



# MID-DAKOTA RURAL WATER SYSTEM

# Quality On Tap!

January 2018 | Volume 13, Issue 3

**STUDY SHOWS DECLINE  
IN HOME WATER USE**

**HOMESTAKE:  
State-Of-The-Art  
Water Treatment**

**UNLOCK THE  
SECRETS IN THE SOIL**

**SYSTEM SPOTLIGHT:  
Tripp County WUD**

# MESSAGE FROM THE MANAGER

**Kurt Pfeifle, General Manager  
Mid-Dakota Rural Water System, Inc.**



*“By means of the magnetic telegraph the people of our country are holding a continuous mass-meeting.” – Wendell Phillips (Social Reformer 1811 – 1884)*

Another year is in the books and it's been a busy year indeed! We have completed our Automatic Meter Reading system and after working out a few kinks, the metering network is working as we intended. Mid-Dakota is moving forward with plans to increase its transmission capacity to the eastern reaches of the System. The improvements will include paralleling 9 – 11 miles of 24” pipeline, installation of another booster pump station and construction of another water storage tank. We are currently putting a funding application together through USDA – Rural Development to finance the project.

Mid-Dakota held its 25th Annual Meeting of the Membership on October 5, 2017. We again hosted the meeting using the “come & go” (open-house) format. Over 200 members and guests visited our offices. Each year following the meeting, Mid-Dakota staff compiles an “after-action” report. We try to look at what went right, what went wrong, what can we do differently etc... The end goal is that we want to conduct an annual meeting that entices a lot of people to attend and a meeting that is fun and valuable to the people who do attend. One suggestion that keeps coming up is attempting to conduct a hybrid meeting... an annual meeting that would be held “onsite” AND “online.” Our membership could choose to attend the meeting in person or at their convenience by logging in and attending the meeting in an electronic virtual setting. There are a lot of things that need to be considered and resolved before we could go down this road; among them are things such as, security for elections and voting, validation of membership status, real-time (virtual) participation in the digital environment. We'll keep looking at these possibilities and will keep our membership informed if we elect to go down this path.

We hope the Christmas season finds you all in good spirits and the new year is prosperous and kind to you as well!



## Quality On Tap!

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### Rural Directors

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Scott Oligmueller ..... District 3  
Lennis Fagerhaug ..... District 4  
Rick Benson ..... District 5

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Jim McGillvrey.....At Large  
Jeff McGirr.....Huron  
Darrell Raschke.....Huron

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Jamie Brueggeman..... Office Administrator  
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Tammy Oligmueller . Customer Accounts Specialist  
Kristen Arthur..... Customer Accounts Specialist

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Gary Tobin..... Water Distribution Specialist

### Wessington Springs, SD


Mark Gran ..... Water Distribution Specialist

### Huron, SD

Troy Dorris ..... Water Distribution Specialist  
Scott Perry..... Water Distribution Specialist

### Consultants

Bartlett & West Engineers  
May, Adam, Gerdes & Thompson – Law Office  
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# Mid-Dakota Rural Water System, Inc.

## Unapproved Minutes From The 25th Annual Meeting

Mid-Dakota Rural Water System, Inc. held its 25th Annual Meeting using a “Come and Go” Format on the 5th day of October in 2017. Members were invited to visit any one of the following offices between the hours of 10:00 a.m. and 5:00 p.m. to attend the meeting: Miller Operations and Maintenance Center, Oahe Water Treatment Plant, Gettysburg Field Office, Huron Field Office and Wessington Springs Field Office. There was an attendance of approximately 223 members and guests.

Members were given a form which registered them to vote; confirmed they were given the annual report and the current year’s budget; approved the minutes from last year; and approved the reports of the chairperson and manager.

A total of 72 Members filled out forms to vote at the annual meeting. This does not include persons accompanying the Members to the meeting. Mid-Dakota’s by-laws no longer require a quorum to conduct an annual meeting; however, quorum requirement prior to 1999 was that a minimum of 25 Members had to be present.

Those attending the meeting were given a registration gift of a wooden handled bottle/can opener, a Mid-Dakota calendar, a copy of the annual report and 2017 budget summary. Members were also given their choice of a beef or pork gift certificate. Members attending were given an opportunity to register for a fire pit with a value of \$100.00 to \$150.00 at the location where they attended the meeting. A Grand Prize which was a Yeti Tank with lid and two Yeti tumblers were purchased and all who attended the meeting were given a chance to win. Winners of the fire pits were: Jody Baumburger, Miller (Miller office); Deborah Sattgast, Huron (Huron office); Alisha Jackson, Lane (Wessington Springs office); Juliet Manzanr, Gettysburg (Gettysburg office); and Bill Floyd, Pierre (Water Treatment Plant, Pierre). The winner of the Yeti Tank and tumblers was Brianna Sanderson of Huron.

There wasn’t a contest for the expired director positions in Rural Director District 2, so Leslie Brown retained her seat; or in Rural Director District 5, so Rick Benson retained his seat. The City of Huron re-appointed Darrell Raschke for the expired Huron Director position.

### THE NUMBER OF MEMBERS AT THE FOLLOWING OFFICES WERE:

OFFICES	MEMBERS
Miller Operations and Maintenance Center	24
Oahe Water Treatment Plant	19
Gettysburg Field Office	04
Huron Field Office	18
Wessington Springs Field Office	07
<b>Total Members Filling out a Voting Form</b>	<b>72</b>

The directors for the Mid-Dakota Rural Water System, Inc. board are as follows: Rural Director District #1 – Mr. Steve Robbennolt; Rural Director District #2 – Ms. Leslie Brown; Rural Director District #3 – Mr. Scott Oligmueller; Rural Director District #4 – Mr. Lennis Fagerhaug; Rural Director District #5 – Mr. Rick Benson; Municipal Directors at Large – Mr. Dwight Gutzmer and Mr. Jim McGillvrey; Huron Directors – Mr. Jeff McGirr and Mr. Darrell Raschke.



