TM Rural Water District

Quality On Tap!

April 2022 | Volume 17, Issue 3

REMEMBER WHEN
LIFE BEFORE RURAL WATER

MANAGING STORMWATER

SPRING GARDEN PLANTING:
GETTING A HEAD START

FROM THE MANAGER

Jay Jorgensen
Jay.Jorgensen@tmruralwater.com

Three months since the last *Quality on Tap* Magazine and we have not seen much rain in that time. Cracks in the ground in January had us all saying that you could lose a quarter if you dropped it in but now, I think I could lose my cellphone down some of the cracks in my pasture. An optimistic farmer once told me that Spring is a good time for a drought as long as it starts raining after the seed is in the ground. It is a good reminder of how much we depend on a steady ample supply of the essential natural resource of water. Let's all send up a prayer for ample moisture this season for our farming communities and do you part to conserve water when possible.

The District's water supply remains secure and healthy even with the persistent drought conditions that we have been seeing. TM treats ground water pumped from our well fields in the Dolton area and blends our finished water with supplemental water connections from BY Water User District and the city of Parker. By utilizing these supplemental connections, the district is able to properly manage the aquifers that we draw the majority of our water supply from.

Summer will be here before we know it and we are receiving new application for water service to be installed this spring on a weekly basis already. If you know someone that is thinking about hooking up to the system, please tell them to call in to get put on the list.

Annual Water Quality Report

You will find TM's Annual Drinking Water Report on pages 14-15. Every year we are required to publish this report to all water users on our system. The report represents the results of water testing done by the District during 2021 and gives a breakdown of the District's source waters and treatment processes. TM is pleased to report that the District complied with all state and federal drinking water regulations in 2021.

Just a reminder that TM's website is up and operational and can be accessed by typing www.tmruralwater.com into your internet browser. On this site you will be able to access forms and documents relating to the District, and you also have the option to pay your water bill online utilizing debit/credit card or an echeck.

Repairing leaks is a big part of the maintenance that TM performs each year, and we rely on our users to call in if they see a potential leak. Please do not hesitate to call if you suspect a leak, and the sooner the better, fixing leaks early reduces expenses to the system which benefits all users in the District. If in doubt, call us out.

And once again, thank you for choosing TM Rural Water District for your source of clean, reliable drinking water.

TM Rural Water District
Quality On Tap!

CONTACT US

110 North Main
Box 445
Parker, SD 57053
605-297-3334 / 1-877-242-3420
E-mail: tmrwd@iw.net

OFFICE HOURS

8:00 am - Noon & 12:30 pm - 4:30 pm
Monday - Thursday
Office is Closed
Friday-Sunday and Holidays

TM Rural Water District Quality On Tap! is published quarterly by TM Rural Water District, PO Box 445, Parker, SD 57053 for its water users

TM Rural Water District CALENDAR

MARCH 28TH
TM Rural Water District Board Meeting in Parker at 7:00 PM

FRIDAY APRIL 15TH
Good Friday Holiday

APRIL 25TH
TM Rural Water District Board Meeting in Parker at 8:00 PM

MAY 23RD
TM Rural Water District Board Meeting in Parker at 8:00 PM

If you have an emergency, please call the TM office at 605-297-3334

TM RURAL WATER DISTRICT'S MISSION

TM Rural Water District's goal is to improve the quality of life in the rural and small community areas of our state. The District is committed to providing the highest quality drinking water possible at the lowest reasonable cost consistent with good business practices. As a water user district, the only other product that we have is the service we provide the users. The District goal is that the service is offered with the highest standards.

MONTHLY PAYMENT OPTIONS

Cash, Check, E-Check, Credit Card or Money Order
Automatic Bank Deductions (ACH)

www.tmruralwater.com
(click "Pay Online Now" button)

Just for Laughs:

Sven says to Ole, "I found dis pen, is it yours?"

Ole replies, "Don't know, give it here."

He then tries it and says, "Yes, it is."

Sven asks, "How do you know?"

Ole replies, "Cause dat's my handwriting!"

TM TRIVIA

In this edition of *Quality on Tap*, be the first person to call Tanya with correct answers to the following questions below at 605-297-3334 to receive $10 off your next water bill. A second-place drawing for $10 off your next water bill will also be taken from those people who call in after the initial winner, so don't give up.

Giving and Kindness

1. **What do we call it when you do good work for no pay?**
2. **What courteous word helps turn a question into a request rather than a demand?**
3. **When we try to understand what someone is feeling, what emotion are we expressing?**
4. **What two words offer a polite expression of one's gratitude?**
5. **What are you pointing out when you try to show someone their glass is half full instead of half empty, or when you point out the silver lining in a situation?**
6. **What is the most precious gift we can give someone?**

TM Rural Water District employs six full-time employees from three different communities in the areas that we serve. Whenever possible we attempt to buy our supplies and consumables locally and prefer to hire local contractors when the need arises. We are thankful to have the ability to serve the communities and rural areas in which we live and hope that our service will continue to be a benefit to everyone in our District.

