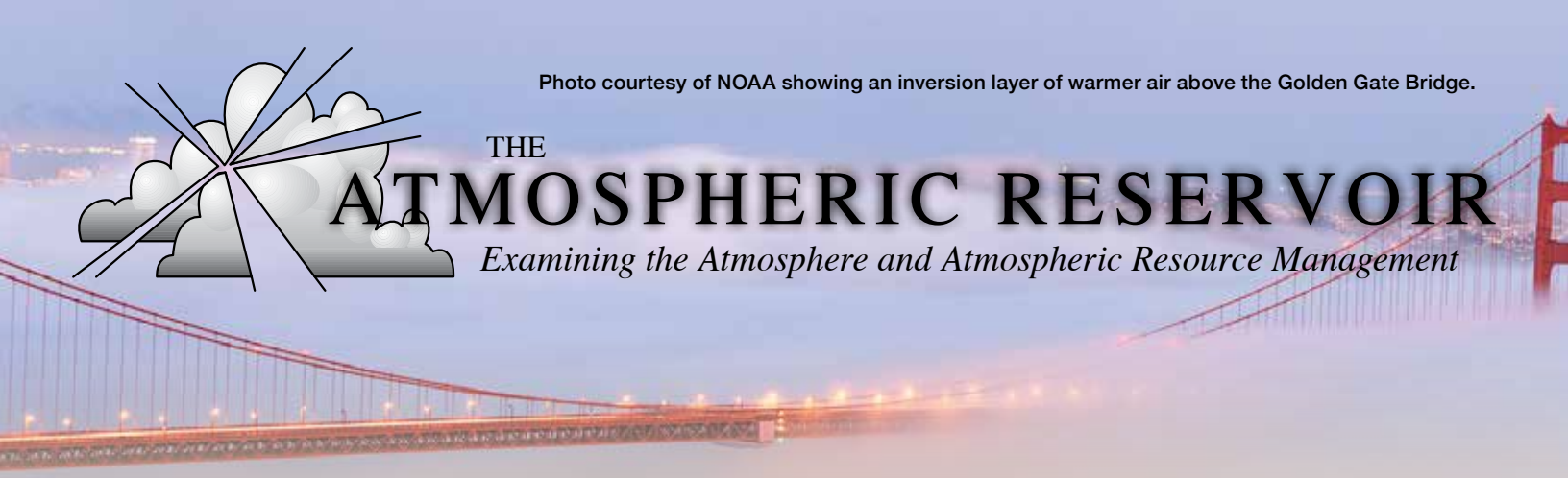


Photo courtesy of NOAA showing an inversion layer of warmer air above the Golden Gate Bridge.

THE
ATMOSPHERIC RESERVOIR
Examining the Atmosphere and Atmospheric Resource Management

TEMPERATURE INVERSIONS

By Mark D. Schneider

By turning something upside down or reversing it we create the *inverse*. In terms of weather, an *inversion* means that air temperatures are actually increasing with height in a layer of the atmosphere instead of decreasing. Typically, a parcel of air cools as it rises because there is a decrease in pressure. When a layer of warm air forms above a layer of cooler air, this results in a stable layer that traps pollutants and other particles. As a result, visibilities are often reduced and populated areas can experience smog and unhealthy breathing conditions.

Inversions affect our temperatures in North Dakota more than we might think. Oftentimes, there are westerly winds carrying warmer air eastward from Montana into western ND during the cold season. This warmer air originates over higher terrain and then moves east over lower topography. If low-level temperature inversions are in place over areas of ND, this can prevent the warmer air from mixing downward through this stable layer. That's why it could reach 30°F in Bowman on the same afternoon that Bismarck has a high temperature of only 10°F.

We may complain about how windy North Dakota is, but there are benefits to a breezy day. Sometimes our winds actually prevent inversions from developing by providing enough turbulence to mix the air. This also helps to keep pollutants from reaching unhealthy concentrations in the air we breathe.

