

W NORTH DAKOTA **WATER**

June 2026



GOING ON ADVENTURES



Dani Quissell
Executive Director
North Dakota Water
Education Foundation

As some of you loyal readers probably know, the freshman in our house is quite the thespian. He even convinced his sister to participate in the spring musical this year! Throughout his theatrical career, he's dabbled with improv – and as you may also know, one of the cardinal rules of improv is “never say no.” You simply roll with whatever is thrown at you. That’s a skill we’ve been practicing quite a bit in the Quissell household lately.

In early March, Cheyenne found a stray dog running around at the local gas station. Despite diligent efforts to locate her owner or find another home, Mabel has wiggled her way right into the fabric of our family. Despite my repeated insistence that we are “A TWO-DOG HOUSE,” Mabel jumped straight into the pack, leaving me with the realization that we are now, indeed, a three-dog house.

Mabel’s been a delight to join the family. As a very young adolescent, she brings more energy than Buddy and Marvin combined. She’s even gotten Buddy to play with her, and when he does, it’s hard to remember that he’s six, at least for the five to 10 minutes he can sustain that level of enthusiasm. Her boundless energy, however, tries Marvin’s patience to no end – truly the grumpy old man of the house. Without a doubt, Mabel has led us all on many adventures over the last few months.

Much like Mabel has led us on adventures, I’d like to invite you to join the Water Education Foundation this summer for our series of summer water tours. While

I can’t promise rope tug-of-wars or a rousing game of fetch, this year’s slate of tours will showcase many of the great things to see and do across North Dakota.

Our tour season kicks off June 30 with a water and agriculture tour in Carrington. I’m especially excited to visit Cows & Co. Creamery and sample some of their homemade gelato. We’ll be in Watford City on July 16 to learn more about how water fuels industry in the northwest part of the state. On July 30, we’ll visit Dickinson and Medora, featuring a stop at the Theodore Roosevelt Presidential Library. On August 3, we’ll head to Belcourt to learn about water with the Turtle Mountain Band of Chippewa. We’ll round out the season with a tour focused on water and agriculture in the Bismarck area.

Registration is strongly encouraged for the tours. To see full agendas and register, visit our website at ndwater.org/events.

From a “two-dog house” turning into a three-dog pack to summer days spent exploring water across North Dakota, it turns out that saying “yes” can lead to some pretty great adventures. While I can’t guarantee Mabel-level excitement on our tours, I can promise meaningful conversations, interesting places, and a few memorable surprises along the way. I hope you’ll come explore with us this summer.

Dani



Volume 34 Issue 4

June 2026

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.

Board of Directors

Dennis Reep, Chair
Jen Murray, Vice Chair
Dave Lang, Treasurer
Ryan Ackerman
Doug Anderson
Duane DeKrey
Jeff Frith
Reice Haase
Ryan Jockers
Matt Odermann
Jean Schafer
Mike Tweed
Eric Volk

Staff

Dani Quissell, Executive Director
Julie Ellingson, Events
Miranda Hoffert, Office Manager
Robin Pursley, Editor and Graphic Design

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.

Copyright 2026 North Dakota Water Education Foundation.
All rights reserved.

 North Dakota Water is printed on recycled paper.

Contents

Features

Comments From the Office Staff	
Members That Make the Difference.....	4
40th Annual Water EXPO and Conference.....	5
Beyond Spring Flooding: Building Water Resiliency in the Red River Basin.....	8
Hoffert, Holle, Hutton and Schwartzengerger Scholarship Recipients.....	10
2026 North Dakota Water Education Foundation Water Tours	12
Pick-Sloan at 80. A South Dakota Perspective on Promises, Purposes, and Balance	14
Thankful for North Dakota's Drought Protection Investment.....	25

Departments

Oxbow.....	16
From the N.D. Department of Water Resources	
Atmospheric Reservoir	18
From the N.D. Atmospheric Resource Board	
Spigot	20
From the N.D. Rural Water Systems Association	
Our Water: Keeping it Clean	22
From the N.D. Department of Environmental Quality	
The Timmer Chronicles.....	24
Observations and Contemplations by Scott Nelson	

On the Cover

"Where the Green Grass Grows"
by Jamie Haukenberry, Dickinson. This
photo was an Honorable Mention in
the 2025 North Dakota Waterways
Photo Contest, sponsored by the North
Dakota Water Education Foundation.



COMMENTS FROM THE OFFICE STAFF

Members That Make the Difference

By Lisa Schatz

As the 40th Annual Water EXPO and Conference began, attendees were excited to be back in person and thrilled to reconnect with their colleagues. After three full days, the event came to a close – and planning for the 2027 conference was already underway. This year's conference would not have been possible without the help of members, exhibitors, staff, and presenters. North Dakota Rural Water Systems Association's (NDRWSA) mission is to provide training, networking opportunities, and time to collaborate with peers. Many elements contribute to making our conference a success and the place to be for our water and wastewater communities.

Our associate members are a major part of that success. They bring the exhibit hall to life year after year and take the opportunity to showcase innovative products and visit with attendees to provide information on the latest and greatest products. Without the generous donations and sponsorships from our associate members, we would be limited on what we offer attendees. Donations to the equipment fund and scholarship benefit those within the water industry and those studying to become involved in the industry. A special thank you to our exhibitors; I look forward to seeing you next year in Bismarck!

Location also plays a key role. To best serve our membership and exhibitors, NDRWSA rotates conference locations between Bismarck (odd years) and Fargo (even

years). This year's conference was held in Fargo at the Delta Hotels by Marriott. Staff at the Delta Hotels by Marriott work diligently to provide a comfortable environment. The spacious rooms provide plenty of room for our exhibitors and attendees to kick back and enjoy the conference.

I am fortunate to have surrounded myself with incredible staff and experienced board members who make this event run smoothly. It takes many hours and teamwork to prepare and facilitate such an event. Each year, staff give 110%, and it shows. Each staff member plays an important role, and together, everything comes together without a hitch. I couldn't do it without them.

Our presenters and speakers provide an education and training that would be very hard to find elsewhere. I have yet to find a presenter who was not knowledgeable or a true professional in their field. As in past years, presenters were thorough, dedicated, and eager to share information tailored specifically for our members. Attendees are encouraged to share what they've learned back to their hometown communities.

And finally, one of the most important pieces of the conference is YOU! – our membership and attendees. By coming together year after year, we have formed working relationships, partnerships, and friendships. Your participation makes this conference the largest water conference in North Dakota. Thank you and hope to see you in 2027!



40TH ANNUAL Water EXPO and Conference

By Lisa Schatz

If you missed the 40th Annual Water EXPO held in Fargo on February 10-12, you don't want to miss the 41st Annual Water EXPO coming up in February 2027 at the Bismarck Event Center. More than 200 associate members set up exhibit booths and nearly 400 attendees browsed the exhibit hall. Exhibitors were eager to display the newest and most innovative products available, while attendees took advantage of the opportunity to see the latest advancements in the industry. Presenters offered educational training sessions for both seasoned and newcomers. Opening ceremonies kicked off the event with Bruce Henschel, NDRWSA president, welcoming all in attendance.

SPONSORS

Associate member sponsorships help defray the cost of hosting such an event – we couldn't do it without you! A special thank you to our sponsors; we look forward to your continued support. For additional information on our sponsors, visit www.ndrw.org/membership/associate-members/.

Corporate Elite Sponsors

AE2S, Bartlett & West, Core & Main, Dakota Supply Group, Ferguson Waterworks

Diamond Sponsors

Dakota Pump & Control Company, Inc., Hawkins, Inc., Interstate Engineering, Inc., Moore Engineering, Inc., Northern Pipe Products, Inc., Vessco, Inc.

Gold Sponsors

Apex Engineering Group, CC Steel, Flexible Pipe Tools & Equipment, Isco, Team Lab

Silver Sponsors

Bolton & Menk, HDR, Inc., Hobas Pipe USA, Inc.

Bronze Sponsors

Ackerman-Estvold, Black Mountain Software, Inc., Brosz Engineering, DN Tanks, Electric Pump, Inc., General Repair Service, William E Young Co.



Exhibitors, who are our associate members, welcomed attendees to view information and products on display at their booths. Exhibitors had an opportunity to demonstrate products and show attendees how they are adhering to the ever-changing water utility market. Exhibit hall demonstrations took place for attendees to receive a birds-eye view of products and services available.

Annual Board of Directors Meeting and EXPO Opening Session

NDRWSA president Bruce Henschel opened the long-awaited event and welcomed all attendees. Keynote speaker Jay Gubrud delivered an inspiring message on adapting to change and leading with courage and confidence whether at work or at home. Following the officer and committee reports, the Lake Agassiz election was held and individuals were chosen for the February 2026 to February 2028 term. Following the election, the meeting was adjourned and the exhibit hall doors were opened for all those to partake.

EXHIBIT HALL GAMES

Something for Everyone!

Two exhibit hall games were available; participants could choose to participate in one or both events. The Meter Change-Out Competition and the Frozen Hands Challenge were the two events this year. This year's participants enjoyed friendly revelry among friends, co-workers, and peers who were eager for the challenge.