*Firepit winner  
Alicia Jackson Lane*



*Firepit winner  
Jody and Pierce*



*Firepit winner  
Deborah Sattgast*



*Brianna Sanderson  
with the grand prize*

# OUT AND ABOUT

## JANUARY

### 11-13 – MOBRIDGE ICE FISHING TOURNAMENT

Come to Mobridge for the largest ice fishing tournament in South Dakota. With more than 500 teams and more than \$85,000 in prizes, this annual weekend tournament is one of our favorite events all year - and shows participants just how much fun winter can be. If you want to fish, check out their website for info on how to enter our lottery for spots this year. <https://mobridgeoutdoors.com/ice-fishing-tournament>

### 17-25 – WINTER ART SHOW

In its 39th year, The Matthews Art Gallery in Spearfish will play host to the annual Winter Art Show, January 17-25. The show is open for public viewing during gallery business hours, 10 a.m.-5 p.m., Tuesday-Saturday. This event is open to any artist, amateur or professional, who wishes to take part. Free admission. [www.matthewsopera.com/39-was-show](http://www.matthewsopera.com/39-was-show)

### 19-20 – DEADWOOD SNOWMOBILE RALLY

The greatest show on snow returns to Deadwood, January 19-20, as the ISOC Amsoil Championship SnoCross Series hits the Black Hills for the annual Deadwood SnoCross Showdown. More than 150 of the top professional SnoCross racers will descend on the historic town's Days of '76 Rodeo Grounds for a weekend of high-flying, high-speed, high-octane snowmobile racing. Races start at 12:50 p.m. on Friday and at 8:25 a.m. on Saturday. [www.deadwood.com/event/snowmobile-rally](http://www.deadwood.com/event/snowmobile-rally)

## FEBRUARY

### 6-10 – WATERTOWN FARM SHOW

The Watertown Winter Farm Show is a five-day event filled with entertainment and education for all ages. For 73 years, the show has been an outlet for the agriculture community to share new programs, opportunities and ideas. Featured events include livestock shows and sales, home and family programs, educational presentations, commercial exhibits, and more. Held at the Codington County Extension Complex. Show hours are 9 a.m.-4 p.m., daily. Free admission. [www.watertownwinterfarmshow.com](http://www.watertownwinterfarmshow.com)

*If you would like your event featured in the April 2018 issue of Quality on Tap!, please email your event description to: [info@sdarws.com](mailto:info@sdarws.com). April's issue will cover events taking place April - May 2018. Event listings are subject to approval by the QOT Editorial Board.*

### 16-18 – 2018 NATIONAL PHEASANT FEST & QUAIL CLASSIC

The Pheasant Fest & Quail Classic is a trade show at the Sioux Falls Convention Center that focuses on wildlife conservation, upland game bird hunting (pheasant and quail), dog training, and wildlife habitat management and restoration. In connection with the trade show, Pheasants Forever will hold seminars on habitat improvement, pheasant hunting, shooting sports, wild game cooking, dog training, and conservation and lots more. Daily admission is \$10 per adult, ages 6-16 is \$5, and children 5 and under are free. Other ticket information is available on their website at [www.pheasantsforever.org/Pheasant-Fest.aspx](http://www.pheasantsforever.org/Pheasant-Fest.aspx)

### 24 – ANNUAL OUTHOUSE RACES & CHILI COOK-OFF

Outhouse racing at its finest. Nemo Guest Ranch, northwest of Rapid City, transforms into an exciting collection of people hungry for fun racing and delicious chili. Teams race their homemade (and unused) outhouses in three separate divisions. There's a chili cook-off for the hungry and scoop shovel races for the kids. You won't find a more unique, family-friendly and free event anywhere else. Join us for the 12th annual Nemo 500 on Saturday, February 24. (See <http://nemo500.com/> for race entry details.)