Radiation inversions are the most common type of inversion. Colder air can establish itself near the ground on clear nights when the winds are relatively calm and the earth's surface radiates its absorbed solar radiation back towards space. Without cloud cover to insulate the earth's lower atmosphere like a blanket and trap this outgoing energy, the air closest to the surface cools faster than the air above it and a radiation inversion develops.

Frontal inversions are associated with both warm and cold front passages. During a cold front passage, warm, less-dense air is displaced upwards by a "wedge" of cold, dense air. Prior to the passage of a warm front, warm, less dense air slides up and over the colder, dense air below it. In both types of frontal inversions, a layer of stratus clouds or fog may develop.

Subsidence inversions occur most frequently in summer and autumn under conditions of high pressure. Slow, sinking air in the middle or upper levels of the atmosphere warms by compression and results in a warm, dry, stable layer of air at lower levels. These conditions can persist for days or weeks during stagnant weather patterns.

Temperature inversions can also occur indoors, especially in buildings with poor air circulation. Your furnace produces warm air that rises from floor vents and can create a stable layer close to the ceiling. This results in your thermostat, usually located at a height within the colder air, continually telling the furnace to keep running. This is why ceiling fans are recommended during the winter months, to help mix the air vertically in your house and heat it more uniformly. So, keep a look out for inversions around you the rest of this cold season. Temperatures just might be the "inverse" of what you thought.

Atmospheric Resource Board | North Dakota Department of Water Resources | 1200 Memorial Highway, Bismarck, ND 58504
(701) 328-2788 | dwr.nd.gov

ND Weather Modification Association | PO Box 2599 | Bismarck, ND 58502 | (701) 223-4232

2025 North Dakota Waterways PHOTOGRAPHY CONTEST

ENTRIES ACCEPTED UNTIL MAY 16, 2025
Additional entry forms can be found at **https://ndwater.org/photo-contest**

Winter, Summer, Spring or Fall . . . WE WANT TO SEE THEM ALL!

We're looking for those hidden away people and places to help us showcase North Dakota's water treasures. Take a picture suitable for the magazine's front cover. It could be taken in your backyard, at the neighborhood playground, by the creek, behind the farm house, or near your favorite fishing hole - in any season.

Be creative! If you "Discover our Cover," you win!

Photography Contest Rules:
Entries will be judged on suitability for publication on the front cover, appropriate representation of North Dakota's water, and photographic creativity and quality. Photographs must have been taken in North Dakota and water must appear in some form (i.e., snow, rain, ice, lake, river, etc.) in the photograph. Digital photos preferred and must be at least 300 DPI at 9 x 12 inches, vertical orientation. Photographs not meeting these specifications will be disqualified. There are no categories.

E-mail digital photos to editor@ndwater.net.

Send entries to: 2025 Waterways Photo Contest, c/o *North Dakota Water* magazine, P.O. Box 2254, Bismarck, ND 58502.

Entries must be received by May 16, 2025.
One overall winner, runners-up, and honorable mention winners will be chosen at the judge's discretion. The decisions of the judge are final. There is no entry fee and no limit on the number of photographs you may enter. ***Only the winners will be notified.*** There will be no acknowledgement of receipt of entries. Results will be published in the July issue of *North Dakota Water*. Prizes: Winners will receive cash prizes.
Any winners' photos may appear on a future front cover of the magazine.

2025 North Dakota Waterways Photo Contest Entry Form

Attach this form to each entry. Copies of the entry form are acceptable.

Photographer's name _____

Address _____

Phone _____

Email address _____

Photograph title _____

Where was the photo taken? _____

WINNER AGREEMENT:
If I'm selected a winner of this contest, I hereby grant permission to the North Dakota Water Education Foundation to use my photograph(s) in future issues of North Dakota Water and for any publicity associated with future photo contests or the North Dakota Water Education Foundation.

☐ Check here to allow us to add your photo submissions to the North Dakota Water Education Foundation's photo library for possible future use.