Meter Change-Out Competition

Attendees displayed their talents and skills by participating in this year's Meter Change-Out Competition. The top three operators moved on to the final round in which they had one more opportunity to be crowned as this year's champ! The three fastest times were Lonnie Lacina from Greater Ramsey Water District, and Jon Einarson and Tyler Hanneson from Northeast Regional Water District. The 2026 Meter Change-Out champion with the fastest time and accuracy went to Lacina, second place to Einarson, and Hanneson took third place. A special thank you to Ferguson Waterworks for supplying the meters as well as donating prize items.

Frozen Hands Challenge

New to EXPO was the Frozen Hands Challenge, the game that tasked precision, patience, and dexterity. In the Frozen Hands Challenge, competitors wrestled with oversized gloves as they tried to thread nuts onto anchored bolts, fumbling and laughing their way through the challenge. The winner with the fastest time went to Whitney Adams with East Central Regional Water District. Second place and third place went to Dave Sather of Barnes Rural Water District and Timothy Kopp with the City of Minot. Congratulations and thank you to our associate members who donated items.

Awards Banquet

During the awards banquet, we honor those who have dedicated themselves to the water industry. Four awards were given – Outstanding Office Employee, Outstanding Water Works Employee, Friend of Rural Water, and the Clark Cronquist Waterline Award. This year's winners:

- Terri Herbert from City of Thompson – Outstanding Office Employee
- Brian Reilly from Walsh Rural Water District – Outstanding Water Works Employee
- Roger "RJ" Yankton of Spirit Lake Water Resource Management – Outstanding Water Works Employee
- Brian Schmitt of ND Department of Environmental Quality – Friend of Rural Water
- James Schmaltz of East Central Regional Water District – Clark Cronquist Waterline Award

Patrick Denne Scholarship Auction Raises \$22,115

Items donated for this year's live auction raised \$10,800 and an additional \$11,315 was received in cash donations. Rural water systems, associate members, and generous individuals contributed items for the auction. The auction was to help raise money for students seeking financial assistance to pursue a college education, as well as individuals entering our apprenticeship program. A special shout-out to this year's auctioneer – Andrew Jossund. We could not have done it without all of you and your generosity.

2026 BEST TASTING WATER AWARD

R&T Water District Crowned 2026 Water Taste Contest Winner

Systems across North Dakota submitted water samples for a statewide competition in an effort to identify the tastiest water. Water utilities submitted water samples straight from the tap. Water was judged for clarity, color, taste and odor. Conference attendees narrowed the entries down to three systems – City of Valley City, Greater Ramsey Water District, and R&T Water District. This year's panel of judges determined that R&T Water District had the most appealing water. The competition is part of a "Quality on Tap!" campaign to emphasize the high quality, standards and, consequently, taste of rural water. The winner of the state contest will compete in a national contest on Capitol Hill in Washington, D.C. The event is part of the National Rural Water Association (NWRA) Rural Water Rally, an annual legislative event for the 50 state affiliates of the NWRA.



Thanks for Memories

40TH ANNUAL WATER EXPO & CONFERENCE



Winners of the Meter Change-Out Competition.



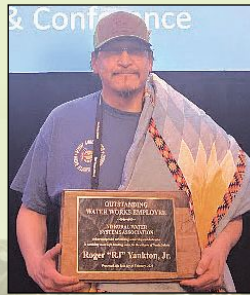
Winners of the Frozen Hands Challenge.



Terri Herbert
Outstanding Office
Employee



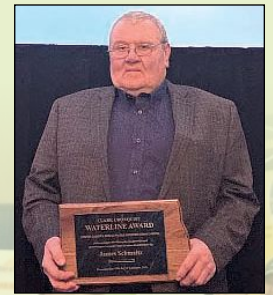
Brian Reilly
Outstanding Water
Works Employee



Roger "RJ" Yankton
Outstanding Water
Works Employee



Brian Schmitt
Friend of Rural Water



James Schmaltz
Clark Cronquist
Waterline Award



2026 conference attendees.



Beyond Spring Flooding: Building Water Resiliency in the Red River Basin

SUMMER FLOODING AND WATER RETENTION ARE RESHAPING FLOOD MANAGEMENT ACROSS THE RED RIVER BASIN

By Brian Fuder, Executive Director
Red River Retention Authority

When many people think about flooding in the Red River Basin, they often picture spring snowmelt, frozen ground, and rising river levels pushing communities into emergency mode. While spring flooding remains a defining challenge of our region, other growing concerns are beginning to demand equal attention: summer flooding and long-term water resiliency.

In recent years, intense rainfall events across North Dakota and Minnesota have become more frequent, more localized, and often more destructive. A single summer storm can overwhelm drainage systems, flood roads, damage crops, erode infrastructure, and isolate rural communities within just a few hours. Unlike spring flooding, which generally provides some warning time, summer flooding often develops rapidly and unpredictably.

Across the basin, local officials, watershed managers, producers, and residents are increasingly asking an important question:

How do we prepare – not just for flooding – but for a future where water extremes become more common?

That question is at the heart of water resiliency.

UNDERSTANDING WATER RESILIENCY

Water resiliency is the ability of a region to prepare for, withstand, recover from, and adapt to changing water conditions. In the Red River Basin, that means being ready for both extremes: too much water and, at times, not enough.

Historically, much of our focus has been centered on flood protection alone. Today, however, basin leaders are beginning to recognize that flood mitigation, water supply, drainage, groundwater recharge, and water quality are all interconnected. A resilient basin is one that can manage water more effectively during wet years while also preserving resources during dry periods.

That shift in thinking is leading to broader conversations about how projects are planned and how partnerships are formed.

SUMMER FLOODING IS DIFFERENT

Summer flooding behaves differently than traditional spring flooding in several important ways:

- Storms are often localized and intense.
- Rainfall can exceed drainage capacity in a short period of time.
- Urban and rural flooding may occur simultaneously.
- Agricultural impacts can develop quickly during critical growing periods.

- Erosion and infrastructure damage are often severe.

In many parts of the basin, communities are experiencing what used to be considered “rare” rainfall events with increasing frequency. Roads wash out. Culverts fail. Fields remain saturated for weeks. Municipal stormwater systems struggle to keep pace.

These events affect more than infrastructure – they affect local economies, emergency response systems, and the long-term resilience of rural communities.

THE ROLE OF RETENTION

One of the most effective tools available to address both flood reduction and resiliency is water retention. Retention projects temporarily store water on the landscape and release it slowly over time, reducing downstream flood peaks and easing pressure on rivers and drainage systems.

But retention provides many additional benefits that are sometimes overlooked:

Groundwater Recharge

Slowing water down allows more infiltration into the soil profile, helping replenish groundwater supplies.

Water Quality Improvement

Retention can reduce sediment and nutrient transport, improving downstream water quality.

Agricultural Stability

Distributed retention may help reduce flash flooding and crop damage during major summer storms.

Infrastructure Protection

By reducing peak flows, retention helps protect roads, bridges, culverts, and municipal drainage systems.

Drought Resilience

Water stored on the landscape can contribute to healthier soil moisture conditions during dry periods.

These “multiple benefits” are becoming increasingly important as communities seek projects that provide value beyond flood control alone.

A BASIN-WIDE CHALLENGE REQUIRES BASIN-WIDE THINKING

The Red River Basin is unique. Water that falls in one watershed can affect communities many miles downstream. Because of this interconnected system, no single city, county, or watershed district can solve flooding challenges alone.

That is why regional coordination remains so important. Organizations such as the Red River Joint Water Resource District, the Red River Watershed Management Board, and the Red River Retention Authority continue working together to support projects that improve basin-wide resiliency.

This collaborative approach allows communities to share technical expertise, coordinate funding strategies, and better align upstream and downstream interests.

The reality is simple: water does not recognize political boundaries.

LOOKING AHEAD

As we move into the future, resiliency will likely become one of the defining themes of water management across the basin. Flood reduction remains essential, but resiliency asks us to think more broadly:

- How do we protect communities from increasingly intense rainfall?
- How do we improve water storage across the landscape?
- How do we strengthen infrastructure while supporting agriculture and natural resources?
- How do we prepare for both wet cycles and dry cycles?

These are not questions with simple answers, but they are questions worth asking – and worth working on together.

THE IMPORTANCE OF PARTNERSHIP

Perhaps the greatest strength of the Red River Basin has always been its willingness to collaborate. Watershed districts, counties, state agencies, producers, engineers, legislators, and local residents all play a role in shaping the future of water management in our region.

Progress does not happen overnight. It happens project by project, conversation by conversation, and partnership by partnership.

Summer flooding reminds us that resiliency is not a destination – it is an ongoing commitment to planning smarter, coordinating better, and investing wisely for future generations.

“Retention, a Part of
the Basin-Wide Solution”

Hoffert, Holle, Hutton AND Schwartzenberger SCHOLARSHIP RECIPIENTS



The North Dakota Water Education Foundation (NDWEF) has announced the recipients of the 2026 Dushinske & Jamison Water Resources Scholarship. This year's \$1,500 scholarships have been awarded to:

- **Emma Hoffert** of Bismarck
- **Raymond Holle** of New Salem
- **Jacey Hutton** of Des Lacs-Burlington
- **Jada Schwartzenberger** of Napoleon

To be considered for the scholarship, each student submitted an essay based on the theme, "Your most vivid memory concerning water."