Five Things This Earth Day to Save Water

If you want to celebrate the Earth this year, don't forget to include water. More than 70 percent of the surface of our planet is water, but almost all of that is ocean water so full of salt, so we can't drink it! Because water is such a precious resource, we all need to do our part to save it. Here are five ways you can start saving water on Earth Day—and every day:

1. **Stop the flow.** Water doesn't need to be flowing while you are busy brushing your teeth, so why not turn it off and save a couple gallons? Also, be sure that the faucet is turned off tightly when you're done washing your hands…those drips become wasted gallons.

2. **Lose the hose, reuse those drops.** If you don't drink all the water in your glass, use it to water houseplants or flowers in the garden. Leftover ice cubes can go right into small plant pots; as they slowly melt, they will give the roots just the water they need.

3. **Scrap the rinse, scrape instead.** If you're cleaning up after meals, scrape food scraps into the trash before loading the dishwasher. Washing and rinsing dishes in the sink uses a lot more water than the dishwasher, but only run the washer when it's full.

4. **Take a shower instead of a soak.** A shower uses less water than filling the bathtub; just don't stand under the spray for too long! If you shorten your shower by just a minute, it will save two gallons of water. Use less shampoo, so it doesn't take long to rinse.

5. **Don't use the toilet for trash.** Used paper towels and tissues belong in the garbage. Only flush the three Ps—pee, poop, and (toilet) paper. When you use the toilet as a trash can, you waste anywhere from one gallon of water to three gallons or more!

EPA WaterSense

For more information, fun activities, and even a game you can play while you learn to save water, visit www.epa.gov/watersense/watersense-kids.

SPRING GARDEN PLANNING:
Getting a Head Start

By Donna Rumbaugh | Extension Master Gardener

Get on your marks, get set...GO! Whether you are an avid gardener or an aspiring new gardener, this is the time to get ready! While Mother Nature isn't quite ready for us to roll up our sleeves and start breaking ground yet, planning is the key to a successful garden.

The most important thing to remember when it comes to spring gardening is to not be in a hurry. It is easy to be lured into thinking spring has sprung, only to get blown away with a late spring blizzard or freezing temperatures. According to the Farmer's Almanac, the last spring frost for our area should be around May 3rd this year. As a general rule, Mother's Day kicks off the gardening season, but even then, it can be pushing it a little.

When planning your garden, there are many things to consider now to make gardening a joy, not a chore. First and foremost, location, location, location! If a garden is close to the house, the gardener can easily check the plant's progress and provide the needed care. Water is generally more accessible near houses or other buildings as well. But if the soil is poor, drainage is inadequate, or there is too much shade, then look elsewhere.

Vegetables require regular watering, so a water source is very important. Most vegetables will need an inch or more of water a week. Inconsistent watering causes produce to crack and develop diseases. The water source should be convenient, or it will be challenging to water as often as needed and gardeners will become discouraged. If you are far from a water source, consider a drip system fed by a water tank. Not all water in South Dakota is suitable for irrigation. Artesian water is often higher in salts or sodium and may not be usable.

If space is limited, consider placing plants that require a small amount of room near the house, and put those requiring larger space where more room is available. "Pretty" vegetables can be mixed into flower beds. Vining plants such as cucumbers can be trellised against a wall, and most bush types of vegetables can be grown in a container.

Next, let's think about the amount of sun that touches the ground throughout the day. Most vegetables need at least six to eight hours of full sunlight a day. Less light will cause your plants to grow tall and leggy. You will get leaves, but little produce. Leafy vegetables such as lettuce may be grown in shadier areas during the hottest part of the summer, as they prefer a cooler environment.

The wind is another consideration, especially here on the upper plains. If your garden is in an exposed area, consider providing some sort of windbreak. Trees and shrubs are effective, but if they are too close to the garden, they can compete for soil moisture and nutrients, and shade the garden. Tilling too close to trees or shrubs can result in rapid regrowth from the roots and cause headaches down the road. Also, keep your garden away from black walnut trees, as the roots produce a substance that will harm tomatoes and other garden plants. If trees are not an option, think outside the box. Plant three to four rows of sweet corn or sunflowers on the windward side of the garden. Snow fences can be strategically placed to block wind, or planting Sorghum-sudangrass adds interest to the garden area.

Look for spots that have fertile soil that is workable and easy to dig at least eight inches deep. The soil should be well-drained. Avoid spots that have a history of flooding, as floodwaters can carry pathogens or chemicals that can contaminate the plants and make them unsafe to eat. Test your drainage by digging eight to 10 inches deep and filling it with water. If, after 12 hours, there is any water left in the hole, choose a different site, or consider building raised beds.

So, when you are feeling that itch to get outside and get started, just take a stroll around your yard, and keep these factors in mind while envisioning the location best suited for producing your fall harvest.

Managing Stormwater

By John McMaine, PhD

Until there is a flood, stormwater is not often at the forefront of people's mind. When a flood comes, it is often too late to react which leads to infrastructure damage or even loss of life.

Any rain drop that falls on the ground can do one of four things – run off the ground surface, go into the ground (infiltration), return to the atmosphere (evapotranspiration), or be stored on the ground surface or in soil. Most natural landscapes are primarily infiltration dominated systems but developed areas are runoff dominated systems. Any impervious surface generates significantly more runoff and less infiltration than most pervious surfaces. Impervious surfaces could include driveways, parking lots, roofs, or sidewalks. Around 55% of precipitation in a highly urbanized area with 75-100% impervious surfaces becomes runoff and only 10% is infiltrated into the ground. In comparison, only 10% of precipitation in an undeveloped area (0-10% impervious surface) becomes runoff. This dramatic change in hydrology increases risks of localized and downstream flooding and erosion.

