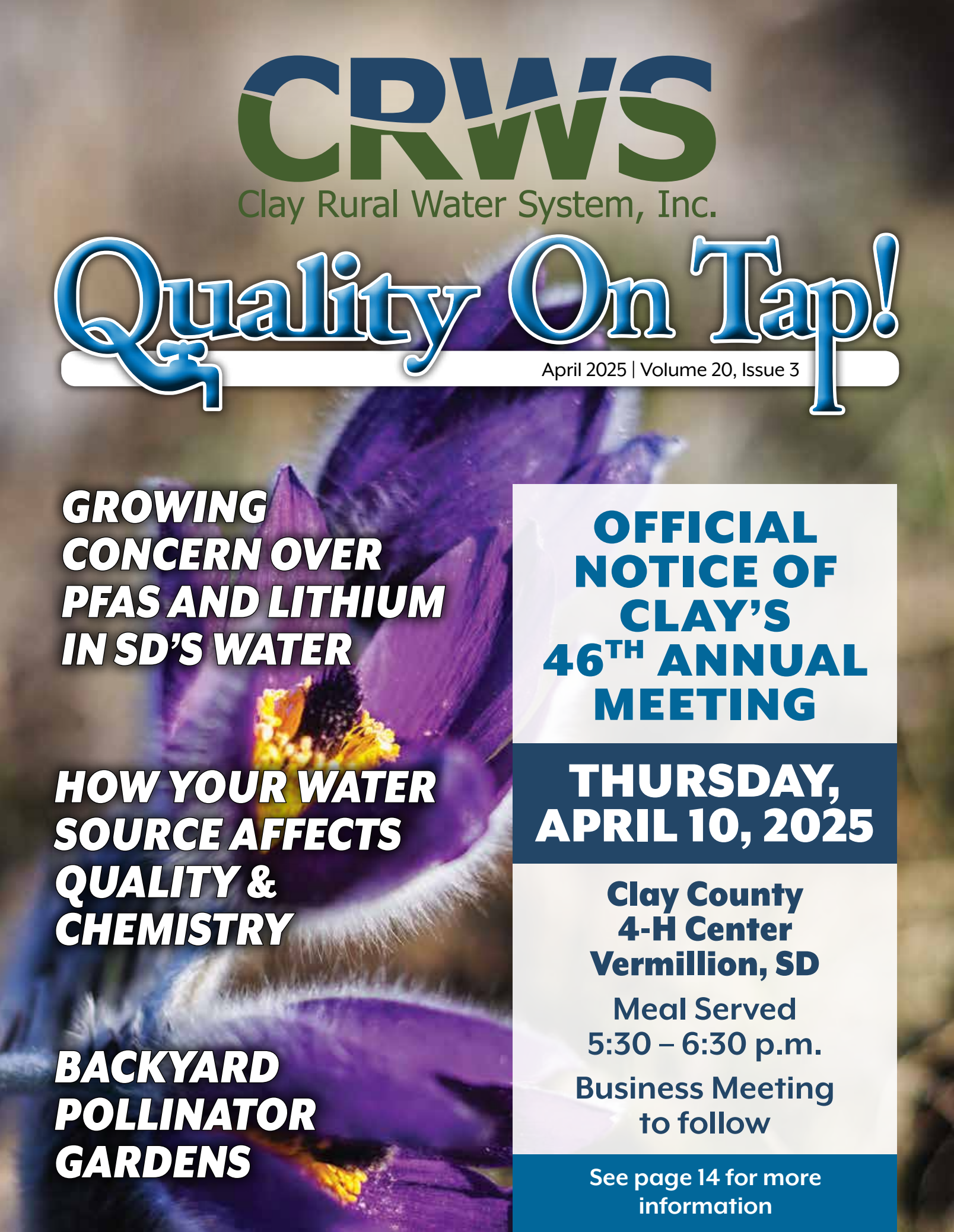
CRWS

Clay Rural Water System, Inc.

Quality On Tap!

April 2025 | Volume 20, Issue 3



GROWING CONCERN OVER PFAS AND LITHIUM IN SD'S WATER

HOW YOUR WATER SOURCE AFFECTS QUALITY & CHEMISTRY

BACKYARD POLLINATOR GARDENS

OFFICIAL NOTICE OF CLAY'S 46TH ANNUAL MEETING

THURSDAY, APRIL 10, 2025

Clay County 4-H Center
Vermillion, SD

Meal Served
5:30 – 6:30 p.m.

Business Meeting to follow

See page 14 for more information

FROM THE MANAGER

Steve Muilenburg
Manager, Clay Rural Water System, Inc.

The Clay Rural Water System is on the move again this spring as we continue with the final stages of our existing Phase I project, and move forward with the design process of Phase II, which is our new Water Treatment Plant next to our Wakonda location. It seems like we have been talking about these projects for a long time now, but anyone who deals with any state or federal government entity knows that it truly is a long-drawn-out process whenever they are involved. Even so, we continue to check the boxes and push forward to complete these projects in a timely manner.