Created by NDWEF through the North Dakota Community Foundation, the Dushinske & Jamison Water Resources Scholarship Endowment was established to honor the memory of Russ Dushinske and Warren Jamison for their outstanding leadership, dedication, and lasting contributions to water development in North Dakota. Their legacy continues to inspire and support future leaders in water resources.

The scholarship recipients will be formally recognized during the awards program at the North Dakota Water Convention on December 10, 2026.

Congratulations

**THE WINNING ESSAYS ARE AVAILABLE ON THE NORTH DAKOTA WATER WEBSITE
AT WWW.NDWATER.ORG/SCHOLARSHIPS/**



Emma Hoffert, a graduate of Bismarck High School, will attend the University of North Dakota to pursue a Bachelor of Science degree in political science. After completing her undergraduate studies, she plans to attend law school and become an attorney, with the long-term goal of serving as a judge.

She is the daughter of Rochell and Troy Hoffert.



Raymond Holle of New Salem is a freshman at the University of North Dakota, where he is pursuing an undergraduate degree in biology. Following the completion of his undergraduate studies and research, he plans to continue his education at the University of Minnesota to earn a Doctor of Dental Surgery degree.

He is the son of Charles and Catherine Holle.



Jacey Hutton, a graduate of Des Lacs-Burlington High School, will attend Minot State University, where she plans to major in architecture. After earning her degree, she hopes to remain in North Dakota, where she feels most at home. She plans to use her architecture degree to help build and strengthen communities throughout the state while also starting a family.

She is the daughter of Hayley Hutton and Zachary Steele.



Jada Schwartzenberger of Napoleon is a freshman at North Dakota State University, where she is studying to become a pharmacist. She plans to return to a rural community to serve as a pharmacist, helping populations that often have limited access to healthcare. In many small towns, pharmacists are among the most accessible healthcare professionals, providing not only medications but also essential guidance, education, and support.

She is the daughter of Terry and Mary Schwartzenberger.



2026 North Dakota Water Education Foundation **WATER TOURS**

Celebrating 30 years of water education, the North Dakota Water Education Foundation tours offer a firsthand look at the state's most critical water issues and initiatives. These one-day tours take participants to sites across North Dakota and bring together a variety of professionals and local leaders representing different viewpoints. Along the way, participants gain insight into water supply, fish and wildlife conservation, water quality, flood protection, water conservation, irrigation, and beneficial water use. Individual registration is \$40 per person per tour and includes transportation, lunch, refreshments, informational materials, and a digital subscription to the *North Dakota Water* magazine.



Meeting Water Supply Needs in Central North Dakota and the Red River Valley Tuesday, June 30

Learn how the Garrison Diversion Conservancy District is working to secure a stronger future by providing a reliable, high quality, and affordable water supply to benefit North Dakotans. Visit Cows & Co. Creamery, a family dairy where gelato, cheese, yogurt, and milk is made fresh from farm ingredients. Tour Dakota Growers Pasta Company, the third-largest pasta manufacturer in North America, where wheat from North Dakota's farmers is transformed into premium quality dry pasta products in more than 150 shapes. Learn about a local collaborative water management project, Kittleson Crossing. This tour begins and ends in Carrington.



Industry Growth Fueled by Water Thursday, July 16

In the last 15 years, the population in northwest North Dakota has increased by more than 57%, and meeting the needs of a growing population is paramount. The tour will highlight how the Western Area Water Supply Authority (WAWS) is tapped to meet critical municipal, rural, and industrial water needs. Learn about the region's growth impacts from the Keene Fire Department. Visit Meadowlark Acres, a local farm-to-table produce farm. Find out how irrigation enhances agriculture in western North Dakota. This tour begins and ends in Watford City.



Bully! For a Sustainable Future **Thursday, July 30**

Celebrate America's 250th year and be one of the first to visit the Theodore Roosevelt Presidential Library in Medora, which opens July 4, and learn about its commitment to sustainability. Enjoy a fresh brew and tour of Phat Fish Brewing in Dickinson. Visit the Dickinson Water Treatment Plant and learn about the Southwest Pipeline Project and its impressive 35-year impact on the region. Get an inside look at industry with a tour of Marathon Petroleum – Dickinson Renewable Diesel Facility. This tour begins and ends in Dickinson.

A Tribal View of Water **Monday, August 3**

Nibi (water) is sacred and vital to all life within the environment. Learn how the Turtle Mountain Band of Chippewa views water and uses this vital natural resource for drinking, agriculture, and environmental health. Travel to the United States-Canada border and enjoy the International Peace Garden, a living monument to the ideals of friendship and cooperation among nations (passport or birth certificate and photo ID required). This tour begins and ends in Belcourt.

**To register for a
water tour, contact the
North Dakota Water
Education Foundation
at (701) 223-8332 or
jellingson@ndwater.net**



Protecting and Regenerating for a Positive Outlook **Wednesday, August 12**

Learn how North Dakota's second-biggest city is planning on protecting its citizens with its flood control project. Visit Lake Oahe and learn how sedimentation impacts the lake. Tour Menoken Farms and discover how it is leading the way in soil regeneration. Learn about innovative irrigation practices in the area. This tour begins and ends in Bismarck.

THANK YOU **2026 Water Tour SPONSORS**

- Bartlett & West
- AE2S
- Apex Engineering Group, Inc.
- Cavendish Farms
- Chevron Corporation
- Devils Lake Basin Joint Water Resource Board
- Garrison Diversion Conservancy District
- Houston Engineering, Inc.
- Moore Engineering, Inc.
- N.D. Department of Water Resources
- N.D. Natural Resources Trust
- N.D. Water Resource Districts Association
- Southwest Water Authority
- Western Area Water Supply Authority
- N.D. Game & Fish Department
- Ackerman-Estvold
- Basin Electric Power Cooperative
- HDR
- BARR Engineering Co.
- Image Printing, Inc.
- Minnesota Valley Irrigation –Bismarck
- N.D. Rural Water Systems Association

PICK-SLOAN AT 80

A South Dakota Perspective on Promises, Purposes, and Balance



KURT PFEIFLE
Executive Director
Dakota Mainstem
Regional Water System

Few river systems in the United States are as consequential as the Missouri River. For South Dakota, the river is not simply a navigation channel or a line on a map. It is a federally managed system that reshaped our geography, redefined regional economies, and required significant sacrifice from our citizens, tribal nations, and communities.

The Missouri River Mainstem System, operated by the U.S. Army Corps of Engineers, exists because of the 1944 Flood Control Act, commonly known as the Pick-Sloan Act. More than 80 years later, that law still governs river operations. Its authorized purposes and federal obligations remain in force.

A System Built on Upper Basin Land

South Dakota is home to four of the six major Missouri River mainstem dams authorized under Pick-Sloan: Oahe, Big Bend, Fort Randall, and Gavins Point. Together with Fort Peck in Montana and Garrison in North Dakota, these dams created reservoirs that regulate flows, reduce flooding, generate power, and support multiple beneficial uses.

The cost of this system was borne almost entirely by the Upper Basin states of Montana, North Dakota, and South Dakota.

Approximately 1.7 million acres were inundated in those three states. Prime farmland, ranchland, transportation corridors, entire communities, and tribal lands were permanently flooded. County tax bases were reduced, and tribal nations suffered disproportionate impacts through the loss of ancestral lands and economic opportunity.

These were permanent changes undertaken so the entire basin could benefit from a stabilized river system.

Coequal Purposes Under Federal Law

Pick-Sloan emerged during World War II as a compromise between competing federal plans for managing the river. Congress authorized the system to serve multiple coequal purposes, including flood control, navigation, hydroelectric power generation, irrigation, municipal and industrial water supply, recreation, water quality, and fish and wildlife.

These purposes were intended to be balanced. The Act further states that navigation shall not conflict with

beneficial consumptive uses in other basin states. That language remains federal law.

Benefits Delivered, Promises Unfinished

Many benefits have been realized.

Flood control has reduced damage in upper and lower basin communities. Hydropower generation now exceeds 2,600 megawatts of capacity. Reservoir-based recreation ranks just behind agriculture in South Dakota's economy.

Major drinking water systems, including WEB, Mid-Dakota, Mni Wiconi, and Lewis and Clark, provide reliable water to hundreds of thousands of residents.

However, key promises remain largely unfulfilled.

Irrigation development was central to the Pick-Sloan framework. South Dakota was promised irrigation potential approaching one million acres. Today, only a small fraction has been developed. Similar shortfalls occurred in Montana and North Dakota. The large-scale irrigation expansion envisioned in 1944 did not occur.

Hydropower also raises questions of proportional benefit. The dams are located in the Upper Basin, primarily in South Dakota, yet substantial portions of the generated power are exported outside the basin. States that bore the land losses do not always see benefits commensurate with the infrastructure they host.

Flow Contributions and Scale

Some commentary has suggested that Upper Basin water use threatens downstream users. The scale of actual use tells a different story.

The Upper Basin states of Wyoming, Montana, North Dakota, and South Dakota consistently contribute at least half of the total river flow.

Current and planned Upper Basin uses represent a very small fraction of the total flow. Even at full build-out, North Dakota's Red River Valley Water Supply Project would use

approximately 165 cubic feet per second. Average flow near the Missouri River's confluence with the Mississippi exceeds 94,000 cubic feet per second. The diversion represents less than two-tenths of one percent of the downstream flow.