Storm sewers have been used to manage excess localized flooding but because storm sewers do not reduce the peak flow (highest rate of runoff) and total volume (total amount of runoff from a storm), flood and erosion risk just gets shifted downstream. Detention basins are part of the second iteration of stormwater management and were introduced to control peak flow during storm events. Detention basins function by holding and storing water and releasing it through a controlled outlet like an orifice or a weir. While detention basins effectively reduce peak flow they do not reduce overall flow volume that is produced from impervious area. Excess volume can still lead to downstream flooding and erosion.

Green stormwater infrastructure or low impact development (LID) is a stormwater management philosophy that manages both peak flow as well as total flow volume. LID practices include rain gardens or bioretention, rainwater harvesting, permeable pavement, green roofs, and disconnection of impervious surfaces. While these practices are commonly part of the built environment across many cities in coastal states and some midsize and large cities in the Midwest, LID is not common in South Dakota. LID can be implemented by a homeowner or a municipality.

Rainwater harvesting (RWH) can be done at a small or large scale and can reduce potable (drinking water quality) water use as well as reduce peak flow and flow volume. RWH can be as simple as a 50 gallon rain barrel for watering flowers or as large and complex as a 10,000 gallon cistern with filtration that is used to flush toilets and wash vehicles in a commercial or industrial setting. For homeowners, a rain barrel is a great way to keep roof runoff from heading downstream and use that water as a resource. While it may not seem like much runoff is generated from a roof, it takes just 0.6 inches of rain on a 1,000 ft2 to fill a 50 gallon rain barrel. The average rainfall in eastern South Dakota (around 25 inches) would produce almost 2,100 gallons of

runoff from a 1,000 ft2 roof each year which would fill about 70 bathtubs!

Another practice that can be implemented by a homeowner is a rain garden. Rain gardens come in many shapes and sizes and can be made to look like a typical flower bed that can catch and store water. Instead of mounding a flower bed or having the flower bed even with the ground surface, a rain garden is dug out to be a little lower than the surrounding landscape. This allows water to pond for 24 to 48 hours and seep into the ground or return to the atmosphere through evapotranspiration (evapotranspiration is a combination of evaporation, water returning to the atmosphere due to the sun's energy, and transpiration, water returning to the atmosphere through plants). A rain garden is an attractive landscape feature that can also improve downstream water quality and reduce downstream flooding by reducing peak flows and flow volume. An easy rule of thumb for design is to make the rain garden about 10 times smaller than the area draining into it. For a 1,000 ft2 roof, a rain garden could be about 100 ft2 or 10 ft by 10 ft. This relatively small footprint allows rain gardens to be added to yards without inconveniencing the homeowner. One caveat is to stay 10-15 feet away from a building foundation so infiltrating water does not cause foundation problems. Rain gardens should also not be built over a septic system since the extra water could overload the system. Plants should be chosen that can get their feet wet but also be able to withstand dry periods. Some common rain garden plants are rudbeckia (coneflower and black eyed susan), liatris (blazing star), heliopsis (false sunflower), salvia (sage), calamagrostis (reedgrass), heterolepis (prairie dropseed), and aquilegia (columbine). Since the deepest part of the rain garden will maintain water for a longer period of time and the upper parts for a shorter period of time, plants should be placed according to their ideal conditions.

Research and extension faculty in the Agricultural and Biosystems Engineering department and Landscape Architecture department at South Dakota State University have recently implemented several LID practices for demonstration and research. In partnership with the Brookings Boys and Girls Club, students and faculty built a bioretention cell (engineered rain garden) with an area of approximately 2,000 ft2. The bioretention cell collects runoff from about 20,000 ft2 large parking lot and part of a roof. A rainwater harvest cistern was also installed to collect rainwater from a community garden shelter roof. Collected water can then be used to water plants in the community garden. It is best to apply harvested rainwater as directly to the roots as possible and to not apply to root crops such as potatoes or carrots. Though the risk is very low, there is some chance of bacteria presence in the rainwater if there are bird droppings on the roof.

Are you interested in improving water quality and reducing downstream flooding? Consider implementing easy, attractive LID practices and encourage others to consider how they manage runoff. Rain barrels benefit the homeowner by reducing the amount of potable water that is used for landscaping while also limiting the amount of water that flows downstream. Rain gardens add both beauty and function to a landscape and can also provide pollinator habitat. Remember, we are all upstream of someone and everyone has a responsibility to be a good water neighbor and consider what we send downstream.

John McMaine, PhD is the Assistant Professor/Extension Specialist-Water Management Engineer at South Dakota State University in Brookings, SD.

REMEMBER WHEN...

Life Before Rural Water in South Dakota

Before Clay Rural Water, we had to buy water as our well water was too hard to use in the house.

When we first got married, we ran out of water and couldn't get anyone to deliver water because we weren't regular customers! We had a 3 day blizzard and I had to haul 5 gallon buckets from the well for basic needs.

Then my cousin and his wife from Detroit came to visit. They had no idea about water conservation and used all our water taking showers the first morning.