We will be in full construction mode early this spring with the addition of two 1-million-gallon ground storage tanks. Great Plains Structure of Tea, SD will be the tank builders for these two new additions to our system. They have informed us that they have an aggressive schedule planned for this year and that we could see the completion of not only one tank, but possibly two by the end of this construction season. The completion of the Greenfield Storage Tank along I-29 will be a blessing to get completed ahead of schedule. If this happens, the timing will work well with the building of the new booster station, also located on the same property, and would fall right into our scope of work as we move forward with Phase II. This would also help take some pressure off the east side of our system during peak demands. The second tank located at the Wakonda site, even if completed this year, will not go online until the new water treatment plant is running.

Along with the various other projects we have to complete this year, we must still perform the day to day operations and preventive maintenance work to keep the systems operational to support the 2,562 customers we currently provide water service to. While the entire staff is busy working on these tasks and projects, they also have one other upcoming event to plan for; the 50th anniversary of the Clay Rural Water System. This will be celebrated at the 46th annual meeting set for April 10th at the Clay County 4-H Center in Vermillion, South Dakota. A dinner will be served from 5:30 to 6:30 with the meeting to follow. Here you will also be provided the latest updates on the progress of the current and future projects of CRWS. You will have an opportunity to see the historical background of CRWS along with a peek into the future, as we continue to expand along with the needs of our surrounding communities. We will have various prizes along with a wonderful meal provided by Heck's BBQ. We will also be awarding a $500 scholarship for any high school senior that attends the meeting with their parents or guardian who is a member of CRWS. We are looking forward to this event and hope to see you there.

CRWS
Clay Rural Water System, Inc.

BOARD OF DIRECTORS

Randy Huot, President
Cody Merrigan, Vice-President
Patricia Manning, Secretary/ Treasurer
Mark Bottolfson, State Director
Dave Reiff, Director
Tim Irwin, Director
Ken Kessler, Director
Randy Ronning, Director
Jerry Buum, Director

STAFF

Steve Muilenberg, Manager
Donna Henriksen, Office Manager
Pam Lunning, Controller
Rob Ganschow, Chief Treatment Plant Operator
Andy Ganschow, Chief Distribution Operator
Phil Iverson, System Operator
Lane Severson, System Operator
Matt Thompson, System Operator

CONTACT INFORMATION

30376 SD Hwy 19
Wakonda, SD 57073
Phone: (605) 267-2088
Fax: (605) 267-2085
email: office@clayruralwater.com

MISSION STATEMENT

The mission of the Clay Rural Water System is to provide high quality water service to the consumers of the corporation at the lowest possible cost consistent with sound business practice.

CLAY MEMBERSHIP CORNER

Quarterly Calendar

MARCH 25

Monthly Board Meeting, 7:00 p.m., System Office

APRIL 10

46th Annual Meeting, Clay County 4-H Center in Vermillion, 5:30 p.m.

APRIL 28

Monthly Board Meeting, 7:00 p.m., System Office

MAY 26

Office closed for Memorial Day Holiday

MAY 27

Monthly Board Meeting, 7:00 p.m., System Office

JUNE 24

Monthly Board Meeting, 7:00 p.m., System Office

LEAK REWARD

Members who report a water leak on one of the system pipelines will receive a $50 leak reward. With over 1,350 miles of pipeline in the distribution system, members can play a key role in assisting system personnel in locating water leaks.

CRWS
Clay Rural Water System, Inc.

46TH ANNUAL MEETING
Thursday, April 10, 2025

4-H Center • 515 High Street • Vermillion, SD
5:30 PM – Heck's Dakota Style BBQ Meal Served
6:30 PM – Business Meeting

All registered members will receive a $10 water credit, a gift, the 2024 financials, and updates on the New Chapter Project. One Grand Prize winner will receive a $600 water credit ($50 per month x 12 months), in honor of our 50th Anniversary. The winner drawn must be present.

NEW THIS YEAR is a $500 Scholarship given to one High School Senior who is in attendance. Both the student and the parent must be present at the time of the random drawing to be eligible.

Please join us in celebrating the 50th year of the Clay Rural Water System!

TRIVIA CHALLENGE

Three random names will be chosen from all callers that answer these trivia questions correctly. Each winner will receive a $10 water credit. The three winners in the last issue were: Joan Huot, Todd Christensen, and Rose Chicoine.

1. **"In which country do cherry blossom trees** signify the beginning of Spring?"
   A. Thailand B. China C. Japan
2. **"Which country did the Easter Bunny tradition originate from?"**
   A. Italy B. Germany C. Ireland
3. **"Where does the biggest St. Patrick's Day parade take place?**
   A. Dublin, Ireland B. London, England C. New York City, USA

Do We Have Your Number?

Please make sure that Clay Rural Water System has a current phone number for you. We periodically need to call members for water outages, scheduled maintenance, etc. and quite often we find we do not have a current phone number.

You can reach us at **605-267-2088** or via email at **office@clayruralwater.com**.