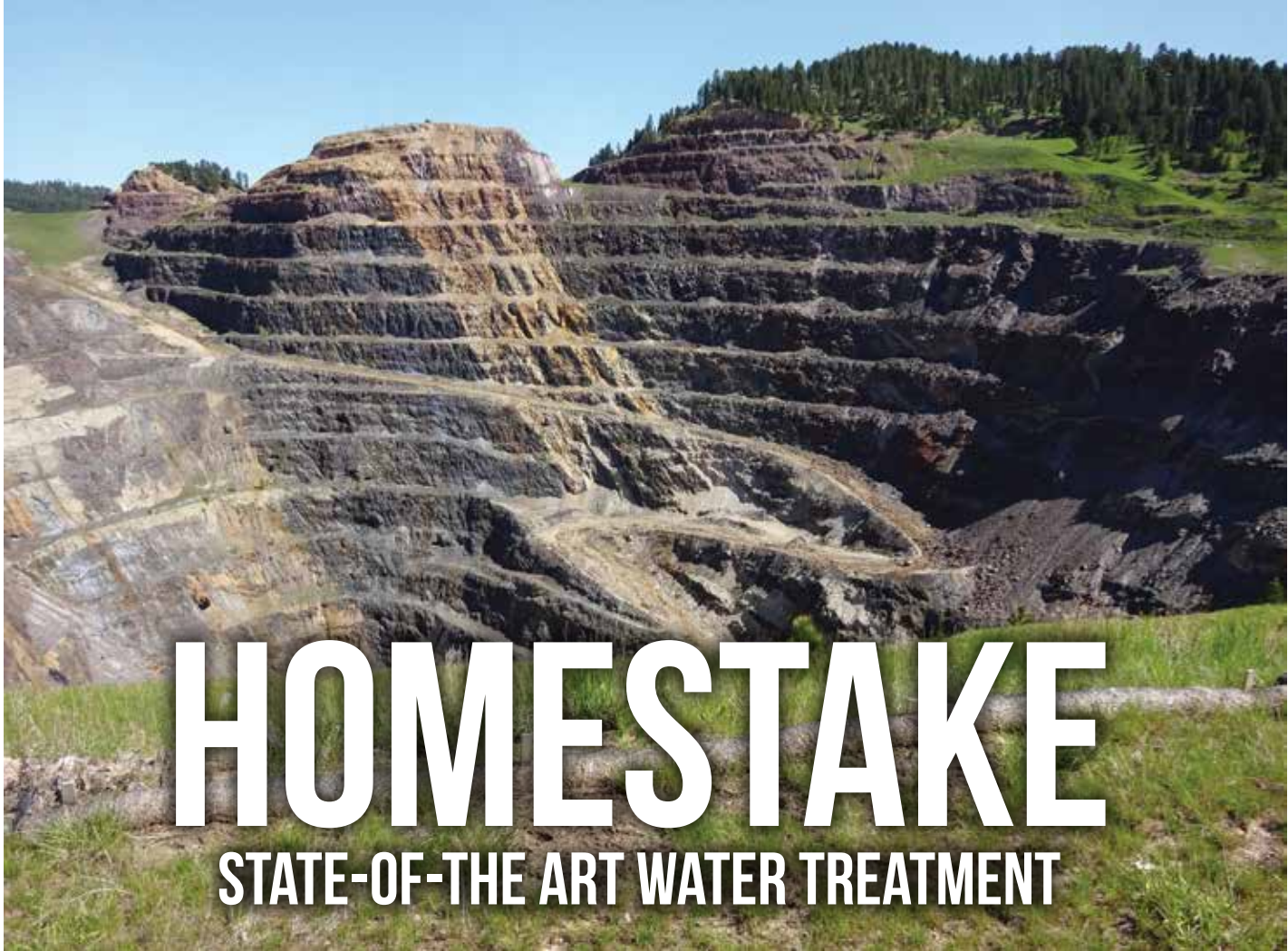
## MARCH

### 17 – AG DAY AT THE WASHINGTON PAVILION

In celebration of National Agriculture Week, the Washington Pavilion in downtown Sioux Falls is hosting its 15th Annual Ag Day in 2018. This event gives children and families an opportunity to learn about agriculture's significance. Our exhibits are exciting, educational, hands-on activities – great for the whole family. A free lunch is offered, featuring South Dakota-made products. Free admission to the Kirby Science Discovery Center and mission films in the Wells Fargo CineDome is included. [www.washingtonpavilion.org](http://www.washingtonpavilion.org)

### 23-24 – 60TH ANNUAL SCHMECKFEST

Schmeckfest is an annual festival in the southeastern South Dakota town of Freeman. The gathering uses food, art and a celebration of community to honor the history of Germans that emigrated from Russia. Held on the campus of the Freeman Academy, it's been a fundraiser for the school every spring since 1959. The ethnic German meal, served family-style, and the community musical take place two weekends in March/April. Ticket prices range from \$10 to \$25. Complete details are online. Tickets can be ordered via the website or by mail. [www.schmeckfest.com/](http://www.schmeckfest.com/)



# HOMESTAKE

## STATE-OF-THE ART WATER TREATMENT

*By Constance Walter, Communications Director for Sanford Underground Research Facility*

Up through the late 1970s, the Homestake mine dumped water directly into Whitewood Creek. Laced with cyanide mercury and arsenic (cyanide was used to remove gold from the ore), the mine effluent effectively killed the stream. The Environmental Protection Agency stepped in, placing the burden of cleaning up the creek on the mining company.

Homestake spent millions of dollars looking at chemical treatment processes; however, the treatments weren't working. Homestake turned to Jim Whitlock, a microbiologist, who suggested a whole new approach to the problem:

"I started looking for bacteria," Whitlock said.

He and his team found microbes living in the fringe water of the Homestake tailings impoundment, and nibbling on the cyanide.

The team gradually exposed the microbes to increasing levels of cyanide until they could tolerate the high levels coming out of the mine effluent and then from the mine itself.

"Within 10 to 15 minutes, they could destroy the cyanide in the water," Whitlock said. The Wastewater Treatment Plant began pumping out clean water in 1984 and life gradually returned to the creek.

Since 2008, billions of gallons of water have been treated at the Sanford Underground Research Facility's (SURF) Waste Water Treatment Plant (WWTP). Over half of that comes from

underground, while the rest comes from the Grizzly Gulch tailings. Once treated, the water is released into Gold Run Creek, which joins Whitewood Creek within a few hundred yards of the discharge pipe.

The water from the mine contains suspended solids – mostly iron, said Wastewater Treatment Plant Foreman Ken Noren. "Basically, it looks like tomato soup." When the water is pumped from the mine, it goes through sand filters then into a 15-foot deep, cone-shaped tank for iron removal.

But the iron particles are so fine, they can't be removed easily. So a coagulant, which neutralizes the charge of the iron particles, and a flocculant, or clarifying agent, are added to the tank and mixed with the water for 15 minutes. The flocculant causes the particles to form into clumps that can then be removed.

"Ideally, we want the chunks to be the size of a fingernail, but some can be as big as the palm of your hand." Noren said.

As the iron clumps into ever-bigger chunks, it settles to the bottom of the tank. Within 20 minutes after the mixing has stopped, the iron is removed from the tank and the usable water continues through a geotube that removes finer particles. The water bleeds through the bags while the iron remains.