_____
Signature Date

Don't Get Caught in the Cold: Winter Preparedness Tips

By Jeremy Aasen, Disaster Recovery Circuit Rider

North Dakotans are no strangers to winter weather. Winter for some is their favorite season of all, and they await its return when they can finally dig out their heavy sweaters, thick wool socks and settle into the couch under a heavy blanket close to a crackling fire. Some, who may not be as welcoming, dread the change to the winter season, which seems to drag on the longest of all the seasons. Others escape the cold by heading south to their winter hideaways to await the return of spring.

Winter preparedness is something we all should keep in the back of our minds, regardless of age. A lot has changed over the past 40-plus years of my life. Those of you older than me have better stories and memories dating back to before my time. I still remember the days of rear-wheel-drive cars and two-wheel-drive pickups with studded snow tires or chains! Today's vehicles, if equipped, allow us to start them from our key fob or smartphone from the comfort of our homes. They have all-wheel drive, antilock brakes, heated seats, and other comfort features you can imagine!

Technology, since my younger days, has advanced in weather tracking and predictions but every once in a while, Mother Nature throws us a curve ball. She shows us she still has the final say in how the weather affects our daily lives, whether it's commuting to work, maintaining your herd of livestock, or even out enjoying winter through your favorite activity. We can all become complacent about winter weather, so a periodic reminder about preparation is always helpful.

Before a winter storm or a cold weather event, take the following precautions:

- Have your furnace inspected annually by a professional.
- From the ground, check that the sewer vents on your roof are clear from obstruction and venting properly.
- Check your smoke alarms and carbon monoxide detectors.
- Check the level of your fuel source and that the exhaust and intake ports on the outside of your home are clear of snow or anything that could impede proper ventilation.
- Finally, hit the grocery store well in advance of the storm.

If you need to travel, make sure you have prepared your vehicle and packed a winter survival kit with nonperishable food items, a phone charger, warm clothing, a blanket or sleeping bag, a collapsable shovel, and most importantly, make sure your vehicle is full of gas! My father-in-law always preached that it cost just as much to burn the top half of the gas tank as it did the bottom.

During the storm, it's important to know what to do and what to avoid. Follow these tips for staying safe:

- Stay home and stay inside. Technology has advanced since my younger days. With smartphones, iPads and other modern devices, there is no reason to leave the comfort of your home until the storm has passed.
- In the case of a power outage, be extremely cautious if burning candles.
- Dress in layers and use blankets.
- Limit phone use to preserve battery life.
- Never use a gas stove or oven to heat your home.
- If you have a generator, run it outdoors and away from windows.

If you must venture outside, remember these guidelines:

- Dress in layers: wear loose, layered clothing to trap heat and avoid exposed skin. Frostbite can set in within minutes and can cause tissue damage.
- Work at a pace that allows you to stay warm but not sweat, change out of wet clothing as soon as possible.
- Limit your time outdoors and take frequent breaks to get inside and warm up.
- Lastly, I cannot stress this one enough, stay home. Do not travel unless it is absolutely necessary. Venturing out not only puts you at risk, it also puts those at risk who are called out to rescue you.

After the storm:

- Use caution when driving or walking on ice.
- Avoid fallen powerlines and be aware of falling branches and ice.
- Avoid overexertion.
- Take frequent breaks when shoveling snow or chopping ice.
- And my biggest bit of advice, give your local snow removal crews time and plenty of room to get their jobs completed. Whether it be city, state or county, they are out working to ensure you have safe, clear roadways to travel on. The easier it is for them, the faster they can complete their tasks, get off the roads and out of your way.

In closing, I hope these tips help lessen the impacts winter has on your life. I also encourage you to thank the professionals who work tirelessly during the harsh conditions. From rural water systems repairing water breaks, rural electric restoring power, and the road crews clearing snow, their time away from families in difficult winter conditions ensures we have the everyday comforts we sometimes take for granted.