Earlier projects (in North Dakota) involving roughly 20 cubic feet per second were challenged and dismissed in court. While projects crossing a continental divide (again in North Dakota) have drawn attention, those uses remain small and regulated.

From a South Dakota standpoint, reasonable in-state and in-basin uses do not meaningfully impair downstream access and are consistent with federal authorization.

It is also important to recognize that all authorized purposes except navigation are enjoyed by every basin state. Navigation benefits primarily accrue to downstream states, reinforcing the need to maintain the coequal structure Congress established.

Shared Concern: Water Leaving the Basin

A concern that can unite Upper and Lower Basin states is the potential for large-scale export of Missouri River water outside the basin and basin states entirely.

South Dakota's position is that water contributed by basin states, and infrastructure located in the Upper Basin, should first serve reasonable in-basin uses. Proposals to move significant volumes permanently outside the basin warrant careful coordination among basin states.

Operating in a Changing Environment

Extended drought, reservoir deficits, evaporation, and aging infrastructure affect every basin state. Winter release reductions can impact downstream power generation. Low-flow navigation seasons affect agricultural transport. Reservoir recovery can take years after prolonged deficits.

These pressures are driven primarily by hydrologic variability and system design, not by minimal upstream municipal uses.

The Missouri River system was engineered for mid-twentieth century conditions. It now operates in a twenty-first century climate and economic environment, underscoring the need for flexible and balanced management.

Eighty Years Later

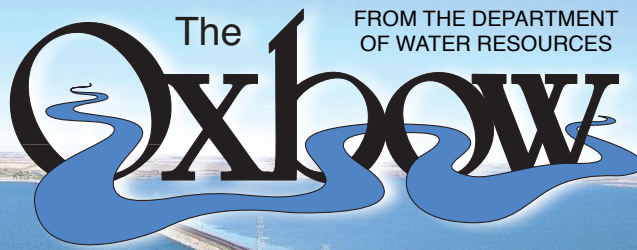
More than eight decades have passed since Pick-Sloan became law. Time passed does not lessen the statutory obligations that remain.

Upper Basin states sacrificed land, tax base, communities, and cultural resources so the entire basin could benefit from flood control, hydropower, recreation, water supply, and navigation stability.

The six mainstem reservoirs in the Upper Basin hold approximately 73.4 million acre-feet of storage capacity. The Missouri River remains one of the nation's most significant water systems.

The Pick-Sloan Act reshaped the Missouri River Basin in 1944. Its promises were made in exchange for lasting sacrifice. Eighty years later, those promises still matter.





Snake Creek Pumping Plant A KEY PART OF THE GARRISON DIVERSION UNIT

The Snake Creek Pumping Plant has supported water delivery in North Dakota for nearly 50 years, and its role is expected to grow in the years ahead. Located along the shore of Lake Sakakawea, the facility is a central component of the Garrison Diversion Unit.

The Bureau of Reclamation began construction of the pumping plant in 1968 and completed it in 1975, marking a major milestone in the development of the Garrison Diversion system. The facility was designed to move water from Lake Sakakawea into nearby Lake Audubon, where it could then be conveyed through canals and other infrastructure.

The need for the Snake Creek Pumping Plant dates back to the broader development of the Missouri River system in the mid-20th century. As part of the Pick-Sloan commitment to North Dakota, the Missouri Basin Program's intent was to make Missouri River water available beyond the

mainstem reservoir system. The Garrison Diversion Unit was authorized to move that water into central and eastern parts of the state, primarily for irrigation at the time. To do that, water first had to be lifted out of Lake Sakakawea and into a system where it could be delivered across the landscape. This need led to the construction of the Snake Creek Pumping Plant.

While the two water bodies sit side by side, Lake Audubon's water elevation is typically higher. The pumping plant provides the lift needed to move water into the lake, allowing it to then flow through the McClusky Canal and into the broader delivery system. This combination of pumping and gravity flow is what makes the system work.

The Snake Creek Pumping Plant includes three pumping units with a combined capacity of about 2,050 cubic feet per second. Together, these units move large volumes of water into Lake Audubon and help maintain target water levels

Interior Secretary Stewart Udall delivers remarks at the Snake Creek Pumping Plant groundbreaking ceremony.

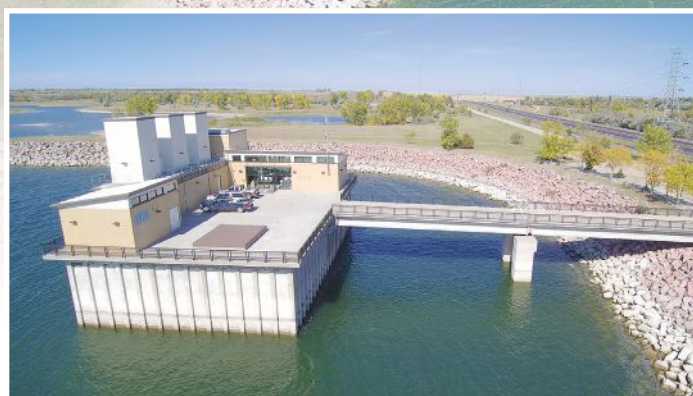


Crowd at Snake Creek Pumping Plant groundbreaking ceremony.



First Lady of North Dakota Jean Guy, Governor William Guy, and Secretary of the Interior Stewart Udall greet members of the public.





the Garrison Diversion Conservancy District, its role has remained consistent, moving water into Lake Audubon so it can be delivered where it is needed. What has changed is how that water is used, with a growing need for regional water supply.

Looking ahead, that role is expected to become ever more important. The pumping plant is expected to support future delivery systems, including the Red River Valley Water Supply Project, which is designed to bring a supplemental water supply to eastern North Dakota. Like NAWS, that project depends on a reliable source of Missouri River water and the infrastructure needed to move it across the state.

The Snake Creek Pumping Plant was built to move water. Decades later, it continues to do exactly that, supporting both current needs and the next generation of water supply projects in North Dakota.

Sources: U.S. Bureau of Reclamation (Garrison Diversion Unit); U.S. Army Corps of Engineers (Lake Audubon Water Control Plan; Snake Creek Embankment Dam Safety Modification Study); Garrison Diversion Conservancy District (Facilities Overview; project information for the Northwest Area Water Supply Project and Red River Valley Water Supply Project). Historical photos provided by Mr. John Greenslit.

throughout the year. Operations are managed to support Garrison Diversion needs, including maintaining higher levels during peak use periods.

When originally authorized, the Garrison Diversion Unit was focused primarily on irrigation. Over time, that focus has shifted. Today, the system has the ability to support municipal and rural water supplies, industry, recreation, and other beneficial uses across North Dakota.

That shift is reflected in projects like the Northwest Area Water Supply (NAWS) Project, which will deliver treated Missouri River water to communities in northwestern North Dakota. While the Snake Creek Pumping Plant is not a standalone component of that project, it plays an important upstream role. Water lifted at the facility becomes part of the system that supports reliable delivery in northwestern North Dakota.

Today, the Snake Creek Pumping Plant remains a foundational piece of North Dakota's water infrastructure. Owned by the Bureau of Reclamation and operated by



THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management

"DEGREE-DAYS" DEFINED

By Mark D. Schneider

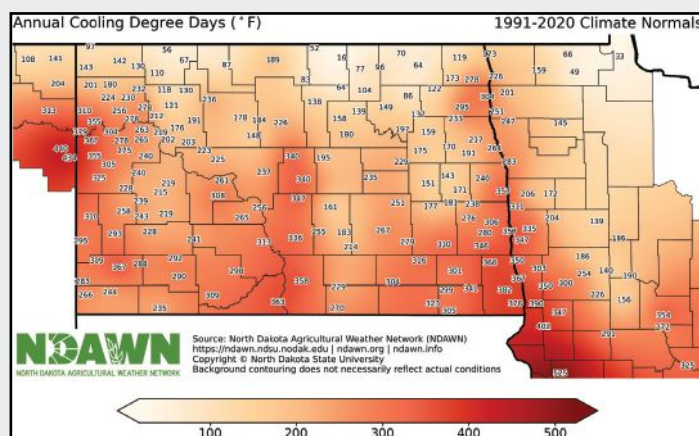
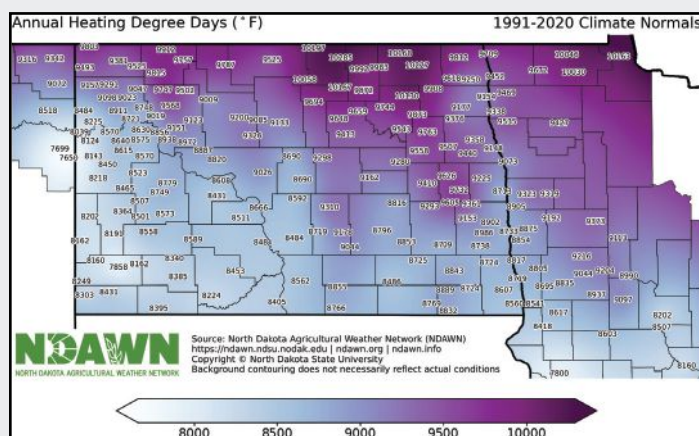
The American Meteorological Society (AMS) defines a Growing Degree-Day (GDD) as “a heat index that relates the development of plants, insects, and disease organisms to environmental air temperature.” In North Dakota, we most commonly associate GDDs with the amount of time a crop takes to reach maturity. This is of obvious interest to farmers and gardeners who use the average number of GDDs to determine what types of crops to grow and when to plant them.