PAYMENT OPTIONS

We offer a variety of ways to pay your water bill:

1) Cash, check, or money order
2) Automatic bank deduction – no charge to customer
3) Online – www.clayruralwater.com – click on Customer Portal (fees do apply)
4) Credit/Debit Cards – fees apply

Call our office for more details on any of these options at 605-267-2088.

DISTRICT ELECTIONS RECENTLY HELD

District Elections were held March 7th. In District I, Kari Surprenant of Centerville was elected to fill the seat vacated by Randy Huot. In District II, Jerry Buum of Beresford was re-elected for his second term. In District III, Kim Brandon of Elk Point was elected to fill the seat vacated by Tim Irwin. Directors are elected for a three-year term. We welcome these two new Directors to the Board!

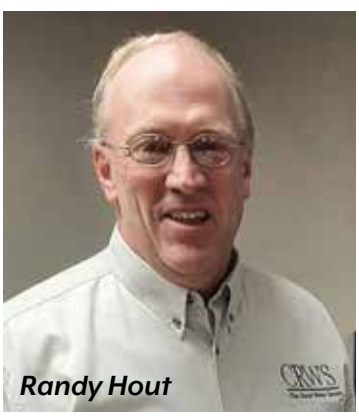
NEW EMPLOYEE AT CRWS

Matt Thompson was recently hired as a System Operator for Clay Rural Water. He comes to us with three years of water distribution experience, most recently working for the City of Centerville. Matt is married to his wife Emily. They and their two children, Helen & Nash, reside in rural Irene. He is the Fire Chief for Viborg and in his spare time he enjoys riding his motorcycle. Welcome Matt!

TWO DIRECTORS RETIRE FROM BOARD

At their February 25th meeting, two Directors retired from the Board. Randy Huot, who has served four terms, was elected to the Board in 2013, served as Secretary/Treasurer and has been the Board President for the last five years. Tim Irwin was elected to the Board in 2019 and has served two terms. The Board expresses thanks to Randy & Tim for their years of service to the Board of Directors.


Tim Irwin



Randy Hout

DID YOU KNOW...

One of the best ways to get information pertaining to emergency shut offs, outages, or scheduled maintenance is to check our Facebook page or website. We diligently update our website and Facebook page with up-to-date information when we have unexpected situations arise, as well as any scheduled repairs we may have. So, search Clay Rural Water System on Facebook and like our page so you can stay informed! And be sure to check out our website at www.clayruralwater.com.

BACKYARD POLLINATOR GARDENS

There are many reasons why pollinators are important for our own health and why healthy soil and pollinators are connected. Pollinators help contribute to a diverse plant community which in-turn increases the health of your soil. Listed below are a few interesting facts about the need for pollinators.

- **More than 100 crops in North America need pollinators.**
- **One out of every three bites of food is dependent on pollinators.**
- **More than 75% of flowering plants depend on pollinators.**
- **More than $200 billion per year impact on the global economy.**

POLLINATORS

Bees are one of the most important pollinators in the world. There are over 4,000 species of bees in North America and hundreds of species in South Dakota. Over 90% of the bees are solitary, but some are communal or social bees like honey bees and some bumblebees. About 30% of solitary bees use locations like abandoned beetle tunnels in old logs for nesting and 70% nest in the ground. Butterflies are another important pollinator in South Dakota and habitat provided for either will benefit both and also benefit your garden.

GARDEN LOCATION AND MAINTENANCE

The best location for a pollinator garden has a mix of full and partial sun. Provide a place for butterflies to rest and bask in the sun. Butterflies need sun for orientation and to warm their wings for flight. Flat stones placed in a sunny part of the garden provide butterflies with an area to enjoy the sun. Butterflies often congregate on wet sand and mud to partake in "puddling," drinking water and extracting minerals from damp puddles. Place coarse sand in a shallow pan and then insert the pan in the soil of your habitat. Make sure to keep the sand moist. Provide an area of bare or nearly bare soil that is undisturbed for ground nesting bees. Mulching your garden is a good idea for moisture retention, weed suppression, and soil health, but many ground nesting bees require an area of well-drained bare ground. The area does not need to be large or exposed to the wind, a small area about 12 inches square will be sufficient.

Avoid areas with a strong history of noxious weeds and try to locate the garden in an area with good soils that are not too wet. A garden near other existing habitat is better than an isolated island of habitat.

Leave residual vegetation (dead stems) in the garden until warm weather arrives in the spring. Many cavity nesting pollinators use dead hollow stems for nesting. Beds can be cleaned once the weather has warmed in the spring and any extra stems or leaves that are not left as mulch can be added to a compost pile.

Plant good nectar sources in the sun. Your key butterfly nectar source plants should receive full sun from mid-morning to mid-afternoon. Butterfly adults generally feed only in the sun. If sunshine is limited in your landscape, try adding butterfly nectar sources to the vegetable garden.