Our Water Keeping it Clean

North Dakota Department of Environmental Quality

Project Spotlight

Richland County Soil Conservation District

Emily Joynt, Environmental Scientist
North Dakota Department of Environmental Quality

In October 2024, the Richland County Soil Conservation District (SCD) submitted a proposal to continue its nearly 20-year watershed implementation project addressing nonpoint source pollution in the Wild Rice River and tributary watershed Antelope Creek. The Wild Rice River and Antelope Creek are identified as "impaired" (not supporting state water quality standards) due to high levels of bacteria and sediment. Nonpoint source pollution occurs when runoff from rain or snowmelt carries contaminants into nearby streams and lakes. Watershed projects address nonpoint source pollution by providing financial and technical assistance to landowners implementing conservation practices known as "Best Management Practices" (BMPs).

District Manager and Watershed Coordinator Jennifer Klostreich has headed the Wild Rice/Antelope Creek project since its beginning. "We continue to be amazed at how well our project has done," Klostreich said. The project is working to improve water quality through practices such as riparian vegetation, cropland buffering, and increased public understanding of nonpoint sources and solutions. Project accomplishments are extensive and continue to grow. Cost-share funding from the project has supported BMPs, including:

- 230 septic system renovations
- 79 wells decommissioned
- 32,914 feet of fencing (pasture and ag waste)
- 11,265 acres of cover crop
- 7 partial manure management systems
- 5,716 feet of weed control barrier
- 5,618 feet of established trees/shrubs
- 300 feet of pipeline
- 5 livestock wells
- 4 solar pumps
- 4 water tanks
- 5 acres of critical area planting
- 2.5 acres of riparian herbaceous cover
- 1 waste management system

The Richland County SCD has a history of successful nonpoint source projects and water quality improvements. In 2015, a success story was published by the U.S. Environmental Protection Agency, highlighting measured water quality improvement in a section of the Wild Rice River. The article described a reduction in bacteria levels thanks to project efforts and local participation.

A 2016 national report on nonpoint source management programs featured Klostreich as one of "The Faces of Success" for her work on upgrading septic systems contaminating the Wild Rice River. Asked about project success and participation, Klostreich said "Positive word of mouth has been a huge benefit for our project. I try to have a step-by-step fact sheet for each producer. This helps them navigate the process by knowing what to expect and when."

Richland County nonpoint source watershed project area.

Initial stream bank erosion.

Project sloping and reseeding.

One year following restoration.

Riparian restoration (before-during-after) in the Wild Rice River watershed.
Photos courtesy of Richland County SCD.

These efforts have led to continued national, state and local support of the project. In 2025, the SCD hopes to receive additional funding to continue supporting Richland County producers with cost-share opportunities for BMPs addressing nonpoint source pollution in the watershed.

When asked about her job, Klostreich said, "My favorite thing is working with producers and being able to help them in a process that might be unfamiliar. This journey was supposed to be helping with tree planting for a couple of weeks and has lasted over 25 years, and I am thankful for that. I enjoy my job and the people that I get to work with."

For more information on the Antelope Creek and Wild Rice River Watershed Project, contact the Richland County Soil Conservation District at 701-642-5997 (ext. 3) or email jen.klostreich@nd.nacdnet.net.

For information on watershed projects throughout North Dakota, contact Environmental Quality Nonpoint Source Program Manager Emilee Novak at 701-328-5240 or email ejnovak@nd.gov.

NORTH Dakota Be Legendary.™ | Environmental Quality

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Bismarck, N.D. 58503-1324
701-328-5210
www.deq.nd.gov

THE Timmer Chronicles

By Scott Nelson

Thinking back, it must have been more than 40 years ago, when I was young and dumb, not like I am now, old and not too smart.

It was New Year's Day, a beautiful day with temps in the 30s and no wind. Since I had neglected to celebrate the night before, I decided to saddle The Bay and ride to the local bar seven miles away. Alternating between a trot and a lope, I was in front of the bar in no time. I tied up and went inside.

The owners put on a New Year's Day party with plenty of food and the spirits flowed freely. Numerous rounds of drinks were bought and after several hours, I was feeling pretty good. I decided to head home and was glad I had my designated driver, The Bay.