"It comes out 99 percent pure iron," Noren said.

The water that can't be used, goes to the Lead/Deadwood sanitary sewer.



# UNLOCK THE SECRETS IN THE SOIL

with these conservation practices

## MIX IT UP

CROP ROTATION

Growing a diverse number of crops in a planned sequence increases soil organic matter and biodiversity in the soil. This increased biodiversity helps reduce plant and disease pressure, too.

## TAP INTO ROOTS

COVER CROPS

Cover crops are un-harvested crops grown as a part of a planned rotation that provide benefits to the soil, principally by feeding soil microbes through their roots. Keeping living roots in the soil (before and after harvest) provides soil microbes with the habitat they need to thrive and provide nutrients and protection for harvested crops.

## DISCOVER THE COVER


MULCHING

Applying or leaving plant residues or other suitable materials on the soil surface reduces evaporation, regulates soil temperature and helps protect the soil from erosion.

## DO NOT DISTURB

NO-TILL

No-till is a way to plant and grow crops without disturbing the soil through tillage (plowing, roto-tilling or hoeing). In the garden, small areas or rows can be cleared and small holes can be dug for transplants (or seeds), which minimizes soil disturbance and protects microbial communities that reside in the soil. On the farm, large-scale no-till planters use rotating coulters (disk-like blades) to slice through plant residues and cut small slits in the soil while seeds are placed in the narrow openings. This no-till technique limits soil disturbance and significantly reduces energy use.



Information provided by the USDA Natural Resources Conservation Service - SD  
200 Fourth Street SW, Huron, SD 57350  
[www.sd.nrcs.usda.gov](http://www.sd.nrcs.usda.gov)

# LOVE THE SOIL

Make it healthier with four key conservation practices

Whether you farm hundreds of acres of cropland or tend a backyard garden, by following four basic soil health principles you can improve the health, function and productivity of your soil. Applied over time, these soil health principles enhance the soil's ecosystem, allowing it to function naturally.

Like nature, these principles...

- 1** Keep the soil covered as much as possible;
- 2** Disturb the soil as little as possible;
- 3** Keep plants growing throughout the year to feed soil microbes; and
- 4** Grow a variety of plants to diversify soil biology.

# HARVEST THE BENEFITS

- Improve water quality
- Increase soil's capacity to hold water
- Increase organic matter in the soil
- Increase microbiological activity
- Improve pollinator habitat
- Improve nutrient cycling
- Reduce plant stress and disease
- Reduce energy use



# UPDATED STUDY SHOWS DECLINE IN HOME WATER USE

A 2016 study published by the American Water Works Research Foundation shows a marked decline in home water use from a previous study issued in 1999. The average annual indoor household water use dropped 22% during that period.

The initial 1999 study established a benchmark for water use following the implementation of the Energy Policy Act of 1992, which sought to improve energy and water efficiency. The Act established maximum flow rates for new residential toilets, showerheads, and faucets. Later federal regulations included clothes washers.

The 2016 study monitored approximately 1,000 single-family residential accounts randomly selected from 23 cities across the country. The large representation of cities reflected the strong influence of climate and weather patterns. The study also looked at inside vs. outside water use. A fundamental goal of the study was to quantify how much water is used both indoors and outdoors, as well as per capita and household.

Figure 1 to the right shows indoor household water use by fixture. Toilet flushing is the largest indoor use of water in single-family homes. Mandated reductions in toilet flush and clothes washer volumes and shower and faucet flow rates have contributed to the declines in residential water use. Total average

indoor household use is 138 gallons per household per day.

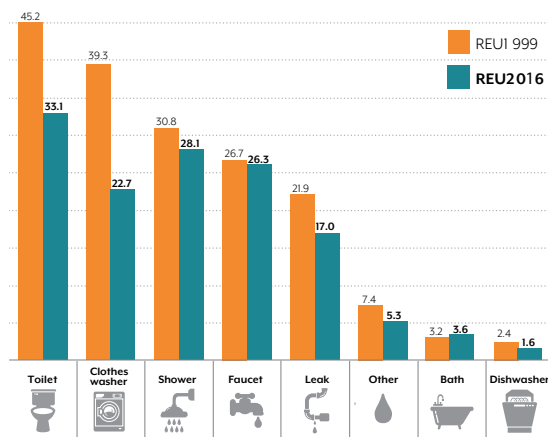
Outdoor water use was studied more extensively in the 2016 study vs. the 1999 study. Various factors were used to determine outdoor water use requirements. 72% of those surveyed actually used less water than was predicted. 16% used the targeted amount and 13% used more than predicted.

Figure 2 below shows the decrease in use per fixture or appliance from 1999 to 2016. Even without a concerted effort on the part of homeowners to switch to more efficient appliances and fixtures, reductions are anticipated as old toilets and clothes washers wear out and are replaced. The current average daily indoor per household use of 138 gallons per household is expected to reduce to 110 gallons.

Reductions in home water use can be a mixed blessing for water utilities. Less residential use means less demand on water sources, treatment and pumping facilities. Lower water sales can also mean less revenue for utilities that face aging infrastructure replacement needs. A careful eye on water trends is important for all parties.