Before calculating GDDs, we must grasp the concept that one calendar day can easily contain more than one GDD. This is why (for example) there are thousands of GDDs for a wheat crop during the growing season.

When calculating GDDs, simply add the daily maximum and minimum temperatures, divide that number by two, and then subtract the defined base temperature (usually 41-50 degrees Fahrenheit). The base temperature is determined by the specific life cycle of each plant; wheat, barley, oats, and flaxseed typically have base temperatures of around 41 degrees Fahrenheit whereas soybeans and maize are closer to 50 degrees Fahrenheit. A plant's growth is equal to zero any time the environmental air temperature is less than the base temperature.

A glance at a monthly utility bill will reveal something called a Heating Degree-Day (HDD). A HDD is “a form of degree-day used as an indication for fuel consumption (AMS definition).” Specifically, every degree that the daily mean temperature drops below a base temperature of 65 degrees Fahrenheit is considered one HDD. North Dakota's average annual HDDs rank among the highest in the United States. This is very apparent, for example, when observing the furnace running regularly during a good portion of the year. Utility bills also include Cooling Degree-Days (CDD). CDDs are simply “a form of degree-day used to estimate the energy requirements for air-conditioning or refrigeration.” Every degree that the mean temperature rises above 65 degrees Fahrenheit is equal to one CDD. As you probably guessed, North Dakota ranks lower than most states in annual CDDs because of its cooler climate.

There are indices to categorize just about anything and GDDs, HDDs, and CDDs are very useful for farmers, utility companies, and consumers when it comes to planning purposes. To view North Dakota specific information, the North Dakota Agricultural Weather Network (NDAWN) provides many useful products online, including the 1991-2020 Annual HDD and CDD graphics pictured below. Visit NDAWN at <https://ndawn.ndsu.nodak.edu/>.



North Dakota Department of Water Resources | Data & Atmospheric 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

Dushinske & Jamison Water Resources Scholarship
21st Annual
Top O' the Day **TEE-OFF**
GOLF SCRAMBLE
Monday, August 10

Registration &
Sack Lunch 11 AM

Shotgun Start Noon

Dinner & Awards 5 PM

*Join Us
For A Day Of Fun,
Prizes & Giving Back!*

CrossRoads Golf Course
Highway 281 N, Carrington, ND

\$100/Person Entry Fee

18-Hole Four Person Scramble

Groups may be formed prior to
registration or by tournament officials.

To Register, contact Stacey at
Garrison Diversion Conservancy District
at 701-652-3194 or staceyg@gdcd.org.



SAVE THE DATE

North Dakota Water Resource Districts Association
and North Dakota Water Users Association

2026 Joint Summer Water Meeting

July 15-16, 2026

Rough Rider Center
Watford City

For more information visit www.ndwater.org/events



Say Hello (and Welcome Back) to Our Newest Team Members

By Jaclyn Nye

JAMES FARRELL

Water and Wastewater Programs Manager

James Farrell joined the North Dakota Rural Water Systems Association (NDRWSA) in April as the Water and Wastewater Programs Manager. Prior to working at NDRWSA, he spent 10 years as a Distribution Operator with Southwest Water Authority, where he earned his Class III Water Distribution License and Backflow Tester Certification. He is passionate about supporting small communities across North Dakota and improving their water systems.

In his role as Water and Wastewater Programs manager, James provides on-site training as well as technical, managerial, and financial assistance to drinking water and wastewater systems throughout the state. He also helps oversee program staff and administer federal and state grant and contract programs, ensuring all requirements and deliverables are met. Collaboration across program staff is a key part of his role, along with maintaining compliance with program procedures and expectations.

James and his family enjoy a rural life near Lake Tschida, where they value hard work, faith, and time together.



JULIE HEIN

Project Finance Specialist

Julie Hein is a dedicated professional whose career reflects a commitment to excellence and a passion for making a meaningful impact in the field. She taught high school science and math for 25 years in Wing, North Dakota. Throughout her career, Julie has held various roles that allowed her to showcase her talents and expand her expertise. Julie's work is characterized by her attention to detail, creative problem-solving abilities, and dedication to achieving results.

Julie has worked for NDRWSA since 2019 as a source water protection specialist, water and wastewater technical assistant, training specialist, and project finance specialist. As the project finance specialist, she provides assistance to small, rural, and tribal wastewater systems in planning, developing, and securing infrastructure financing through various funding programs. Her role works closely with state agencies and local decision-makers to build financial, technical, and managerial capacity, guide systems through compliance requirements, and support long-term sustainability of wastewater infrastructure investments.

Beyond her professional responsibilities, Julie is actively involved in her community. She dedicates time to volunteer work and supports causes that align with her values. Her commitment to giving back underscores her belief in making a positive difference both inside and outside the workplace.



Drones in the Water and Wastewater Industry

By Jeremy Aasen

Unmanned aircraft systems (UAS), commonly known as drones, have slowly made their way into various parts of society, including the water and wastewater industry. They offer a more accessible and affordable way for water system operators to survey their infrastructure. They also offer operators and system managers the ability to collect detailed information about the status of their system through aerial photos and videos.

Most drones are battery powered, but gas-powered engines, like what weed eaters or chainsaws use, have started to appear in the ag sector where drones are being used for the aerial application of herbicides. With early drones, batteries would give about 15 minutes of flight time, but as technology has advanced, some batteries can power a small drone anywhere from 30 to 45 minutes.

The Federal Aviation Administration (FAA) has rules and regulations which govern the operation of small UAS in the U.S., requiring pilot certification, drone registration, and adherence to specific operational limitations.

North Dakota Rural Water Systems Association (NDRWSA) has two staff members who hold remote pilot certifications. NDRWSA has been looking into the purchase of drones equipped with infrared capabilities to complement the other services already offered to water and wastewater systems across the state. However, with implementation of the National Defense Authorization Act (NDAA) the cost to procure drones meeting the NDAA requirements could become quite costly to the association.

These drones could be flown over areas with suspected water leaks; the infrared camera technology can decipher temperature differences which appear on the screen of the drone's remote-control screen. Typically, the ground appears in colors consistent with temperature of its surroundings—such as browns or reds. When the camera detects a cooler area, it displays a bluish tone, potentially indicating a water leak. Warmer objects, like a car out in the hot sun, would appear bright red or white, depending on intensity.

The drones could also be used to survey water towers. If an operator of a system is questioning the operation of



mixing equipment during cold weather conditions, a drone could be flown around the tower and with the use of the infrared camera, the temperature differences would be viewed on the remote-control screen indicating whether the tank and standpipe are properly circulating or not. Another use that is slowly gaining popularity is the use of drones to pressure wash the outsides of water towers.

Drones can also be used in the wastewater arena; the infrared technology can be used to detect a possible force main leak in the same manner as in a water line leak or get a bird's eye view of the lagoon whether it be weed issues, dike seepage or stagnant areas in a pond.

One of the greatest advantages of drones is that they are highly efficient while still being relatively inexpensive and offer safer and more cost-effective alternatives to operators compared to climbing towers or spending hours walking suspected areas searching for water leaks. Drones can be used to collect data ranging from updating processes to design additions, as well as building changes, maintenance, and demolition.

The possibilities are truly unlimited.

Our Water

Keeping it Clean

North Dakota Department of Environmental Quality

Priority Watersheds Public Survey Results

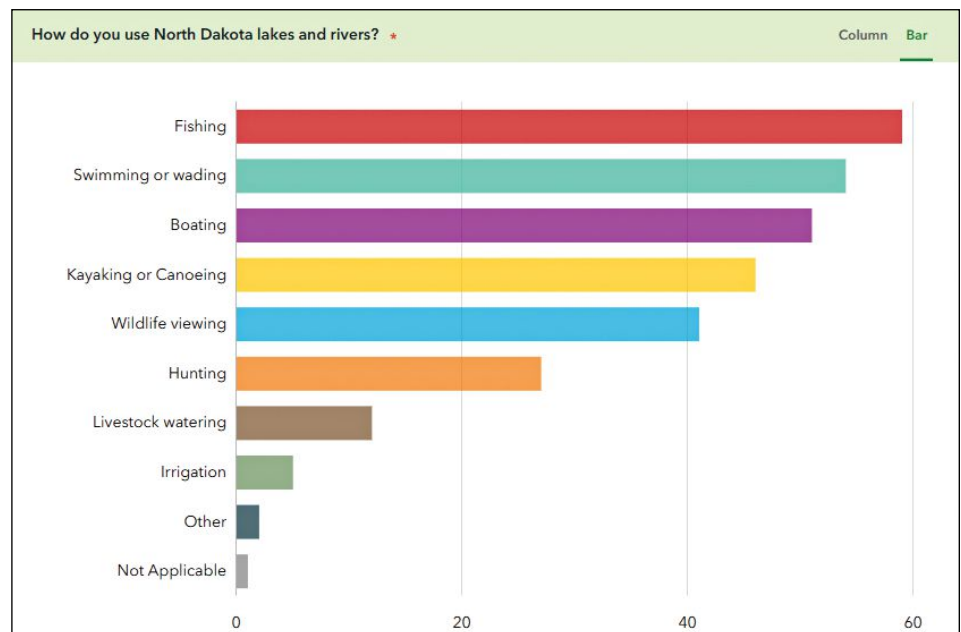
*Meridith Miller, Environmental Scientist
North Dakota Department of Environmental Quality*

North Dakota residents have a deep connection to our state's water, as evidenced by the 72 residents who recently shared their priorities for the future of our lakes and streams. The Watershed Management Program (WMP) within the North Dakota Department of Environmental Quality (NDDEQ) is working to identify priority lakes and streams for water quality improvement efforts over the next two years. As part of this effort, the Watershed Management Program develops plans known as Total Maximum Daily Loads or TMDLs. TMDLs are basically road maps for improving water quality. They identify which pollutants are affecting a waterbody, where those pollutants come from and what steps are needed to reduce pollutants so the waterbody meets state water quality standards.