On the livestock side of things, I had pressure systems on both places so there wasn't much difference, but if I had well trouble it always seemed to be on the coldest day of the year. Did seem I had less pig scours after I went to Clay Rural Water.

Thankful for Clay Rural Water!

– **John Haver, Former Director of Clay Rural Water System**

For many years, our family used water from several shallow or artesian wells on our homestead. The wells were powered by windmills or had to be pumped by hand to get any water, which was a lot of work. These wells were not fit for our family to drink, so once a week we had to haul water from town. We had a 1,000 gallon tank on a trailer and as I remember, it cost our family about $2.00 for this tank of water. The water was used sparingly, so it would last until the next trip to town. This was very difficult especially in the winter and bad weather. It was a blessing when our family finally received rural water.

– **Dale Waters, Retired Board Member of the Tripp County Water Users District**

Before the advent of a rural water system in the area, water tanks in truck beds were a common sight on the roads around Winner, as northern residents drove to and from town hauling water for household use and in some cases to water livestock. The southern half of Tripp County had easy and plentiful access to water for its use, while the residents of northern Tripp County historically had a lack of potable water and drilled deep artesian wells at a great expense. These wells which produced smelly, foul-tasting water were usable for livestock, but not potable for humans. Some residents collected rain water in ponds, cisterns and barrels. Whether they drilled wells or collected water, generally they had to supplement by hauling fresh water for household use. Winner offered a coin operated tap on the northeast side where folks could plunk in 25 cents for 250 gallons of fresh water to haul away. My family had three cisterns to keep full, one at our house, one at my parents who lived next door and the other at my brother's house which was five miles away. Because we had three cisterns to maintain, we kept a full tank on the truck and it seemed like we were always hauling water. Our life before the water system was a huge everyday family priority of conserving the water we needed. Once rural water arrived it raised the standard of living in rural areas to levels long enjoyed by residents of the system. Tripp County Water Users District is a prime example of the people's dedication to make rural water a success.

– **Excerpt from Ideal Pioneers: Memoirs of Martin F. Jorgensen Jr.**

I grew up on a dairy farm in rural South Dakota. My earliest memories without rural water were getting a glass of water from a 5-gallon water jug with a spigot. My parents would go to town and fill this jug with water whenever it started running low. Aesthetically this water was not very pleasing; the color was rusty (similar to the color in of the jug) and it tasted a little funny. It was however safe which was why we used it as our drinking water. Our well provided all the other water we used; showers, toilets, washing machine, ect. When I was around 8 years old we got rural water. I don't remember it as being a big deal when I was a kid, but looking back I remember how the water was crystal clear and had a pleasing taste. I also remember when friends and family visited there were many that commented on how good the water was. Safe, aesthetically pleasing water is something that many people never think about, but it is a big deal and a blessing we should all be thankful for.

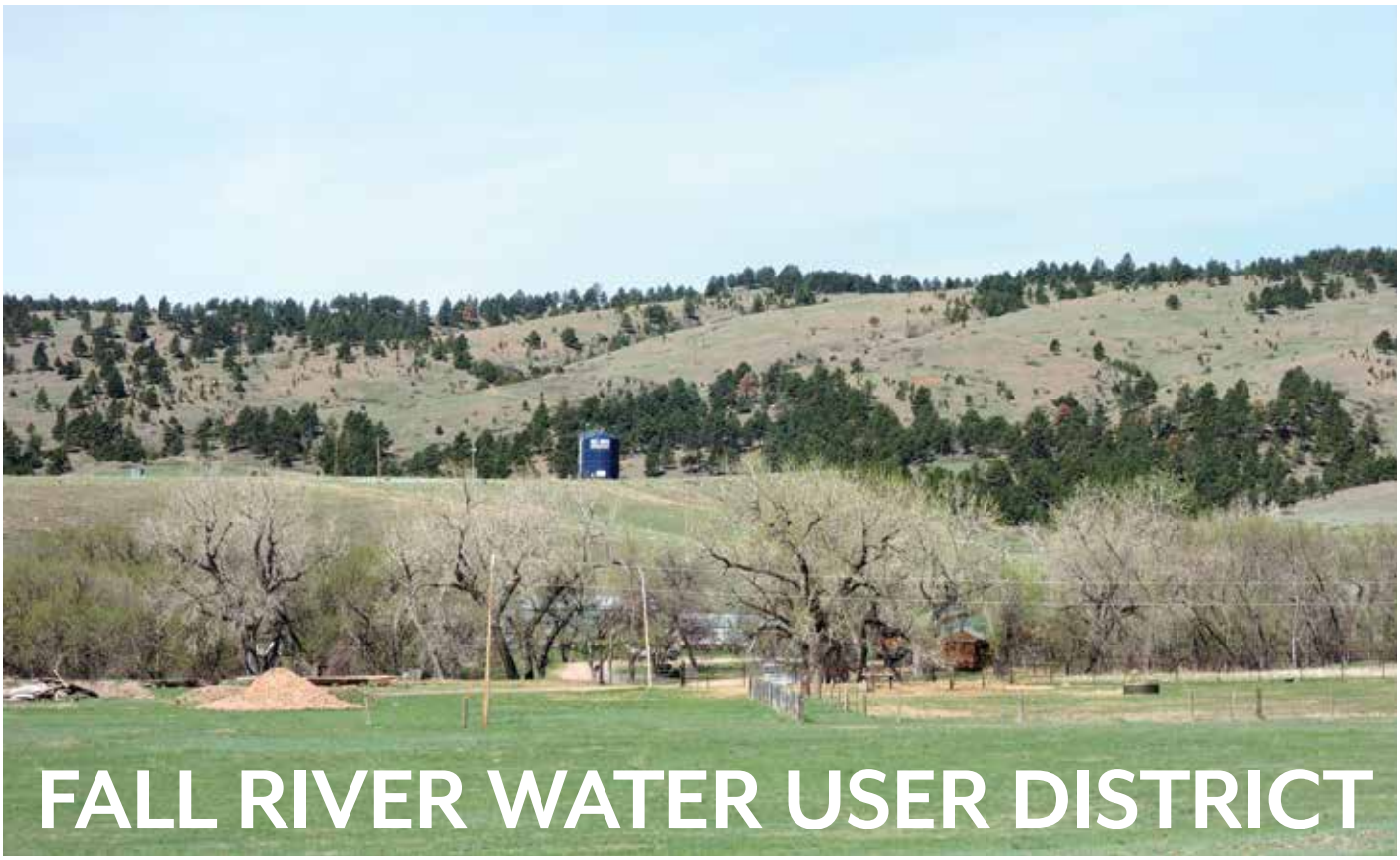
– **Steve Attema, South Dakota Association of Rural Water Systems**