*Information from the American Water Works Association Research Foundation used with permission.*

**FIGURE 2. PERCENT OF THE THEORETICAL IRRIGATION REQUIREMENT (TIR) APPLIED TO LANDSCAPE**



**22%**  
DECREASE  
PER HOUSEHOLD  
DAILY WATER USE  
1999 TO 2016



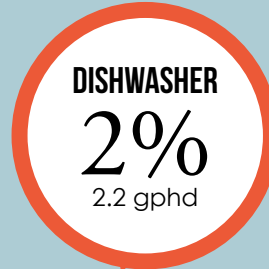
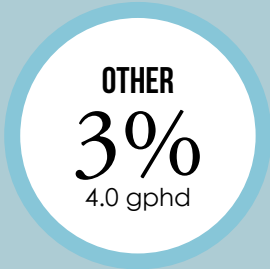
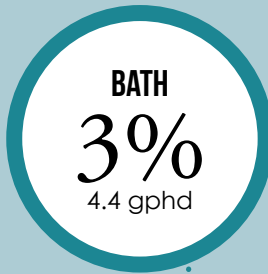
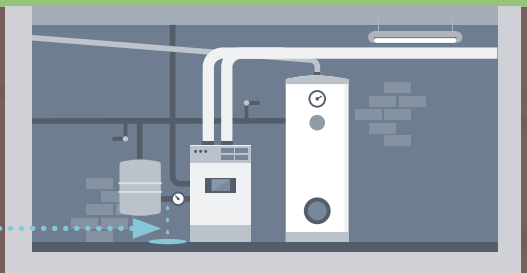
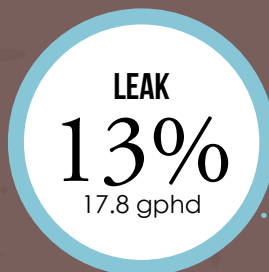
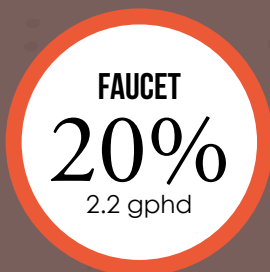
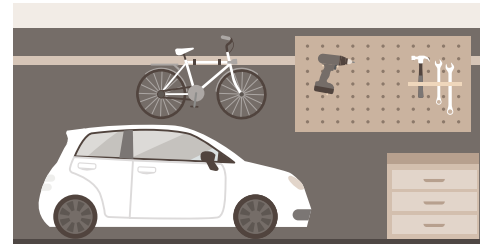
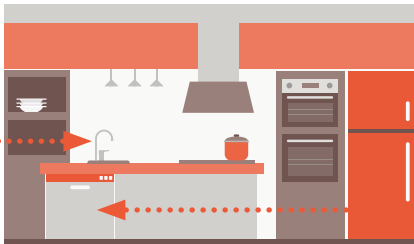
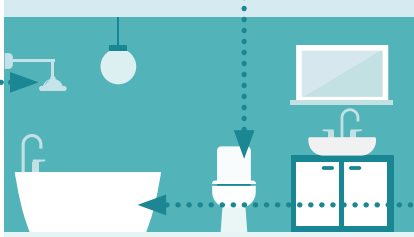
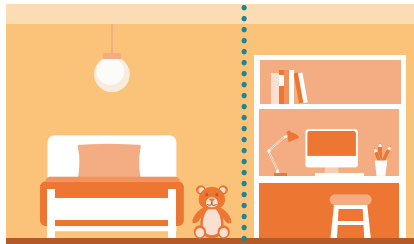


FIGURE 1.



# SYSTEM SPOTLIGHT

## TRIPP COUNTY WATER USER DISTRICT

Tripp County Water User District (TCWUD) has over 2,200 miles of pipeline stretching into five counties and serves 2,612 consumers. Geographically they are 101 miles east to west, and 51 miles north to south in south central South Dakota, and their office is located in Winner. The District has seven full-time employees and a nine-member Board of Directors.

TCWUD was conceived and developed by a group of local farmers and ranchers in need of quality potable water in the early 1970s. Many residents in the northern portion of Tripp County and the surrounding areas only had artesian wells or were forced to haul water for their drinking or livestock needs and were looking for alternate options. One option explored at this time was to use the water available south of Winner which was located mainly in the sand versus clay. A steering committee was formed at that time. They worked many long hours and went through much controversy trying to find land to drill the first wells. After many disappointments in locating a water source, Lawrence and Sedonia Wagner were the first to allow surveying on their property, where a very high quality water source was found. With the dedicated persistence of the committee and the help from the Wagners, the dream became a reality in the fall of 1977 when construction began. By the fall of 1978, TCWUD was in full operation, serving 515 users with 500 miles of pipeline, including one town and four Native American communities in Tripp County and portions of Gregory and Lyman Counties. The system started out with two wells that supplied 250 gallons per minute to a 500,000-gallon storage reservoir.

TCWUD had several expansion projects after the main system was started, the first one in 1979 when 55 users were added with the Mellette County Expansion. In 1986, another large expansion project took place extending into the Wewela and Lucas service areas in which 230 more users were added. The 1991 and 1993 expansions, continued to add customers with the addition of the Witten, Iona and Carlock service areas. In 2003-2004, TCWUD continued to expand with the East Gregory Expansion, which included the acquisition of the original East Gregory Water System in Gregory County, thus bringing the total number of customers to nearly 2000. In the fall of 2009, TCWUD completed their next project adding 101 customers to the Clearfield Service area and other internal upgrades to the District. The most recent project started in the spring of 2015 and consisted of installing an additional 214 miles of pipeline, appurtenances, replacement

of five existing booster vaults, the addition of one new booster vault and the replacing or rehabilitating of nine existing PRV's to improve and expand the District's distribution system. They also added two new water towers, one in the town of Fairfax and the other southwest of Burke, added an additional 88 new users and replaced 91 meter pits in the East Gregory service area. TCWUD continues to grow internally on a monthly basis with the additions of new customers for household, seasonal and livestock use, with an average about 40 to 50 new users per year.