To help guide this work, NDDEQ asked for input from the public through the Priority Watersheds Survey. The survey was open from January to March 2026 and received 72 responses from across the state, offering valuable insight into how residents use and value North Dakota's waters. Survey results show that recreation plays a major role in how people interact with lakes and streams.

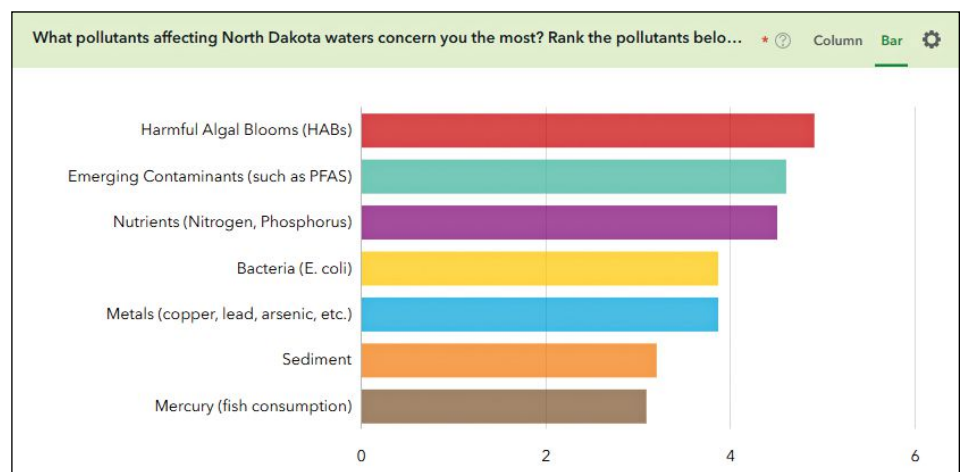
Activities like fishing, swimming, boating, kayaking, and wildlife viewing were the most common uses reported. Some respondents also rely on surface waters for hunting, livestock watering, and irrigation.

When it comes to water quality concerns, several issues stood out. Respondents most frequently identified harmful algal blooms (HABs), excess nutrients such as nitrogen and phosphorus, and emerging contaminants like per- and polyfluoroalkyl substances (PFAS) as their concerns. HABs, sometimes called blue-green algae, can produce toxins that make water unsafe



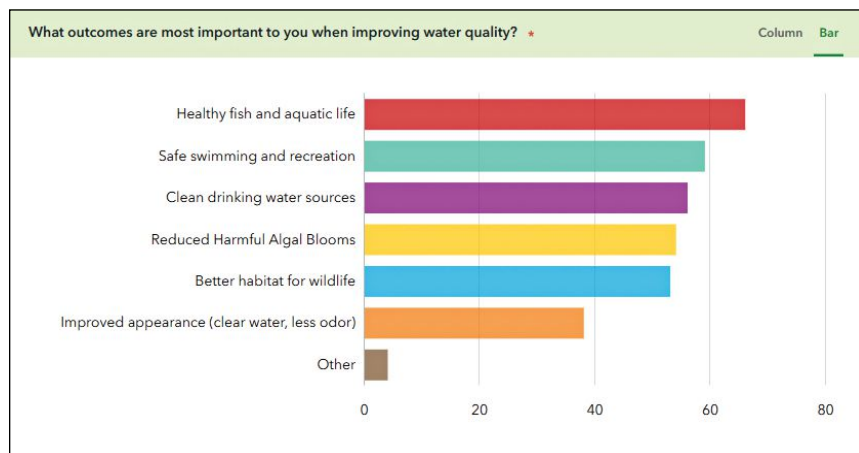
Above: Survey responses to "How do you use North Dakota waters?"

Below: Responses to "what water pollutant concerns you the most?"



for people and animals. High nutrient levels can fuel these blooms which reduce water clarity and lower oxygen levels needed to support aquatic life.

The survey also asked what outcomes people care about most when improving water quality. The overwhelming priority for North Dakotans is healthy fish and aquatic life (92%), followed closely by safe swimming and recreation (82%). Other commonly selected priorities included reducing algal blooms, ensuring clean drinking water, and improving habitat for wildlife (shown below). These responses highlight the importance of both ecological health and recreational opportunities for North Dakotans.



In total, respondents identified 23 streams and 32 lakes as priority waterbodies (shown below). Some of these waters already have monitoring or improvement projects underway, while others may become new focus areas for future assessment and restoration efforts.



One location that stood out was Bowman-Haley Reservoir in southwestern North Dakota, which received 13 responses. Bowman-Haley Reservoir has a long history of HABs and excess nutrients that limit swimming and fishing opportunities. The Bowman-Slope Soil

Conservation District has an active watershed project to address water quality concerns. NDDEQ's Impaired Waters Program plans to develop a TMDL to address nutrient pollution and low oxygen levels that are impacting aquatic life and limiting recreational use.

TMDLs are currently in development for the following watersheds. These TMDLs address high concentrations of bacteria that limit recreational use of the waterbodies.

- Willow Creek, including Oak and Ox Creeks in Bottineau and Rolette Counties
- Square Butte Creek in Oliver County
- Heart River above Lake Tschida

The following watersheds are expected to have bacteria TMDLs developed over the next two years. A full list of priority waterbodies is expected in September 2026.

- Outlet Heart River in Morton County
- Antelope Creek in Grant County
- Big Muddy Creek in Morton County
- Danzig Dam watershed in Morton County

Public participation plays an important role in protecting North Dakota's water resources. The feedback gathered through this survey will help ensure that future efforts focus on the lakes and streams that matter most to residents.

For more information about the Impaired Waters Program or the Watershed Management Program, visit the NDDEQ website or contact Program Manager Joshua Wert at jewert@nd.gov or 701-328-5210.



4201 Normandy Street
Bismarck, N.D. 58503-1324
701-328-5210 | www.deq.nd.gov

THE Timmer Chronicles

By Scott Nelson

Many years ago, after I graduated from high school, I had my life all planned out. I had lined up a job at a ranch in Wyoming and was going to be headed out there after graduation. Fate intervened. The slump in the oil and coal industries in the early 80s caused the cowboys who were working at the mines and oil fields to be laid off, so they returned to the ranches. I no longer had a job in Wyoming.

Fate intervened again, and I was offered a job practically in my back yard. The guy who hired me was the local farrier who also raised horses. My job was to take care of the horses and to ride them. In fact, most of the job was riding. Lots and lots of riding. All I had to do was ride horse and get paid for doing it. Sounded like a dream job to me!

Now, these horses weren't your common everyday horse like a Quarter Horse. These horses were Spanish Mustangs. The Spanish Mustang came from isolated mustang herds that weren't interbred with modern horse breeds. A man named Bob Brislawn had saved these mustangs from extinction back in the fifties and developed them into an exclusive breed.

These horses weren't very pretty and were mostly on the small side. They were short coupled and compact with heavy manes, stout legs and hard, durable hooves. At first glance, you may confuse them with a pony.

The big difference with these mustangs was they were TOUGH! Another big difference was that they were very intelligent and didn't think the same as other horses.

Most of my job was to endurance train three stallions. Now these were well-broke, mature horses but every one tried to buck me off the first time I got on them. I was young and spry so stayed on. These horses didn't know me, so I guess they had to test me. After that first time, they never bucked again.

So, I started riding. Every day I rode all three of these



stallions on a prescribed course of 10 miles each. I did this for three days. Then on the fourth day I'd take one stallion and ride 30 miles! The fifth day was our day off. I needed it! I remember after so much riding, when I would get off a horse, my legs felt like they were only two feet long. I calculated that over the summer I covered 720 miles a month for around three months, totaling over 2,000 miles. I suspect that was the summer I acquired my bow legs. I did all of this riding on a vintage military McClellan saddle. It was kind of

like setting on two 2x4s!

The only time I walked those horses was warming up or cooling down. All the other time was spent alternating between a trot and a lope. I tell you what, we could cover the country. One time I rode 15 miles to a nearby town to be in a parade. I made it in just over an hour!