How far have we come to live in rural South Dakota? In the past the only way to get water out of a pipe for a drink was to pump the water out of a cistern or fire up the well next to the cattle yard. The water that was pumped out of our well was so hard that you could walk on it in the summer as well as in the winter. Cistern water seemed to magically fall from the sky and filled the cement structure in the ground next to the house. At the time it sounded wonderful to use the free water that rolled off the roof. All you had to do was run it over some charcoal, and shazam! – we had water to use. No matter how little water we used in our daily life the cistern would run dry. Our rural community was fortunate to have two bulk water haulers that would bring a 1,200 gallon truckload of water to fill empty cisterns. I am not going to go into the difficulties of raising baby pigs or calves from the well water, or the challenges of hauling water in a steel tank in the winter.

How far have we come in rural South Dakota? If we remember to pay the bill on time, we have water to water our animals, wash our clothing, shower, and get a good drink of water almost 100% of the time we want. We are spoiled! I do not want to go back to the good old days.

– **Jeff Fossum, South Dakota Association of Rural Water Systems**

SYSTEM SPOTLIGHT



FALL RIVER WATER USER DISTRICT

Fall River Water Users District is located near the Southern Black Hills in the west half of Fall River County and the southwest portion of Custer County. The distribution system begins near the City of Hot Springs and follows Fall River east of town to the Cheyenne River where the line branches to the north and south. Water is delivered to the towns of Buffalo Gap and Oelrichs in bulk and 375 users between Buffalo Gap and the Nebraska State Line.

The system began the planning process in 1991 and began construction in 2000 with the assistance of Rural Development, State DENR, and community funding. The original system was designed around 115 hookups with a potential growth of 15%. Since 2000 the system has had several pump station upgrades and additional water mains installed to meet the growing demand. Most of the upgrades were made in 2009 through the availability of American Recovery & Reinvestment Act (ARRA) funding. Since the district was formed the board has sought an economical and reliable source for water and has worked together with the City of Hot Springs to meet the growing demand. The City has sold the district on average 100 million gallons a year the last few years.

In 2010 the district drilled a deep Madison Well which turned out to be a disappointment because of the large capital investment and low production of the well. In April of 2012 we received long awaited approval for a loan from Rural Development to drill another Deep Madison Well near Fall River and the City of Hot Springs. In April of 2013 the well was completed with capable production of 450 gallons per minute. The well was drilled to a depth near 3,500 feet and free flows around 200 gpm. Throughout the summer the free flow from the well was utilized to lessen the amount of water purchased from the city. The contracts have been let to install the well house and submersible pump and the district is excited to have the well fully on line by the end of 2013. The new well should cover 90% of the districts peak demand with the city retained as an additional source.

Fall River Water Users District is committed to providing quality drinking water at the lowest possible cost to the rural residents within our service area. The availability of quality water has made a positive economic impact in Fall River and Custer Counties. With the availability of water it has lessened the blows from drought to area ranchers the last few years and will continue to do so into the future.

Fall River
Water Users District

DIRECTORS:

Cam Seger – Chairman

Jeff Davidson – Vice-Chairman

Lesta Conger – Secretary

Matt Dunbar – Treasurer

Josh Rickenbach – Director

Carl Sanders – Director

STAFF:

Keith Neugebauer – General Manager

Mark Siebenthal – Operator

Misti Cantrell – Office Assistant

STATISTICS:

Hookups – 297

Miles of Pipeline – 300

Water Source – City of Hot Springs

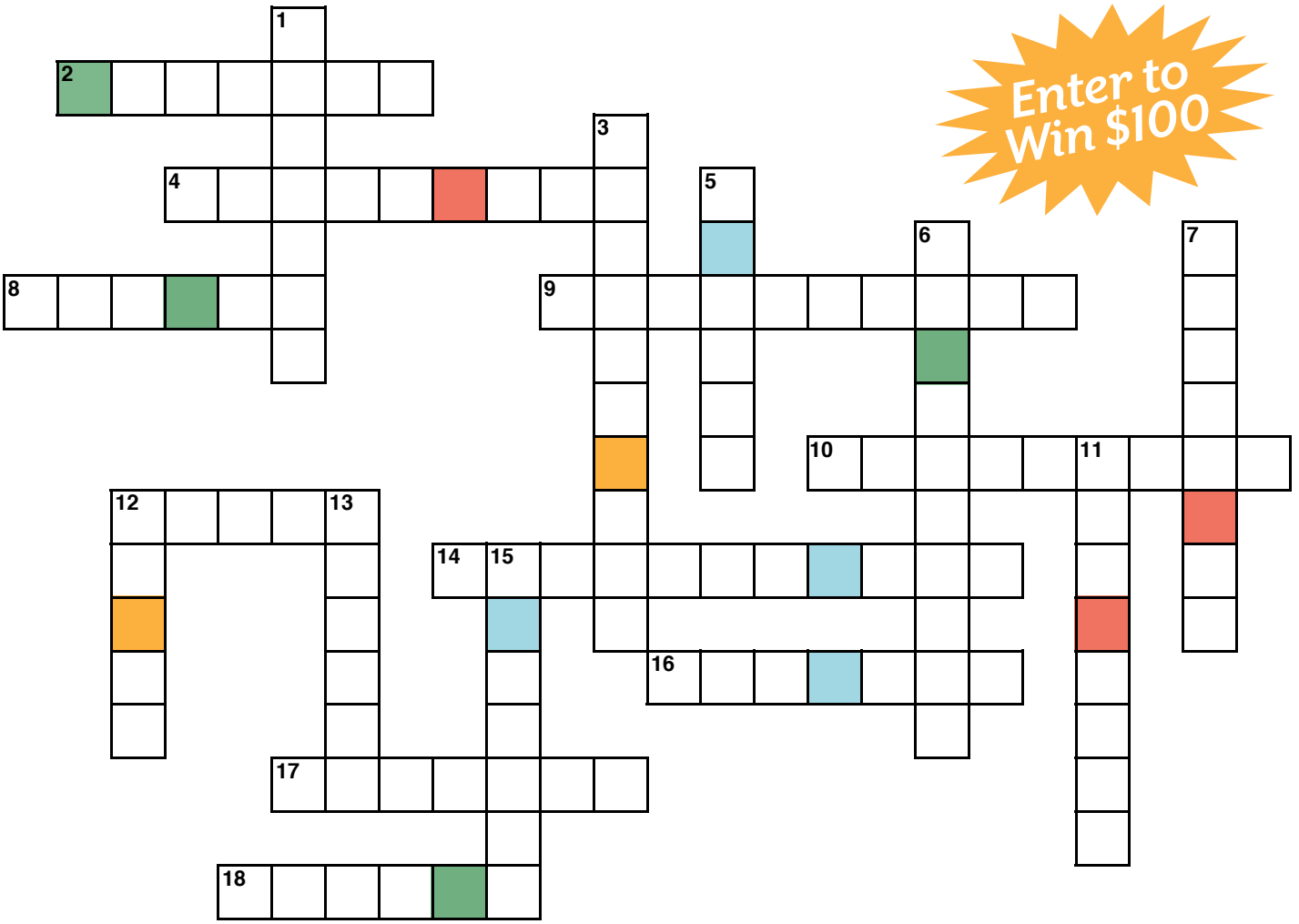
Counties Served – Fall River

Towns Served Individual – Oral and Smithwick

Towns Served Bulk – Oelrichs

RURAL WATER CROSSWORD & WORD SCRAMBLE CONTEST

GARDENING



ACROSS

2. Gardener's chore
4. Cabbage, carrots or beans
8. Where the dirty work is done
9. Sweet fleshy red fruit
10. Big bloom with edible seeds
12. Nature's aerators
14. Gardener's pushover
16. DIY Fertilizer
17. Daisies and marigolds
18. Water carrier

DOWN

1. Done with a shovel or spade
3. Yield booster
5. Foliage
6. Nursery of sorts
7. Plot-tender
11. Where to spend a sunny day
12. Key component to irrigation
13. Digging tool
15. Season's yield

SCRAMBLE ANSWER

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 10, 2022 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 Judy Anderson with Kingbrook Rural Water who had the correct phrase of "COLLECT MOMENTS NOT THINGS" for January 2022.

DAVE VIET NAMED RURAL WATER SYSTEM OPERATIONS SPECIALIST OF THE YEAR

The South Dakota Association of Rural Water Systems (SDARWS) recently named Dave Viet, title with the TM Rural Water District (TMRWD) as Rural Water System Operations Specialist at the organization's Annual Technical Conference in Pierre.

Viet's current responsibilities include the lead position for operation and maintenance of a four million gallon a day lime softening plant, four wells, three booster stations, four elevated towers, and is responsible for blending two supplemental potable water connections from adjacent water systems flawlessly with TM's locally produced water. Viet is certified in Class III Water Treatment & Class II Water Distribution. He bears the essential job of providing potable drinking water to Water Users throughout Turner and McCook Counties.