About halfway home, I passed by a large abandoned two-and-a-half-story house that sported an elegant porch on two sides. The house had raised a big family, but they had scattered to the four winds and the house had been empty for decades, with doors off the hinges and nearly all the windows broken out. I remember a neighbor once told me he rode his horse up the stairs in this house and looked out the second-story window. No one had seen him do it and he was known to embellish his stories. Could it be done? In my state, I decided - why not? The Bay wanted to continue home but I plow reined him into the approach and continued across a frozen creek to the house.

A few words about The Bay. He was one of the hardest horses I ever broke and was nearly 8 years old before he finally gave up bucking. On the good side, he was a horse with a lot of heart that I could get to do anything. He would jump any washout, swim any river, hop fences if I lowered the wires a bit, and ram any bull or cow, Kamikaze style, to get them to go where I wanted. I bet he would have climbed a tree if I had asked him.

We popped up on the porch and I was surprised when he hesitated at the front door. With a little persuading, I got him in. I had to duck a little to get in but the room was large with lots of headroom. We found our way to the stairs and again, The Bay hesitated. "What's wrong with yuh, you old cuss?" I slurred. Clop, clop, clop, up the stairs we went. In seconds we were standing at the big open window on the second floor. As we admired the view, I felt a tap on my shoulder. It was my common sense trying to get my attention. He would have got me sooner but he had to fight past the alcohol.

Now, I am an educated graduate with a diploma and everything, but math isn't my strong point. It took some time to do some calculations in my fogged brain and realized every one of The Bay's 4 hoofs was supporting at least 350 pounds! I looked down at the floor on that second story. It didn't look very solid. In fact, it looked rotten. Most of the shingles on this old house were gone and it's a sure bet, that every time it rained it was just as wet inside as out. If we broke through, it wouldn't be good. I envisioned fire trucks and law enforcement plus a lengthy front-page article in tomorrow's paper.

I gingerly backed The Bay up and eased down the stairs. I held my breath until we got out the front door. As we pushed off the porch, I heard a loud crack. The Bay's back foot had broken through but we got away unscathed.

It is said that God watches out for drunks and fools. I guess he had both eyes on me that day.

See yuh next time, Scott.

Successful Construction Season Leads into 2025 Legislative Session

By Kimberly Cook

Red River Valley Water Supply Project (RRVWSP) construction wrapped up in mid-November with the most pipe installed in one construction season. Crews from Oscar Renda Contracting, Carstensen Contracting Inc., and Garney Construction were blessed with an exceptionally mild fall without any snowfall until late November.

"Despite receiving 30 inches of rain this year, the contractors prevailed over the wet conditions. Previous experience with groundwater issues allowed the crews to put into practice what we've learned over the past couple years," says Kip Kovar, deputy program manager for RRVWSP Engineering. "This is the most efficient construction season to date, and we saw the most pipe installed since construction began on the 72-inch transmission pipeline."

RRVWSP co-sponsors Garrison Diversion Conservancy District (Garrison Diversion) and Lake Agassiz Water Authority (LAWA) are preparing to support the project during North Dakota's upcoming legislative session which begins on January 7, 2025.

Representatives will request $221 million in the Department of Water Resources budget to fund the 2025-2027 work plan. During the 2023 session, state lawmakers approved legislative intent for the RRVWSP totaling $953 million in future funding.

"We are grateful to the legislature for previously providing legislative intent for the Red River Valley Water Supply Project. Having state support provides peace of mind to the project's end users. Thank you to legislators for supporting this project to ensure it is constructed in a timely manner," says Merri Mooridian, deputy program manager of RRVWSP administration.

For the 2023-2025 biennium, RRVWSP received $180 million in the Department of Water Resources Budget. Local users provided $61.5 million and $4.5 million came from the Municipal Rural and Industrial (MR&I) Program. The funding allowed the RRVWSP team to complete the design of the transmission pipeline, bid and award several construction contracts, move construction forward, and provide financial planning and studies for RRVWSP end users. Before the end of the biennium on June 30, engineers will complete the design of RRVWSP facilities such as the water treatment plant. Eighty percent of the easements needed for the project have been acquired as of December 2024.