GARDEN DESIGN

- Place taller flowering plants and native grasses towards the back of the flower bed and shorter plants towards the front. This allows better growth and more sun to reach the flowers.
- Use bloom date guide included in this document and have at least one species blooming during all seasons, from April to October.
- Place clusters of each species (4-6 plants) rather than random scattered plants. Pollinators are more attracted to a cluster of plants that are blooming at the same time.
- Use the bloom color guide to select several different colors of flowers rather than all one color such as yellow or purple.
- Cover the garden area with a thick layer of mulch after planting (if using plugs or potted plants) or wait until seedlings have developed before mulching if using seed. Make sure to leave at least one bare ground area for ground nesting bees.

INFORMATION PROVIDED BY THE SOUTH DAKOTA SOIL HEALTH COALITION – sdsoilhealthcoalition.com

THE GROWING CONCERN OVER PFAS AND LITHIUM IN SOUTH DAKOTA'S WATER

Recently, there has been increasing awareness of contaminants in drinking water, with two substances drawing particular attention: per- and polyfluoroalkyl substances (PFAS) and lithium. Like many other states, South Dakota has begun rigorous testing to assess and address these contaminants, which pose potential risks to public health and the environment.

What Are PFAS?

PFAS, often referred to as "forever chemicals," are a group of synthetic compounds used in various industrial and consumer products due to their resistance to water, grease, and heat. These chemicals are commonly found in non-stick cookware, waterproof clothing, firefighting foams, and certain food packaging. While their durability makes them useful, it also means they persist in the environment and accumulate in human and animal tissues over time.

Studies have linked PFAS exposure to a range of health issues, including:

- Increased cholesterol levels
- Hormonal disruptions
- Immune system suppression
- Certain cancers

Given these potential risks, the U.S. Environmental Protection Agency (EPA) has been working to establish stricter guidelines for PFAS levels in drinking water. This has prompted states like South Dakota to conduct widespread testing to better understand the prevalence of these chemicals in local water systems.

Why Test for Lithium?

Lithium is a naturally occurring element found in rocks, soil, and water. It has various industrial applications, including rechargeable batteries, ceramics, and pharmaceuticals. While the EPA does not currently regulate lithium as a contaminant, its presence in drinking water

has raised questions about its long-term health effects.

Low levels of lithium in water have been linked to potential mental health benefits, such as reduced rates of depression and suicide. However, excessive exposure could lead to health issues, including kidney damage and thyroid dysfunction. The increasing demand for lithium due to the rise in electric vehicles and renewable energy storage systems has also raised concerns about potential environmental contamination from mining and industrial processes.

South Dakota's decision to test for PFAS and lithium reflects a broader commitment to public health and ensuring the sustainability of its water resources. Key factors driving these efforts include:

1. **Federal Guidelines and Funding:** The federal government has prioritized addressing PFAS contamination through initiatives like the Bipartisan Infrastructure Law, which allocates water testing and treatment funding.

2. **Local Concerns:** Communities across South Dakota rely on groundwater for drinking water, making monitoring and addressing potential contaminants essential to prevent long-term health risks.

3. **Economic Implications:** As South Dakota's economy benefits from industries like agriculture and tourism, clean water is a cornerstone for both public trust and sustainable growth.

Testing for contaminants is just the first step. Effective remediation and prevention strategies will require:

- **Advanced Treatment Technologies:** Removing PFAS and lithium from water often involves specialized filtration systems, such as activated carbon or reverse osmosis.

- **Public Education:** Informing residents about the sources and risks of these contaminants empowers communities to advocate for stronger protections.

- **Collaboration:** Federal, state, and local governments must work together to fund and implement solutions that address contamination at its source.

As science continues to uncover the impacts of PFAS and lithium on health and the environment, South Dakota's proactive testing initiatives serve as a model for other states. By addressing these issues now, the state is taking important steps to ensure the safety and sustainability of its water resources for future generations.

In a world where clean water is an increasingly precious resource, vigilance and action are not just necessary – they are imperative.

HOW YOUR WATER SOURCE AFFECTS QUALITY & CHEMISTRY

Water is essential to life, but did you know that its source plays a crucial role in determining its quality, taste, and safety? Whether your water comes from a river, lake, or underground aquifer, the differences in origin impact everything from mineral content to the presence of contaminants. Understanding these distinctions can help consumers make informed choices about their water consumption and treatment needs.

SURFACE WATER VS. GROUNDWATER: WHAT'S THE DIFFERENCE?

Water supplies generally fall into two categories: surface water and groundwater. Surface water is sourced from lakes, rivers, and reservoirs, while groundwater comes from underground aquifers accessed through wells. Because surface water is exposed to environmental factors, it tends to have more organic contaminants and microbial activity. In contrast, groundwater is filtered naturally through layers of rock and soil, giving it a different chemical composition.