TCWUD's high-quality water comes from the Valentine formation of the Ogallala Aquifer and only requires gas chlorine and liquid fluoride treatment which is regulated by the South Dakota Department of Environment and Natural Resources. Presently, TCWUD has seven active wells and main storage capacity of 2 million gallons. On average, the system produces between 1.8 to 2.6 million gallons of water per day and the well field has the ability to pump up to 3,000 gallons per minute.

TCWUD won the South Dakota Rural Water Best Tasting Water Award in 2007 and 2009 and came in second in 2010 and 2011. In January 2017, TCWUD was chosen as the 2016 Rural Water System of the Year at the Annual Technical Conference held in Pierre. The District and Water Operators are recognized yearly by the South Dakota Department of Environment and Natural Resources with a Certificate of Achievement Award for meeting the requirements of providing safe drinking water to the public. In 2016, Jason Orel received the Rural Water Operations Specialist of the Year Award. Dale Waters received the Carroll Anderson Memorial award in 2005 and the Spirit of Rural Water in 2013. Ray Bartels also received the Spirit of Rural Water award in 2016.

Besides their Rural customers, they also provide water to the Towns of Colome, Dallas, Witten, Wood, Herrick, Fairfax, Burke, Bonesteel St. Charles and, when needed, Gregory. The system also supplies water to six Native American communities: Winner, Ideal, Dixon, Bull Creek, Milk's Camp and Wood. TCWUD also provides water to the Buryanek, Whetstone



# TRIPP COUNTY WUD



Bay, South Scalp Creek, Burke Lake, Randall Creek and South Shore Recreation Areas.

Tripp County Water User District gives away two \$1,000 scholarships each year in the Wagner and Jorgensen family names, for the cooperation and involvement in getting the water system up and going. Each year students submit their applications with their 250 to 500 word essays on – What Rural Water has done for them or their community. The scholarships are awarded to a child of a member of TCWUD each April.

TCWUD Manager Russ Phillips said, “As many systems in South Dakota continue to age, the main goal for the future of Tripp County Water User District, is to continue upgrading the infrastructure to meet today’s and tomorrow’s standards, as their system is now at 40 plus years. We are very proud of their system, their Board of Directors and Employees on the great job they do.”

## DIRECTORS:

**Craig Covey**, Chairman

**Louis Kehn**, Vice-Chairman/SA  
Director

**Dale Waters**, Secretary

**Roger Kingsbury**, Treasurer

**Bryan Jorgensen**, Director

**Robert Spertl Jr**, Director

**Ray Bartles**, Director

**Verlyn Kuil**, Director

**Steve Wonnberg**, Director

## STAFF:

**Russ Phillips**, General Manager

**Jim Sund**, Water Operator

**Craig Brown**, Water Operator

**Jason Orel**, Water Operator

**Michael "Bud" Jacobsen**, Water  
Operator

**Lisa Stiehl**, Office Manager

**Donna Olson**, Administrative  
Assistant

## STATISTICS:

**Hookups:** 2,612

**Miles of Pipeline:** 2,207

**Water Source:** Valentine  
Formation of Oglalla Aquifer

**Counties Served:** Tripp, Gregory,  
Portions of Lyman, Mellette,  
and Todd

**Towns Served Individual:** Witten,  
Wood, Herrick, Fairfax, and St.  
Charles

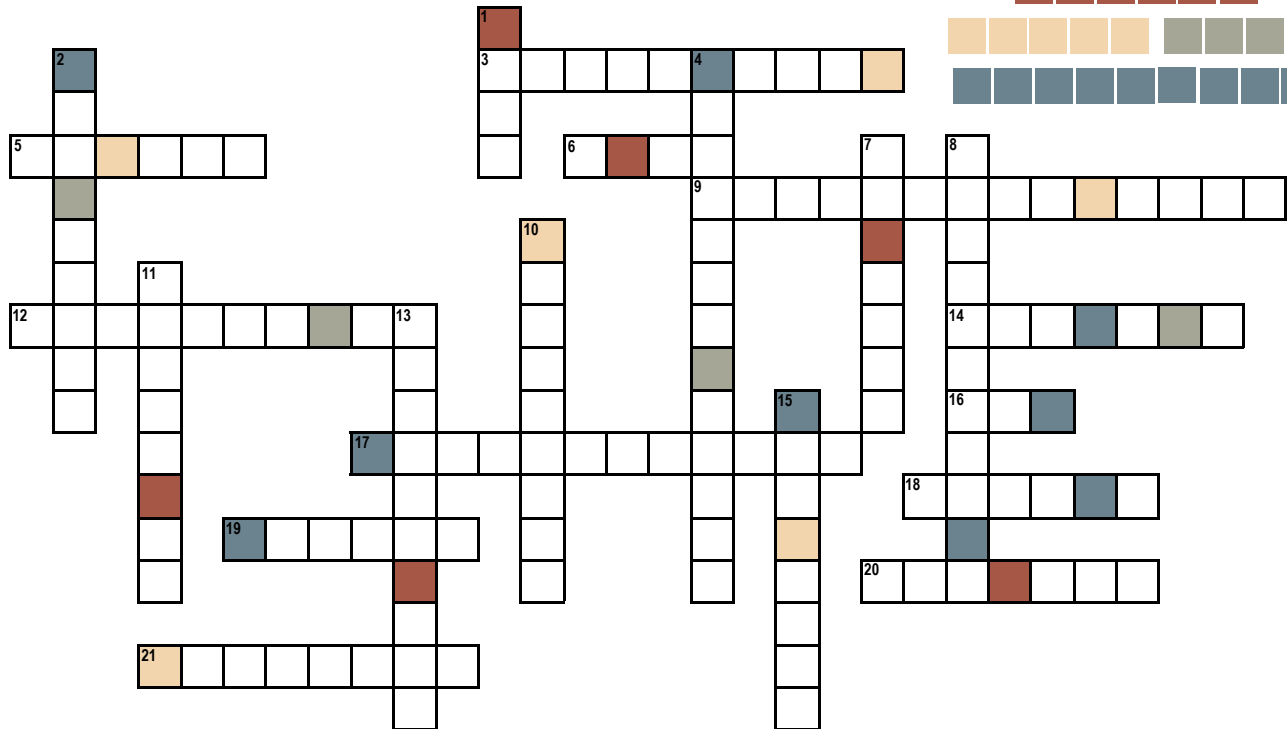
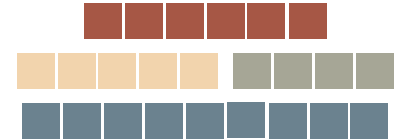
**Towns Served Bulk:** Colome,  
Dallas, Burke, Bonesteel, 6  
Native American Communities,  
and Gregory (backup)