"Construction crews made a lot of progress this year and we're in a great place with design. We're hoping to keep the momentum going into 2025 and beyond, with continued funding from the state," Garrison Diversion General Manager Duane DeKrey says.

"The Red River Valley can go from flooding to drought conditions in a matter of months. We can't prevent the next drought from happening, but we can be prepared. With large dollar figures already committed, it is crucially important to get the project completed within the 10-year construction timeframe, to maximize our investment and mitigate the economic effects of moderate and severe drought conditions with this emergency and supplemental water supply." Grand Forks Mayor and LAWA Vice Chair Brandon Bochenski says.

This year, Garney Construction completed the pipe installation on Contract 5B east of Carrington. The contractor will return in 2025 to complete land restoration, structure build out, hydrostatic testing, and soil haul off. Oscar Renda made progress on the 5C contract which includes approximately eight miles of pipeline and three major trenchless crossings east of Carrington, in Foster County. Carstensen Contracting Inc. also made progress on the 5D contract which involves 10 miles of pipeline and a trenchless crossing of Pipestem Creek in western Foster County and eastern Wells County. Currently, 18 miles of the 125-mile buried pipeline are in the ground.

In December, Carstensen was awarded Contract 6A for $52,258,500, which is their second contract in the RRVWSP. The contract includes construction of a 7.1-mile transmission pipeline from the James River to Eastman Township in Foster County, as well as two 96-inch-diameter trenchless highway crossings and one 96-inch-diameter trenchless wetland crossing.

Construction on 6A is scheduled to begin in the spring. The remaining portions of contracts 5C, 5D and land restoration will resume in 2025, as soon as weather permits. When the RRVWSP transmission pipeline is complete, it will span from the McClusky Canal to the discharge structure, which empties into the Sheyenne River about six miles south of Cooperstown. The RRVWSP is projected to serve nearly half of North Dakota's population, from the central part of the state to the eastern side.

Carrington, Cooperstown, Valley City, and McLean-Sheridan Rural Water District Join RRVWSP

The RRVWSP user base is growing as the cities of Carrington, Cooperstown and Valley City, as well as the McLean-Sheridan Rural Water District, recently signed memorandums of commitment to join the RRVWSP.

Tom Erdmann is the mayor of Carrington and the city's representative on the LAWA board of directors. LAWA is a co-sponsor of the RRVWSP, alongside Garrison Diversion, which is headquartered in Carrington.

"Our aquifer is presently a tremendous asset to our community. The Red River Valley water supply, in addition to our excellent Carrington aquifer, will help us during drought conditions," Erdmann says. "Additionally, we project a potential need for industrial water in the event we could become a site for another value-added processing plant. Carrington is located in the center of the state with excellent infrastructure running through our community with access to the two major railroads, an unrestricted highway system, and all the amenities that another value-added agriculture processing plant might be looking for."

The city of Carrington nominated for 0.50 cubic feet per second (cfs) of water. In addition to the future economic development opportunities the RRVWSP will provide, Carrington already benefits from an economic boost due to construction activities in Foster County. The 2024 construction season brought more than 100 workers to live and work in the city.

"We have seen a substantial increase in our sales tax collection. We presently have a 2% local sales tax that generated $1.08 million in 2023. As of the first 10 months of 2024, we are $184,000 ahead of last year's record sales tax collection. We are seeing an immediate impact from the construction activities on the pipeline," Erdmann says. "In addition to the construction activities, there are engineers on the site who live here in Carrington, and Garrison Diversion has added employees due to the workload associated with the project."

Valley City nominated for 2 cubic feet per second (cfs) from the RRVWSP. Valley City Mayor Dave Carlsrud is also its representative on the LAWA board of directors. He says participation in the RRVWSP is essentially an insurance policy for residents and businesses.