As I said, these horses were different from other horses. One time I was riding down the road and saw a big rattlesnake curled up in the middle of the trail. I tried to rein him around it. The stallion ignored me and headed right for the rattler. When we got over the snake, the stallion did a little "dance." I looked back after we passed over and that snake was a writhing, bloody mess, cut into about four pieces! Another time a little kitten got too close while I was saddling. One lightning strike with a front foot, and the kitten was history.

After three months, I kind of had my fill of riding. The novelty had worn off. I resigned and went home to help my dad with harvest.

After all these years, I still remember the names of two of the stallions I rode. One was Yellow Fox and the other was Half Moon. Yellow Fox and Half Moon set many records over the years and are in the Spanish Mustang Hall of Fame. I'd like to think that the miles I spent riding them contributed to some of the awards they earned.

See yuh next time, Scott

Thankful for North Dakota's Drought Protection Investment

By Kimberly Cook

North Dakotans are in an enviable position in 2026. Not only are we one of just two states not experiencing drought conditions this spring, but we're also well on the way to protecting nearly half the state's population from the effects of droughts.

A MUCH-NEEDED DROUGHT PROJECT

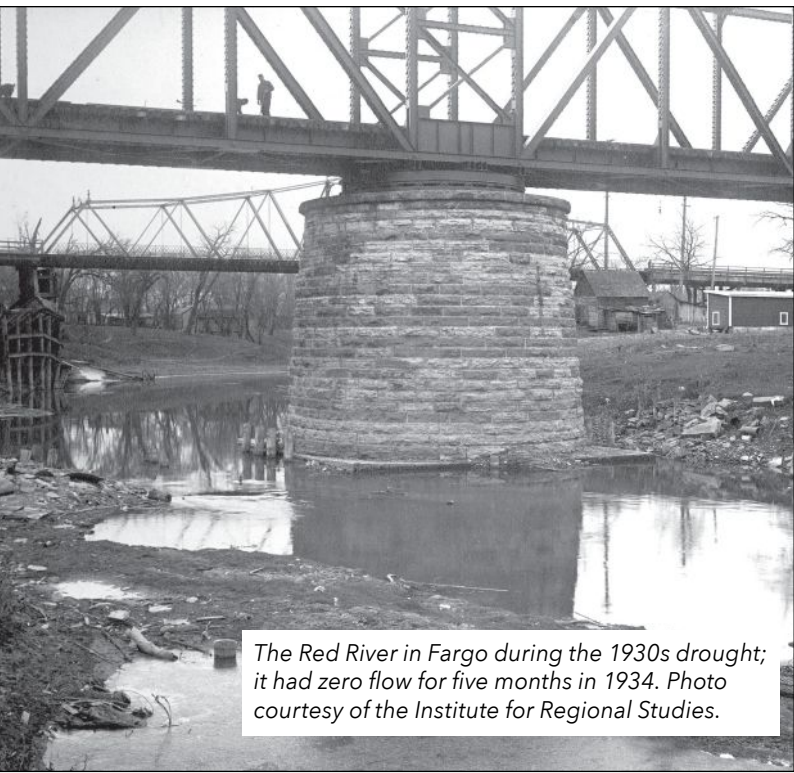
"I give a lot of credit to the state of North Dakota for recognizing the importance of implementing a long-term solution to protect central and eastern North Dakota from the devastating effects of future droughts," says Duane DeKrey, Garrison Diversion Conservancy District (Garrison Diversion) General Manager. Garrison Diversion is a co-sponsor of the Red River Valley Water Supply Project (RRVWSP) along with the Lake Agassiz Water Authority. "The estimated financial impact of a drought similar to the 1930s Dust Bowl is \$33 billion over 10 years. That would impact the entire state's economy."



Lake Agassiz
Water Authority



RED RIVER VALLEY
WATER SUPPLY PROJECT



The Red River in Fargo during the 1930s drought; it had zero flow for five months in 1934. Photo courtesy of the Institute for Regional Studies.

“The state has been an excellent partner in this drought mitigation project,” says Merri Mooridian, Deputy Program Manager of RRVWSP Administration and Garrison Diversion Administrative Officer. “Thanks to support from Sen. John Hoeven and Sen. Kevin Cramer, the federal government has also stepped up with \$150 million for the Eastern North Dakota Alternate Water Supply, a project that complements the RRVWSP by using existing Bureau of Reclamation infrastructure.”

The RRVWSP will provide an emergency and supplemental water supply to communities and rural water systems in central and eastern North Dakota by conveying water from the Missouri River via a 125-mile buried pipeline. When construction wraps up, nearly half of the state’s population will benefit from the additional water supply.

The RRVWSP has been in the works since the year 2000, when it was conceived as a federal, state and local project. However, without federal authorization, a state and local version of the project was developed due to the dire need for water resiliency. Construction began in 2021 thanks to support from the North Dakota State Water Commission (now called the Department of Water Resources). The project is anticipated to be complete by 2032.

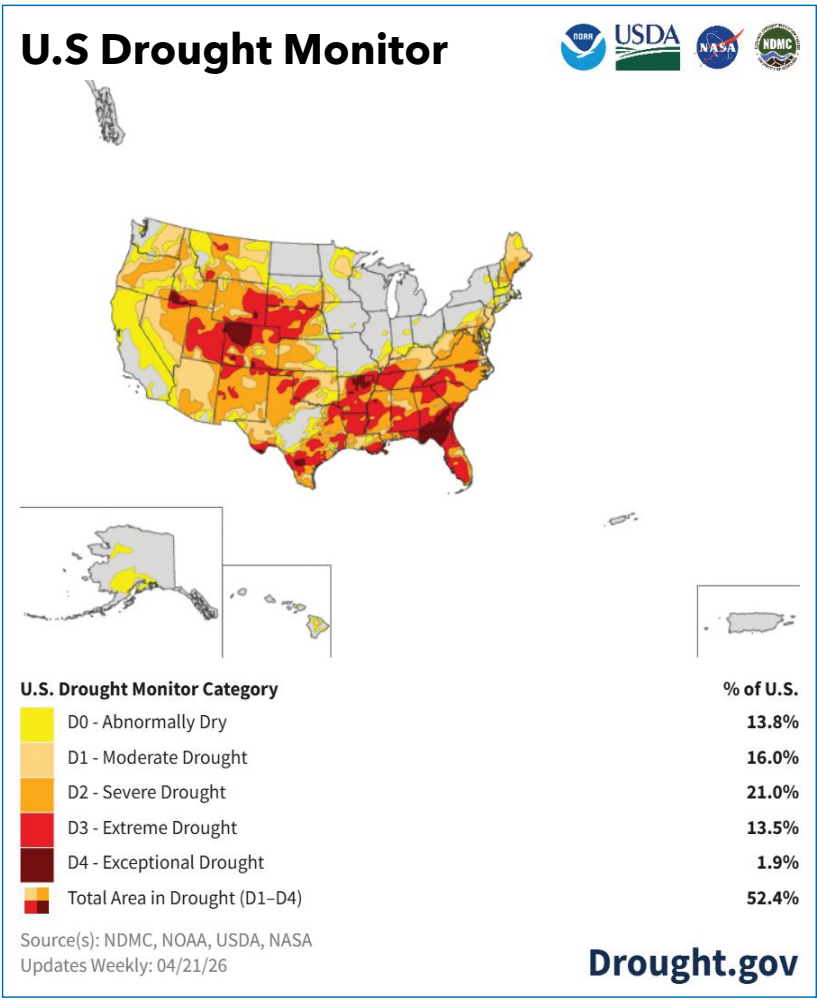
“It will be a relief when the construction wraps up and communities and rural water systems receive

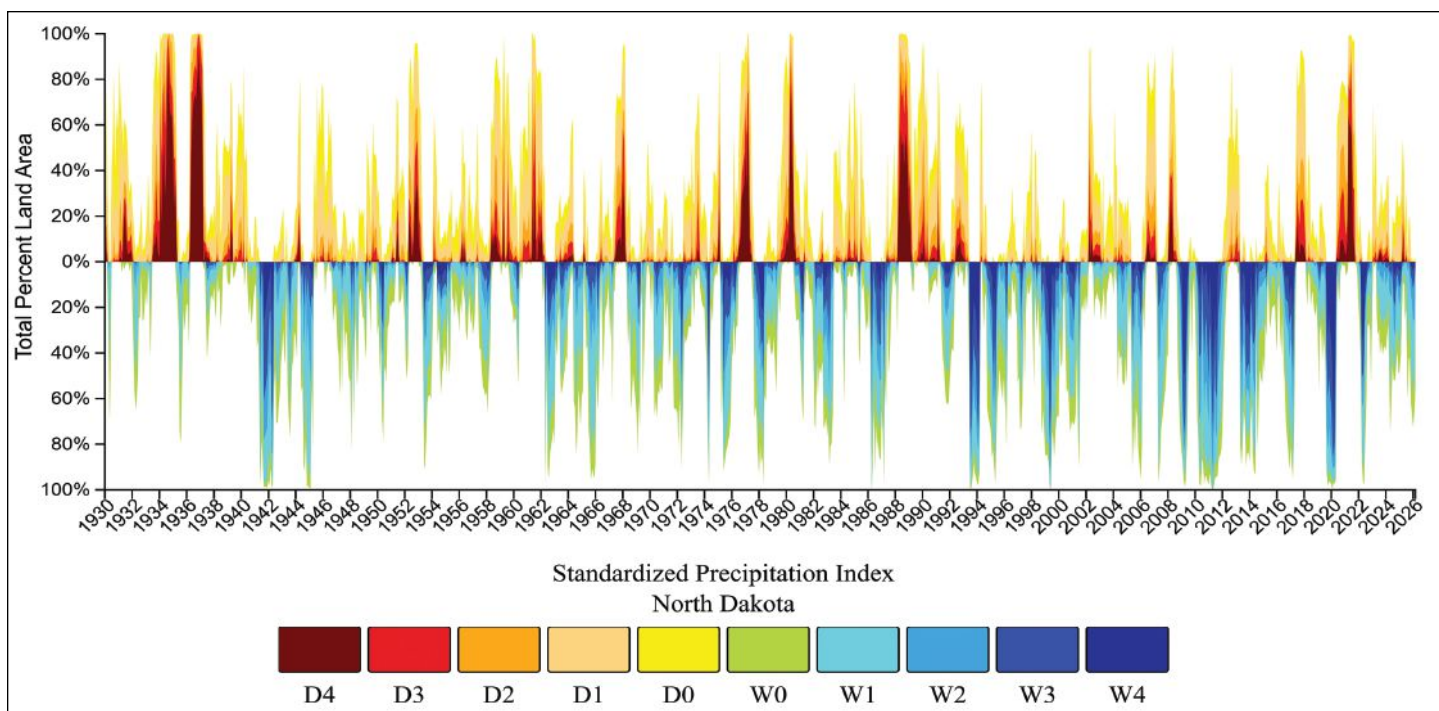
water from the Red River Valley Water Supply Project. This is a historic project, one that I’m certainly proud to have worked on during my career at Garrison Diversion,” says Kip Kovar, Deputy Program Manager for RRVWSP Engineering and Garrison Diversion Engineer.