# RURAL WATER & Crossword & Word Scramble Contest

## The Legislative Branch

\$100 Grand Prize

### SCRAMBLE ANSWER



#### ACROSS

3. A procedure by which a specified number of voters may propose a statute, constitutional amendment, or ordinance, and compel a popular vote on its adoption.
5. The upper house in the bicameral legislature.
6. A legislator elected by members of the political party to assist party leadership.
9. A person in the House of Representatives chosen or elected to speak and act on behalf of others
12. A person elected by the citizens to make laws.
14. A person in the Senate chosen or elected to speak and act on behalf of others.
16. A bill passed by the Legislature.
17. The fundamental organic law of the state.
18. A statement of financial position for a definite period

- of time based on estimates of expenditures during the period and proposals for financing them.
  19. An informal organization of members of each political party of the House, Senate, or both, that exists to discuss issues of mutual concern and possibly to perform legislative research and policy planning for its members.
  20. Presiding officer of the House of Representatives, elected by the members of the House, at the beginning of each session.
  21. The elected executive to head the State of SD.
- DOWN**
1. A proposed law introduced during a session for consideration by the Legislature
  2. Any alteration made or proposed to a bill, motion, or

- clause thereof by adding, changing, substituting, or omitting.
4. Money set aside by formal action for a specific use.
7. Period during with the Legislature meets.
8. The legislative body of the state.
10. A group of legislators that hold hearings to determine if the proposed bill should go forward to the house for passage.
11. The geographical division of the state represented by a legislator.
13. A form of legislation expressing the opinion of the Legislature. It does not have the force of law.
15. A procedure used in the Legislature whereby a committee or member from the floor will move to strike everything after the enacting clause of a bill and insert in lieu thereof the substance of an entirely new bill.

## 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](http://www.sdarws.com/crossword.html) with the correct phrase by January 9th, 2018 to be entered into the \$100 drawing.

**Online Entries - go to: [www.sdarws.com/crossword.html](http://www.sdarws.com/crossword.html)**

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 Barb Ledebor who had the correct phrase of "All good things are wild and free" for October 2017.

# RURAL WATER ACROSS SOUTH DAKOTA

## SOUTH DAKOTA ASSOCIATION OF RURAL WATER SYSTEMS NAMED 2017 STATE ASSOCIATION OF THE YEAR

The South Dakota Association of Rural Water Systems (SDARWS) received the State Association of the Year award at the annual Tribute to Excellence awards ceremony, held on Sept. 18 at the National Rural Water Association's (NRWA) WaterPro Conference in Reno, NV.

"The most prestigious and most honored award is the State Association of the Year," said Ed Savage, chair of the NRWA Awards Committee. "It is presented to the state association that projects a team effort in all areas of professional association operations and membership service. The State Association of the Year has excelled in all categories of the award and this is only accomplished by teamwork, strong leadership and member support."

"For over 40 years, SDARWS has been well-respected for the high-quality training, services, publications and advocacy they provide their members," Savage said. "With 12 employees and a combined total of 147 years of experience in the industry, this association trains hundreds of individuals in all aspects of water/

wastewater management through workshops, training classes, and conferences each year."

The association supports research programs like the Regional Water Research Consortium and the Water & Environmental Engineering Research Center, and are committed to the long-term sustainability of rural water systems. They have also lobbied successfully against sales taxes on water and other pertinent issues while also supporting issues that are important to rural water systems such as the railroad bill, battling the Corps of Engineers over water rights, and supporting continued funding of the Water Omnibus bill.

SDARWS also produces the consumer magazine, *Quality on Tap!* The magazine is a cooperative effort between 17 rural water systems and the Association, and reaches over 38,000 rural water households throughout South Dakota.

SDARWS is headquartered in Madison, SD and has a second office located in Spearfish, SD.



Back Row L to R: Greg Gross, Morris Elcock, Steve Attema. Front Row L to R: Brant Ager, Nick Jackson, Ron Gillen (Board President), Dennis Davis (Executive Director), Larry Wasland (NRWA Director), Robyn Brothers, Jeremiah Corbin. Not pictured: Jennifer Bame, Mike Moeller, Jim Zeck, and Sid Munson.

# 2017 MID-DAKOTA WATER RATE ADJUSTMENTS

Every year the board and staff at Mid-Dakota examine the costs of doing business versus the income that is generated from the collection of minimum bills and water sales. Last year there were no rate increases even though there was an increase in the cost of supplies and labor. Please bear in mind that the percentage increase you'll experience (see below) is over a two-year period.