Over the last 19 years of service to TMRWD, Viet has overseen numerous facility upgrades and process improvements, including a new four million gallon a day water treatment plant constructed in 2008. With only five years of service to TMRWD upon completion of the new plant, the District needed a Class III Water Treatment Operation Specialist, and Viet willingly stepped up to the challenge. Viet fast-tracked his education, enabling him to get the certification necessary to operate the new lime softening plant in record time.

With his current water system experience and knowledge, Viet is a valuable resource for other operators when things break down or process changes are considered, all while displaying patience and encouragement when sharing his knowledge with less experienced Operations Specialists.

Viet is well known in the system for his preventive maintenance programs and preparedness for group projects. He is proactive in relying on prevention as the first line of defense to avoid potentially health-threatening and costly problems. He is never afraid to tackle something new and considers any complex problem encountered as a personal challenge to resolve. The man can fix anything you throw at him.

Viet has served on his local city council in the past, where his experience was critical for working with engineers and contractors to complete city infrastructure improvements.

Dave Viet, Operations Specialist for the TM Rural Water District, was presented with the Rural Water System Operations Specialist of the Year award by the South Dakota Association of Rural Water Systems.

Over the last two decades, Viet has been an advocate and instructor for the South Dakota HuntSafe program, which provides the knowledge and skills relative to hunting and hunter safety to 12- to 15-year-olds. Any child going through and completing this class under Viet's tutelage learns the needed respect, safety, and skills necessary for utilizing firearms. Viet lives in Marion, SD, with his wife, Karen.

The South Dakota Association of Rural Water Systems is a statewide non-profit organization whose purpose is to assist water and wastewater systems across the state with day-to-day operational and management issues. They host a yearly Annual Technical Conference in Pierre during the second week of January for rural and municipal water and wastewater systems for sessions in operations, management, boardsmanship, and governance, and to recognize leaders in the water and wastewater industry.

TM Rural Water District
Annual Water Quality Report
January 1, 2021 - December 31, 2021

Water Quality
Last year, the TM Rural Water District monitored your drinking water for possible contaminants. This brochure 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.

TM Rural Water District is committed to providing our customers with safe reliable drinking water.

Water Source
We serve more than 1,650 rural residences and provide wholesale water to the communities of Canistota, Hurley, Marion and Viborg in addition to supplying treated water to an ethanol plant located NW of Marion, SD an average of 2,000,000 gallons of water per day. Our water is groundwater that we produce from local wells.

TM currently has two different sources of ground water that we treat and distribute to our customers.

The Dolton Aquifer, named after and located in the area of Dolton, South Dakota. It is the original aquifer that supplied the source of water for TM and provides a portion of the water used by our customers today.

The Upper Vermillion Missouri Aquifer otherwise known as the Basal Aquifer is the other source of ground water currently utilized by the District and is the larger of the two aquifers. The UVM Aquifer in some places is actually below the Dolton Aquifer.

Finished water is finally blended with a small amount of finished water supplied by BY Water User District and Lewis & Clark Regional Water System.

The state has performed an assessment of our source water and they have determined that the relative susceptibility rating for the TM Rural Water District public water supply system is low.

For more information about your water and information on opportunities to participate in public meetings, call the TM Office at 605-297-3334.

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.

Water Treatment
The water treatment plant located just to the east of Dolton, South Dakota is where TM brings in the raw water from the Dolton and UVM aquifers.

The water treatment plant utilizes conventional lime softening treatment where raw water is mixed with a lime slurry which then reacts with the calcium and manganese in the water. The calcium, manganese and other solids bond to the lime and settle to the bottom leaving only clarified water that continues onto the next stage of the treatment process.

Carbon Dioxide is then added to the water to further soften the water before it is sent to the filtration process which filters the water through 18 inches of anthracite coal and 12 inches of fine sand where any remaining suspended matter is removed from the water.

Chlorine is then added to the water at the rate of approximately 3.5 parts per million. Chlorine is added in order to kill any bacteria that the water may come in contact with during its travel through the distribution system. The water then flows to the underground storage units under our plant where the chlorine is thoroughly mixed before being sent out into the distribution system.

Water Distribution
The TM water distribution system is comprised of eight high service pumps, three booster stations, four water towers, and approximately 900 miles of water lines. Water is distributed to customers in six different serving areas in the District. Service areas are created when water is pumped or gravity fed from one service area to another and are typically categorized as having different hydraulic gradients associated with them.

Additional Information from the EPA
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 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 TM Rural Water District 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 www.epa.gov/safewater/lead.

Detected Contaminants

The tables shown below list all the drinking water contaminants that we detected during the 2021 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, 2021. 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.

Questions?

TM Rural Water District firmly believes that it is important that our users read and fully understand this yearly report. We would encourage anyone that has any questions or concerns to contact the TM Rural Water District Office during normal business hours at 605-297-3334.

2021 TABLE OF DETECTED CONTAMINANTS FOR TM RURAL WATER DISTRICT

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	4		10/07/19	10	0	ppb	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	0.015		10/07/19	2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	0.5		10/07/19	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	0.77	0.52 - 0.77	10/12/21	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Mercury (Inorganic)	0.13		10/07/19	2	2	ppb	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland.
Nitrate (as Nitrogen)	0.4		11/09/21	10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Please direct questions regarding this information to Mr Jim Auen with the Lewis and Clark Regional Water System public water system at (605)624-8700.