Drought Conditions Across the U.S.

Having a project like the RRVWSP in place to protect North Dakota’s residents and economy is a true blessing when one considers what other states are facing. More than half of the United States experienced drought conditions during the spring of 2026. Though conditions may fluctuate by the time this article is published in June, a substantial improvement is unlikely as the nation heads into what are typically the hottest and driest months of the year.

In April, nearly 100% of Colorado was in a drought with 57.9% in the extreme or exceptional category. Some of the lowest recorded winter snowpack levels, combined with little rain and higher-than-normal spring temperatures, created a statewide emergency. In an effort to





The National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information created the Standardized Precipitation Index to illustrate how much observed precipitation deviates from the climatological average.

cut water use by 20%, the city of Denver issued watering restrictions along with a rule requiring restaurants to serve tap water to customers only on request, instead of automatically providing it to guests.

North Dakota's neighboring states are also experiencing drought conditions, though not to the same degree as Colorado. Fifty-seven percent of Montana, nearly 52% of South Dakota, and about one-fifth of Minnesota saw drought conditions this spring.

The U.S. Drought Monitor listed North Dakota and Michigan as the only two drought-free states as of April 21. Though we've been lucky so far in 2026, North Dakota is no stranger to serious dry spells. In fact, drought is an unfortunately common occurrence in our state. A historic drought during the 1930s affected water supplies and agriculture. Moderate droughts also occurred in the 1950s, 1960s, 1970s, 1980s, and 1990s. Many people may remember the short but intense droughts in 2012, 2017, 2020, and 2021.

NORTH DAKOTA'S HIGHLY VARIABLE CLIMATE

North Dakota's climate is highly variable, with the potential for droughts and floods occurring during back-to-back years. In 2011, several areas of the state

experienced serious flooding, including Fargo and Minot. Even climatologists were surprised by the summer drought that followed in 2012.

In the chart above, the dark red areas indicate extremely dry conditions while the dark blue shows extremely wet periods. This illustration makes it easy to see how North Dakota continuously seesawed between wet and dry periods from 1930 through 2026.

"Our constant back and forth between too much and too little water highlights the importance of being prepared, which the state of North Dakota has helped its residents achieve by supporting drought and flood projects across the state," says DeKrey. "We should all be thankful to our state and federal delegation for supporting projects like the Red River Valley Water Supply Project. We're miles ahead of a lot of other states right now in terms of drought mitigation efforts."

Hopefully, North Dakota will remain drought-free as we head into the summer months. Though construction is underway and making steady progress, we are still a few years from being able to rely on the RRVWSP for an emergency and supplemental water supply.

ADVOCATES. EXPERTS.

We know you take pride in your community, but keeping up with aging infrastructure and complex water systems can be a tall order. That's where we come in. Think of the Ackerman-Estvold team as your *advocates*, providing personal service and *experts*, designing and implementing cost effective engineering solutions.



CIVIL ENGINEERING & ARCHITECTURE

WWW.ACKERMAN-ESTVOLD.COM

MINOT, ND | FARGO, ND | WILLISTON, ND | BOISE, ID



ENGINEERING SUSTAINABLE WATER SOLUTIONS FOR AGRICULTURE.

At Moore Engineering, our team of experts provides delineation, restoration, mitigation, and wetland banking services to help municipalities, landowners, and developers achieve sustainable solutions.

mooreengineeringinc.com





Thorne Reservoir and Booster Station
Turtle Mountain Water System
Thorne, North Dakota

**Proudly supporting North Dakota's
water systems and communities for
more than 55 years.**



HOUSTON
engineering, inc.



houstoneng.com



Smart Water Solutions for Strong Communities

For over 50 years, Interstate Engineering has delivered trusted wastewater, stormwater, and water system designs that keep communities flowing forward.



www.interstate.engineering

Professionals You Need, People You Trust.



IMAGE
PRINTING

p: 701.222.4000

imageprinting.com



Forward, together

With 75 years of institutional experience, we're proud to partner with North Dakota water systems to deliver safe and reliable water solutions for your community growth.



BartlettWest.com



**NORTH DAKOTA
WATER USERS
ASSOCIATION**

North Dakota Water Users Association

was organized in 1959 to protect, develop, and manage North Dakota's water resources.

Together we support completion of vital water supply and flood control projects; promote irrigation development; educate on the importance of our water resources; and advocate for sound water policy at the state and national level.

Everyone Is A Water User... JOIN THE EFFORT

MEMBERSHIP CATEGORIES

INDIVIDUAL MEMBER \$50

BUSINESS MEMBER \$100

WATER RESOURCE DISTRICT MEMBER

Individual Boards \$325

Joint Boards \$630

PUBLIC MEMBER

Under 1,000 Population \$125

1,000 to 5,000 Population \$325

5,000 to 10,000 Population \$630

Over 10,000 Population \$1,300

SUSTAINING MEMBER \$1,300

**SCAN
TO JOIN!**



PROTECT, DEVELOP, AND MANAGE NORTH DAKOTA'S WATER

PERSPECTIVES

ON WATER



Water Engineering & Beyond
Award-Winning Best Place to Work

Navigating things like new regulations, technology, and funding can be challenging. Join our team as we share perspectives on all things water.



www.ae2s.com/perspectives-and-insights

Water Day

THURSDAY
JULY 23
11 AM TO 4 PM

North Dakota State Fair

WATER WIZ TRIVIA GAME

Prizes Awarded

DOOR PRIZES

FROST FEST

Free Snow Cones 3pm to 4pm

MINOT

NORTH DAKOTA
STATE FAIR GROUNDS
FESTIVAL TENT

Organized by North Dakota Water Education Foundation



— 2026 CALENDAR

- | | |
|------------|---|
| July 6 | Southwest Water Authority's Board of Directors Meeting, Operations and Maintenance Center Office, Dickinson |
| July 6-9 | North Dakota Rural Water Systems Association's 32-Hour Backflow Preventer Tester Certification Course Public Works Building, Bismarck |
| July 8 | Devils Lake Basin Joint Water Resource Board Meeting, Devils Lake |
| July 8 | James River Basin SWC Commissioner-hosted meeting, City Hall, Jamestown |
| July 8 | Upper Red River Basin SWC Commissioner-hosted meeting, Dr. James Carlson Library, Fargo |
| July 9 | Lower Red River Basin SWC Commissioner-hosted meeting, City Hall, Grand Forks |
| July 9 | Devils Lake Basin SWC Commissioner-hosted meeting, Lake Region State College, Devils Lake |
| July 10 | North Dakota Rural Water Systems Association's Backflow Preventer Tester Recertification, Public Works Building, Bismarck |
| July 15-16 | North Dakota Water Resource Districts Association and North Dakota Water Users Association Joint Summer Water Meeting, Rough Rider Center, Watford City |
| July 15 | North Dakota Water Users Association's Board of Directors Meeting, Rough Rider Center, Watford City |
| July 15 | Upper Missouri River Basin SWC Commissioner-hosted meeting, Rough Rider Center, Watford City |
| July 16-17 | Garrison Diversion Conservancy District's Board of Directors Meeting, Carrington |
| July 16 | Missouri River Joint Water Board Meeting, Rough Rider Center, Watford City |
| July 16 | Souris River Joint Board Meeting, Rough Rider Center, Watford City |
| July 16 | North Dakota Water Resource Districts Association's Board of Directors Meeting, Rough Rider Center, Watford City |
| July 16 | Western Area Water Supply Authority's Board of Directors Meeting, Williston |

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