WHAT'S IN YOUR WATER? A LOOK AT CONTAMINANTS AND CHEMISTRY:

Surface Water Characteristics

- **Higher Microbial Activity** – Rivers and lakes are open to environmental exposure, making them more susceptible to bacteria, viruses, and parasites from runoff and wastewater discharge. This is why surface water typically requires extensive filtration and disinfection.
- **Organic and Chemical Contaminants** – Pesticides, herbicides, and industrial pollutants can wash into surface water sources, increasing the need for advanced treatment methods.
- **Nutrient Pollution** – Fertilizers used in agriculture can contribute to high nitrogen and phosphorus levels, leading to algal blooms and taste or odor issues.
- **Turbidity** (Cloudiness) – Surface water often contains suspended particles from soil erosion, making it appear murky and requiring additional treatment to remove sediments.

Groundwater Characteristics

- **Higher Mineral Content** – As groundwater moves

through rock layers, it absorbs minerals like calcium, magnesium, and iron, which can contribute to water hardness and scaling in pipes and appliances.

- **Natural Contaminants** – Elements like arsenic, fluoride, and radon can be found in certain groundwater sources, sometimes requiring specialized treatment.
- **Lower Microbial Risk** – Because groundwater is naturally filtered through soil and rock, it generally contains fewer bacteria and viruses, though shallow wells can still be vulnerable to contamination.
- **Stable Chemistry** – Groundwater usually has a more consistent pH and alkalinity compared to surface water, which can fluctuate due to acid rain, industrial runoff, and seasonal changes.

How Water Treatment Adapts to Different Sources

Since surface water and groundwater have distinct characteristics, their treatment methods also differ:

Surface water treatment focuses on removing pathogens, sediments, and pollutants. This often includes filtration, coagulation, sedimentation, and disinfection processes like chlorination or ultraviolet (UV) treatment.

Groundwater treatment typically addresses mineral content, heavy metals, and natural contaminants. Techniques like water softening, reverse osmosis, and aeration help remove excess minerals and unwanted elements.

The Role of Climate and Geography in Water Quality

Climate and geographic factors significantly impact water quality and availability. Regions with heavy rainfall and dense vegetation often have more abundant surface water sources, while arid areas rely heavily on groundwater. Seasonal changes can affect water levels, temperature, and contamination risks. For instance:

Drought-prone regions may experience lower groundwater recharge, leading to higher mineral concentrations and water scarcity.

Coastal areas may face saltwater intrusion in freshwater supplies, requiring desalination efforts.

Industrial and agricultural zones are more likely to experience contamination from chemicals, fertilizers, and heavy metals seeping into both surface and groundwater.

Water Quality Testing and Consumer Awareness

Regular water testing is crucial for both municipal and private water sources. Public water systems are required to comply with Environmental Protection Agency (EPA) regulations, ensuring safe drinking water through rigorous monitoring. However, private well owners must take responsibility for testing their water for contaminants like bacteria, nitrates, and heavy metals.

What This Means for You

If your water comes from a municipal supply, rest assured that it undergoes rigorous testing and treatment to meet safety standards. However, if you rely on a private well, regular testing is essential to ensure safe drinking water, as groundwater quality can vary based on location and environmental factors.

Understanding how water quality is shaped by nature and human activity can help you appreciate the journey your water takes before it reaches your tap.

Understanding how water quality is shaped by nature and human activity can help you appreciate the journey your water takes before it reaches your tap. Whether you prefer the crisp taste of surface water or the mineral-rich quality of groundwater, being informed empowers you to make the best choices for your household's water needs.

Future Trends in Water Treatment and Sustainability

As technology advances, new water treatment methods are emerging to improve efficiency and sustainability. Some key trends include:

- **Advanced Filtration Techniques** – Innovations like nanofiltration and membrane bioreactors provide more effective purification while using less energy.
- **Smart Water Monitoring** – IoT-based sensors allow real-time tracking of water quality and usage, helping communities detect contamination faster.
- **Water Reuse and Recycling** – Treated wastewater is increasingly being repurposed for irrigation, industrial use, and even potable water supplies.
- **Desalination Breakthroughs** – Improved desalination technology is making it more cost-effective to convert seawater into drinking water, benefiting coastal and drought-affected regions.

By staying informed about these developments, consumers can make more sustainable water choices and contribute to a future where clean water remains accessible for all.

CLAY RURAL WATER SYSTEM

In January 1975, Clay County Extension Agent Bob Schurrer launched an ambitious initiative—surveying every farm and landowner in the county to gather information about water quality and availability. The survey also posed a pivotal question: Were residents interested in developing a rural water system? The response was overwhelming, with more than half expressing interest.

At the time, many rural residents faced significant water challenges. Wells in parts of the county contained high mineral levels, and many families relied on hauling water to cisterns on their farms and acreages. Recognizing the need for a sustainable solution, Schurrer and other community leaders took action.

In March 1975, three informational meetings were held across Clay County to discuss the feasibility of a rural water system. The primary advantage? Convenience. Attendees recognized the potential benefits, including improved water quality, consistent pressure, and a dependable supply during droughts. Encouraged by positive feedback, a steering committee was formed to further explore the idea.