BON HOMME-YANKTON RWS *(EPA ID 0865)*

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.1	0	06/27/19	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	1	0	07/03/19	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
Fluoride	0.95	0.62 - 0.95	03/01/21	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (RAA)	19.27		08/17/21	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Total Coliform Bacteria	1	positive samples		1	0	pspm	Naturally present in the environment.
Total trihalomethanes (RAA)	37.47		08/17/21	80	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.

Please direct questions regarding this information to Mr Robert Sternhagen with the Bon Homme-Yankton RWS public water system at (605)463-2531.

TM RURAL WATER DISTRICT *(EPA ID 0999)*

Substance	90% Level	Test Sites > Action Level	Date Tested	Highest Level Allowed (AL)	Ideal Goal	Units	Major Source of Contaminant
Copper	0.1	0	07/17/19	AL=1.3	0	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	1	0	07/17/19	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
Fluoride *	0.95	0.62 - 0.95	03/01/21	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Fluoride	0.54		06/02/21	4	<4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids (RAA) *	19.27		08/17/21	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Haloacetic Acids (RAA)	20.7		09/08/21	60	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Total Coliform Bacteria *	1	positive samples		1	0	pspm	Naturally present in the environment.
Total trihalomethanes (RAA) *	37.47		08/17/21	80	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.
Total trihalomethanes (RAA)	33.5		09/08/21	80	0	ppb	By-product of drinking water chlorination. Results are reported as a running annual average of test results.

Please direct questions regarding this information to Mr Jay Jorgensen with the TM Rural Water District public water system at (605)297-3334.
*** Bon Homme-Yankton RWS (0865) test result.**

Definition of Terms

These definitions are provided in order for you to better understand the results of the testing shown above.

Parts per million (ppm) or Milligrams per liter (mg/l) – one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) – one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/l) – a measure of radioactivity.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one in a million chance of having the described health effect.

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

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water. For turbidity, 95% of samples must be less than 0.3 NTU.

Nephelometric Turbidity Unit (NTU) – is the cloudiness or haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye, similar to smoke in air. The measurement of turbidity is a key test of water quality.

Summary of 2021 Detected Contaminants in TM's Water

Antimony – occurs as a result of discharge from petroleum refineries; fire retardants; ceramics; electronics; and solder. The levels detected are well below those allowed by the EPA.

Arsenic – occurs as the result of natural deposits or from runoff from orchards. The levels detected are well below those allowed by the EPA.

Barium – occurs as a result of erosion of natural deposits. The levels detected are well below those allowed by the EPA.

Chromium – occurs as a result of erosion of natural deposits. The levels detected are well below those allowed by the EPA.

Fluoride – is added to our water to promote healthy teeth. The optimum Fluoride level in water is 1.2 ppm.

Haloacetic Acids – By-Product of drinking water chlorination. Results are reported as a running annual average of test results. The levels detected are well below those allowed by the EPA.

Selenium – a naturally occurring substance found in the soil and rocks of this region. The levels detected in 2021 are well below those allowed by the EPA.

Lead and Copper – Levels are normally a function of home plumbing fixtures. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels in your home may be higher than at other homes throughout the system as a result of the materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may want to have your water tested. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791.

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WATER MATTERS

Aquatic Invasive Species: Zebra Mussels

WHAT IS AN AQUATIC INVASIVE SPECIES?

Aquatic Invasive Species (AIS) are organisms that invade ecosystems outside of their natural or historic ranges. They are also known as exotic, non-native, or non-indigenous. They have spread outside of their ranges due to intentional or unintentional introductions. Ways they are spread include emptying aquariums into lakes or streams, by way of watercraft and sea planes, or by recreational activities like fishing, diving, and hunting.

PHOTO COURTESY OF SD GF&P

AIS SPOTLIGHT: ZEBRA MUSSELS

The impacts of AIS vary greatly, depending on the organism. One of South Dakota's most harmful AIS is the Zebra Mussel. Zebra mussels were first discovered in 1988, in the Great Lakes. They were brought to the United States from Europe in the ballast water of ocean-going ships. They likely made their way to South Dakota as hitchhikers on recreational watercraft. Zebra mussels have caused considerable damage to native ecosystems around the country as well as to industries, such as power plants and water suppliers. Zebra mussels can filter a vast amount of water altering entire aquatic food webs. They also have the ability to attach themselves to hard surfaces such as rocks and swim rafts, thus impeding water recreation. They also smother native mollusks as well as wreak havoc on irrigation intakes and boat motors. Zebra mussels currently infest Lewis & Clark Lake and McCook Lake in South Dakota.

3 WAYS YOU CAN HELP PREVENT THE SPREAD OF AIS!

1. DO NOT RELEASE YOUR AQUARIUM PETS INTO THE WILD
2. DO NOT MOVE WATER, ANIMALS, OR PLANTS FROM ONE WATER BODY TO ANOTHER
3. LEARN HOW TO IDENTIFY THE COMMON INVADERS AND REPORT ANY SIGHTING TO SD GFP AT 605-223-7660

PHOTO COURTESY OF SD GF&P

TO LEARN MORE ABOUT SOUTH DAKOTA'S AQUATIC INVASIVE SPECIES VISIT: SDLEASTWANTED.COM

BACK PAGE CONTENT PROVIDED BY:

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