"We have been blessed with our aquifers so far. But we don't know what would happen during a drought. The Red River Valley Water Supply Project is insurance for us," Carlsrud says. "Joining provides peace of mind, especially for elected officials because we have to answer the tough questions if Valley City doesn't have enough water. This is the right thing to do for the next generation."

Beyond the need for an emergency supply of water, Carlsrud says access to a supplemental water supply is valuable for economic development because it will make it easier for Valley City to recruit new businesses.

Cooperstown City Auditor Christine Olson says with the RRVWSP transmission pipeline's proximity so close to Cooperstown, it only makes sense to participate. The city nominated for 0.20 cfs.

"Participation ensures a water source for the future as well as allowing for future growth, whether commercial or residential," Olson explains. She says joining the RRVWSP will, "allow the opportunity to say 'yes' should a high-water using industry want to locate in Cooperstown."

McLean-Sheridan Rural Water District Manager Ann Broussard says the district's board of directors made the decision to participate in the RRVWSP primarily due to potential economic development initiatives that are being considered in the service area. A number of these potential initiatives would need large volumes of water. "If McLean-Sheridan Rural Water were to add only one or two bulk users to our system, the financial benefits to our existing customers would be significant. Growth in our water sales helps stabilize water rates for everyone served by our system, now and in the future," Broussard explains.

The four water providers join the city of Fargo, which will serve West Fargo and Cass Rural Water, as well as Grand Forks, which will provide service to East Grand Forks, Minn. Both Hillsboro and Mayville have also signed an MOC.

REFLECTIONS

REFLECTIONS is a chance for readers to share experiences and views that relate to water. Share your **REFLECTIONS** in a future issue of *North Dakota Water*!

Limit them to about 400 words and email to *editor@ndwater.net* or mail to the North Dakota Water Education Foundation, PO Box 2254, Bismarck, ND 58502.

Include your name, address, phone number and a high-resolution digital photo of yourself or the event about which you are writing. Also include a short description about yourself and your water "connection."

NORTH DAKOTA WATER

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2025 CALENDAR

Feb. 3	Southwest Water Authority's Board of Directors Meeting, Dickinson
Feb. 3-6	National Rural Water Association's Rural Water Rally, Washington, D.C.
Feb. 6	Souris River Joint Board Meeting, Minot
Feb. 12	Devils Lake Basin Joint Water Resource Board Meeting, Devils Lake
Feb. 13	North Dakota State Water Commission Meeting
March 3	Southwest Water Authority's Board of Directors Meeting, Dickinson
March 13	Garrison Diversion Conservancy District's Executive Committee Meeting, Carrington
March 20	North Dakota State Water Commission's Pre-Commission Meeting
April 7	Southwest Water Authority's Board of Directors Meeting, Dickinson
April 9	Red River Joint Water Resource District's Board of Directors Meeting, West Fargo
April 10	North Dakota State Water Commission Meeting
April 24	Atmospheric Resource Board Meeting
April 24-25	Garrison Diversion Conservancy District's Board of Directors Meeting, Carrington
April 28-30	National Water Resources Association's Policy Conference, Washington, D.C.
May 5	Southwest Water Authority's Board of Directors Meeting, Dickinson
May 22	North Dakota State Water Commission's Pre-Commission Meeting
June 2	Southwest Water Authority's Board of Directors Meeting, Dickinson
June 11	Red River Joint Water Resource District's Board of Directors Meeting, West Fargo
June 12	North Dakota State Water Commission Meeting
June 19	Garrison Diversion Conservancy District's Executive Committee Meeting, Carrington
July 7	Southwest Water Authority's Board of Directors Meeting, Dickinson
July 9-10	North Dakota Water Resource Districts Association and North Dakota Water Users Association Joint Summer Water Meeting, Spirit Lake Casino, Devils Lake

For more information or if you would like a water event listed here, call 701-223-8332 or email *jellingson@ndwater.net*. Submissions are due the first Monday of each month preceding the next issue.

North Dakota Water Education Foundation • P.O. Box 2254 • Bismarck, ND 58502