The first organizational meeting took place on April 29, 1975, at the 4-H Center in Vermillion, drawing approximately 60 rural residents. With enthusiasm high, the group elected a 12-member Board of Directors, with Ken Mockler of Vermillion named Chairman. Rural resident Jack DeVany stepped forward to serve as the system's attorney, and by July 21, 1975, Clay Rural Water System was officially incorporated.

Establishing a rural water system was no small task. With little precedent to follow, the Board, along with Schurrer and DeVany, embarked on one of the most significant infrastructure efforts since rural electrification decades earlier. They had to answer a key question: "Why a rural water system?"

The answer was clear. A centralized system would provide clean water directly to the homes and farms. Additionally, improved water quality would protect plumbing fixtures and pipes, and livestock would benefit from a steady supply of water.

As interest spread beyond Clay County, the project's scope expanded to include Union County. The Board enlisted the engineering firm DeWild Grant Reckert and Associates (DGR) of Rock Rapids to conduct a feasibility study. Completed in January 1976, the report confirmed the system's viability, citing a service area that included 3,000 people, 1,700 dairy cattle, 59,000 feeder and stock cows, and 94,000 hogs and sheep.

The first annual meeting of Clay Rural Water System was held in January 1976, with Ernest Schmidt elected as Chairman. Sign-ups quickly began, with meetings in Wakonda, Garryowen, the SE Research Farm, and Vermillion. Within three days, 730 locations joined, eventually reaching 980 members, each paying a $200 hookup fee.

Securing funding was the next crucial step. In February 1976, the Board submitted a loan and grant application to the Farmers Home Administration. By fall 1977, funding was approved - a $3.35 million loan, a $660,000 grant, and a $300,000 state grant. Hookup fees from new members helped cover the remaining costs.

Construction began swiftly, and by the end of the process, Clay Rural Water System was serving nearly 1,000 members, delivering quality water to approximately 3,500 people and thousands of livestock. From concept to completion, the transformation took just five years.

Since its inception, Clay Rural Water has expanded tremendously. Membership has more than doubled, and system capacity has significantly increased. Initially,

CLAY RURAL WATER SYSTEM

the system could treat 1.2 million gallons per day (MGD); today, it handles 1.5 MGD. Storage capacity has grown from 760,000 gallons to 1.21 million gallons.

A major milestone occurred in 1996 when the water plant was remodeled into a softening plant, further enhancing water quality. Today, most customers receive water from the Wakonda Water Treatment Plant, a 1.2 MGD facility utilizing lime softening. The plant draws from two high-capacity wells in the Lower Vermillion-Upper Missouri Aquifer, each producing over 1,000 gallons per minute (gpm). Customers in southern Union County receive water from the Wynstone Water Treatment Plant, which uses reverse-osmosis technology and wells in the Dakota Formation Aquifer, each yielding 350 gpm.

With total membership now at 2,555, Clay Rural Water System continues to innovate. In April 2022, the system secured a $7.44 million American Rescue Plan Act (ARPA) grant to fund the "Chapter Project," installing nearly 85,000 feet of pipeline to improve pressure, increase capacity, and address water loss issues.

The system's commitment to progress remains strong. In 2024, Clay Rural Water System received an additional $2.49 million ARPA grant to construct two ground storage reservoirs near the Greenfield reservoir and Wakonda Water Treatment Plant. The project also includes a new booster station and distribution line improvements to accommodate a Highway 46 construction project.

Further improvements include replacing the Spink booster station, originally installed in 1979. The upgraded booster will enhance water loss monitoring and improve pressure zones in the Akron and Spink areas. The Clay Rural Water System is on the move again this spring continuing with the final stages of the existing Phase I project, and moving forward with the design process of Phase II, which is the new Water Treatment Plant next to the Wakonda location.

From its humble beginnings to its role as a vital community resource, Clay Rural Water System has consistently adapted to meet the needs of its members. What began as a simple survey in 1975 has evolved into a modern, high-capacity water system supporting thousands of people and businesses across the region. As it continues to expand and modernize, Clay Rural Water System stands as a testament to vision, perseverance, and community commitment.

DIRECTORS:

Randy Huot – President
Cody Merrigan – Vice President
Patricia Manning – Secretary/Treasurer
Mark Bottolfson – State Association Director
Tim Irwin – Director
Ken Kessler – Director
Jerry Buum – Director
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Rob Ganschow, Chief Treatment Plant Operator
Andy Ganschow, Chief Distribution Operator
Phil Iverson, System Operator
Lane Severson, System Operator
Matt Thompson, System Operator

STATISTICS:

Hookups: 2,555

Miles of Pipeline: 1,405

Water Source: Groundwater (Lower Vermillion-Upper Missouri), Dakota Aquifer

Counties Served: Clay, Union, parts of Lincoln, Turner, and Yankton

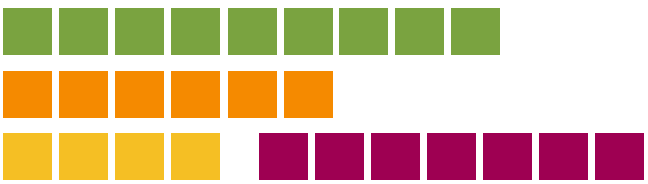
Towns Served Individual: Burbank, Meckling, Deer Run

Towns Served Bulk: Wakonda, Gayville

RURAL WATER CROSSWORD & WORD SCRAMBLE CONTEST

LOCAL FLORA

SCRAMBLE ANSWER



Enter to Win $100

Across

4. Fragrant purple or white flower commonly found in shrubs
8. South Dakota's state flower, blooms early in spring
10. Native prairie flower known for its immune-boosting properties
12. Tall, bright flower that follows the sun
13. Perennial flower that blooms for just one day
14. Colorful garden annual that attracts butterflies

Down

1. A yellow wildflower with a dark center, often seen in meadows
2. Also known as bee balm, loved by pollinators
3. Simple white flower with a yellow center, often used in 'he loves me, he loves me not'
5. Popular garden flower available in many colors, often used in hanging baskets
6. Bright orange or yellow flower known for pest resistance
7. Essential plant for monarch butterflies
9. Fragrant, large blooms often seen in wedding bouquets
11. Spring-blooming bulb famous in Dutch gardens

RULES: Use the colored squares in the puzzle to solve the word scramble above. Call your Rural Water System (See page 2 for contact information) or **enter online at www.sdarws.com/crossword.html** with the correct phrase by April 15, 2025 to be entered into the $100 drawing.

Only one entry allowed per address/household. You must be a member of a participating rural water system to be eligible for the prize. Your information will only be used to notify the winner, and will not be shared or sold.

Congratulations to Douglas Lynch from Brookings-Deuel Rural Water who had the correct phrase of "feels like hot cocoa weather" for January 2025.

SOUTH DAKOTA RURAL WATER
APPRENTICESHIP PROGRAM
For Water & Wastewater Operators

The South Dakota Association of Rural Water Systems (SDARWS) is developing a **Registered Apprenticeship Program**. The Apprenticeship Program will be a combination of On-the-Job training (OJT) and Related Technical Instruction (RTI) in which the apprentice is provided the tools necessary to be a successful **Operations Specialist** in the water or wastewater field.

- **Earn-as-you-learn program**
- **Accelerated pathway into the water and wastewater industry**
- **Work with qualified mentor from participating employer**
- **Progressive wage schedule**

APPLICATION REQUIREMENTS:

- Must be at least 18-years-old
- Must have high school diploma, GED equivalency, or other high school equivalency credential
- Must be physically capable of performing the essential functions of the program
- Must possess a valid state issued driver's license

TWO OPTIONS AVAILABLE

- Water Systems Operation Specialist
- Wastewater Systems Operation Specialist

The Apprenticeship Program should take approximately two years to complete.

- ☐ 4,000 hours of On-the-Job Training (OJT) required
- ☐ 288 hours of Related Technical Instruction (RTI) required

LEARN MORE AT sdarws.com/waterworks

FOR MORE INFORMATION, CONTACT:

Sue Bergheim, SDARWS Apprenticeship Coordinator
sbergheim@sdarws.com
605-556-7219 or 605-501-9208

SDARWS
South Dakota Association of Rural Water Systems

Annual Drinking Water Quality Report
Clay Rural Water System, Inc.
January 1, 2024 – December 31, 2024

Secretary's Award

The Clay Rural Water System has supplied 21 consecutive years of safe drinking water to the public it serves and has been awarded the Secretary's Award for Drinking Water Excellence by the South Dakota Department of Agriculture and Natural Resources. This report is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies.

Clay Rural Water System, Inc. serves more than 4,550 customers an average of 575,000 gallons of water per day out of the Wakonda plant and we serve more than 1,377 customers an average of 176,000 gallons of water per day out of the South Union plant. Our water is groundwater that we produce from local wells. The state has performed an assessment of our source water and they have determined that the relative susceptibility rating for the Clay Rural Water System public water supply system is medium while the Clay RWS/South Union water supply system is low.

For more information about your water and information on opportunities to participate in public meetings, call 605-267-2088 and ask for Steve Muilenburg.

Additional Information

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- ***Microbial contaminants***, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ***Inorganic contaminants***, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ***Pesticides and herbicides***, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- ***Organic chemical contaminants***, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- ***Radioactive contaminants***, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants can be obtained by calling the Environment Protection Agency's Safe Drinking Water Hotline at 800-426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Clay Rural Water System public water supply system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://*www.epa.gov/safewater/lead*.

Detected Contaminants

The tables on page 15 list all the drinking water contaminants that we detected during the 2024 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 – December 31, 2024. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

2024 Clay Rural Water Quality Test Results

Wakonda Source (EPA ID 0626)

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.0	0	07/17/24	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	1	0	07/17/24	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Barium	0.0055	0.0055 - 0.0055	11/15/21	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	0.90	0.90 - 0.90	11/15/21	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Nitrite (as Nitrogen)	0.04		09/09/24	1	1	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Total Coliform Bacteria	3	positive samples		1	0	pspm	Naturally present in the environment.

South Union Source (EPA ID 2185)

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.5	0	08/10/22	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	3	1	08/10/22	AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Arsenic	1.00	1.00 - 1.00	06/06/22	10	0	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	0.0037	0.0037 - 0.0037	06/06/22	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	0.55	0.55 - 0.55	06/06/22	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Haloacetic Acids (RAA)	3.37		09/10/24	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Total trihalomethanes (RAA)	12.3		09/10/24	80	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.

Lewis & Clark Regional Water System (EPA ID 2288)

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.0	0		AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	0	0		AL=15	0	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

Substance	Highest Level Detected	Range	Date Tested	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Major Source of Contaminant
Arsenic	5		10/31/22	10	0	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	0.015		10/31/22	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride	1.81	0.58 - 1.81	12/26/23	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	0.3		10/23/23	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

TERMS & ABBREVIATIONS USED IN TABLES

Action Level (AL) – the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. For Lead and Copper, 90% of the samples must be below the AL.

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Running Annual Average (RAA) – Compliance is calculated using the running annual average of samples from designated monitoring locations.

UNITS

ppm – parts per million, or milligrams per liter (mg/l)
ppb – parts per billion, or micrograms per liter (ug/l)

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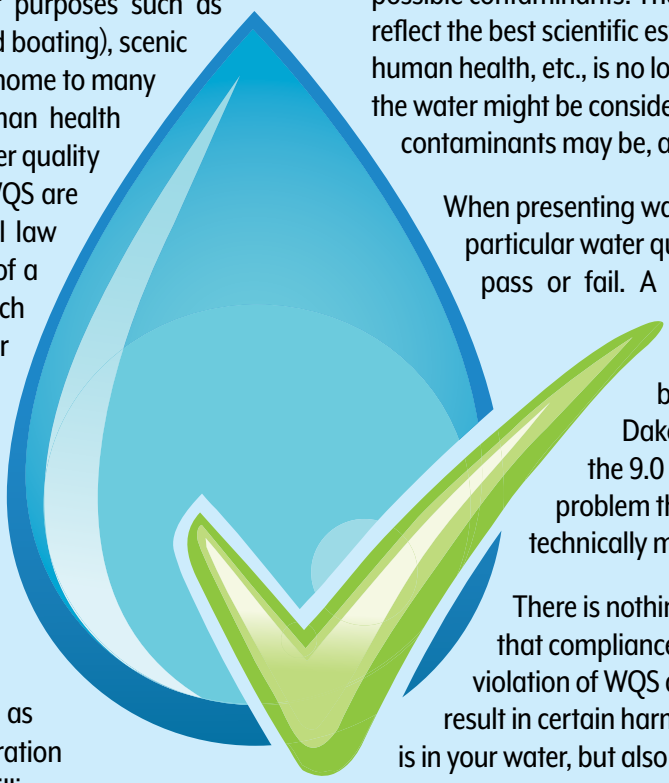
WATER MATTERS

WATER QUALITY STANDARDS

Water bodies can be used for purposes such as recreation (e.g. swimming and boating), scenic enjoyment and fishing, and are the home to many aquatic organisms. To protect human health and aquatic life in these waters, water quality standards (WQS) are established. WQS are provisions of state, tribal or federal law that describe the desired condition of a water body and the means by which that condition will be protected or achieved. Further, WQS form a legal basis for controlling pollutants entering these waters.



Standards are typically defined in terms of an acceptable concentration or level of a particular chemical, physical or biologic parameter. For example, in South Dakota, for waters designated as drinking water supplies, the concentration of nitrate (NO3-) cannot exceed 10 milligrams per liter (mg/L). Waters designated as cold-water fisheries (trout streams), water temperature cannot exceed 65°F. If swimming immersion recreation (in government speak) is the goal, levels of Escherichia coli (E. coli) bacteria in excess of 235 colonies per 100 milliliters of sample are considered problematic.

It is important to understand that while WQS have been established for most water bodies in the State, compliance with the WQS does not mean that the water is completely free of any possible contaminants. The established standards most often reflect the best scientific estimate of when the potential risk to human health, etc., is no longer statistically acceptable. Although the water might be considered safe from a regulatory standpoint, contaminants may be, and most likely are, still present.

When presenting water quality information, the results of a particular water quality test are often expressed as either pass or fail. A nitrate reading of 9.0 mg/L would be considered 'acceptable,' as it is below the 10 mg/L WQS. However, background nitrate levels in South Dakota waters rarely exceed 1-2 mg/L, so the 9.0 reading is strongly suggestive of a problem that ought to be addressed, even if it technically meets the WQS.

There is nothing magic about WQS that would mean that compliance translates to zero risk. Similarly, violation of WQS does not mean that interaction will result in certain harm. It is important to know not only what is in your water, but also what this really means.

What are South Dakota's water quality standards? They can be found in Chapter 74:51:01 of the Administrative Rules of South Dakota. https://sdlegislature.gov/Rules/DisplayRule.aspx?Rule=74:51:01

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