The Special Users (Bulk) will see an overall rate adjustment of around 5% on their bills. The percent adjustment each individual Bulk account will see can vary from the 5% depending upon how they are contracted. The Demand Charge for Class I & II will go from \$21.00 to \$23.00 and Class III will go from \$8.64 per person per month (PPM) to \$9.04 PPM. The water flow charge for all Special Users will stay the same at \$0.50 per 1,000 gallons.

Other Mid-Dakota customers will see an increase of 6-7%. The minimum bill for Residential Users will go from \$40.00 per month to \$42.00 per month and the minimum bill for multiple-unit rural water customers will increase by \$2.00 per month also. The water flow charges will go from \$4.25 to \$4.50 per 1,000 gallons and the Livestock water rate will go from \$3.25 to \$3.50 per 1,000 gallons. The Conservation rate will increase from \$6.00 to \$6.75 per 1,000 gallons. The minimum bill for Livestock Users will now be billed on a monthly basis at \$30.00 per month resulting in an increase of \$60.00 per year minimum bill. The water rate for a livestock went from \$3.25 to \$3.50 per 1,000 gallons for the first 300,000 gallons and a new rate tier has been added to the Livestock. Livestock will get an additional 400,000 gallons per year at the Residential rate of \$4.50. Livestock water over 700,000 gallons per year will then be billed at the Conservation Rate of \$6.75 per 1,000 gallons.

It is never a pleasant task to increase rates for any utility, but it is a part of the responsibility of staff and directors to do what is necessary to keep up with the costs of doing business. Just as customers see the costs for their daily expenses going up, so do utilities' costs go up and the only way to compensate for these increases is to increase rates to generate income.

This last year, Mid-Dakota completed the construction of an Automatic Meter Reading (AMR)/Advanced Meter Infrastructure (AMI) system. The AMR/AMI system uses the latest technology to retrieve meter readings across the Mid-Dakota service area. This means that the customers can monitor their water use in the comfort of their own home.

Mid-Dakota's mission statement is "Enhancing quality of life by providing high quality water and excellent service." To do this we must continue to maintain the system and make necessary improvements to provide the service Mid-Dakota customers have come to expect. The directors and staff at Mid-Dakota take that mission statement very seriously.



## Rate Table Effective January 1, 2018

### 501 Residential 1-Unit

\$42.00 per month minimum bill  
\$4.50 per 1,000 gallons 1st 33,000  
\$6.75 per 1,000 gallons over 33,000

### 502 Rural Household 2-Units

\$52.00 per month minimum bill  
\$4.50 per 1,000 gallons 1st 10,000  
\$3.50 per 1,000 gallons next 56,000  
\$6.75 Per 1,000 gallons over 66,000

### 504 Rural Household 4-Units

\$70.00 per month minimum bill  
\$4.50 per 1,000 gallons 1st 10,000  
\$3.50 per 1,000 gallons next 122,000  
\$6.75 per 1,000 gallons over 132,000

### 506 Rural Household 6-Units

\$87.00 per month minimum bill  
\$4.50 per 1,000 gallons 1st 10,000  
\$3.50 per 1,000 gallons next 188,000  
\$6.75 per 1,000 gallons over 198,000

### 511 Livestock

\$30.00 per month minimum bill  
\$3.50 per 1,000 gallons 1st 300,000 (per year)  
\$4.50 per 1,000 gallons 301,000 to 700,000 (per year)  
\$6.75 per 1,000 gallons over 700,000 (per year)

### 161, 162, 164, 165 Special Class I & II

\$16.40 per GPM per month minimum bill  
\$23.00 per GPM per month demand charge  
\$0.50 per 1,000 gallons

### 163, 166 Special Class III

\$4.69 per Pers (equiv) per month minimum bill  
\$4.35 per Pers (equiv) per month demand charge  
\$0.50 per 1,000 gallons up to contract amount  
\$6.75 per 1,000 gallons over contract amount

1 Minimum & demand charges do not include any water.  
2 Livestock (511) water allocations are annual use, not monthly.  
3 "equivalent" population "person" = contract GPD ÷ 270

After Hours or Emergencies  
Call Mid-Dakota

TOLL FREE at: 1-800-439-3079  
or call the answering service direct  
at 1-888-545-7440

## MID DAKOTA CALENDAR

The Mid-Dakota Rural Water System offices  
will be closed on the following dates:

**December 25 - Christmas Day**

**January 1 - New Year's Day**

In case of an emergency, please call the office Toll Free at 1-800-439-3079,  
or call our After Hours answering service direct at 1-888-545-7440.



For online bill paying:  
[www.mdrws.com](http://www.mdrws.com)

**MID-DAKOTA'S  
MISSION STATEMENT**  
ENHANCING QUALITY OF LIFE  
BY PROVIDING HIGH QUALITY  
WATER AND EXCELLENT  
SERVICE.

# Prepare for Winter Weather

By Susan Hargens

I remember my grandmother talking about a time when people were outside in their light jackets because the weather was so nice in January of 1888 and they were caught by surprise by a vicious storm that traveled across the plains. She wasn't born yet, but it made such an impression on her parents that the story has been passed from generation to generation. It was told in such detail to me that at the time, I felt it had happened in a more recent time.

I read a book about this blizzard (The Children's Blizzard by David Laskin) and in the book it related that between 250 to 500 people died as a result of this blizzard – mostly school children that were caught out in the storm as they tried to walk home from school as it swept across the plains. Some information from other sources suggested the temperature dropped almost 100 degrees in a matter of 24 hours. Visibility was zero most of the time and people lost their way at their own farmsteads. The winter of 1888 was a dangerous winter because another blizzard (the Great Blizzard) came through two months later and hit the

east coast causing more than 400 deaths.

Today, we are very fortunate that we have professionals who do a great job forecasting the weather and their information is available on television and the internet. We can use our phones to easily pull the weather for the area that we are going to travel. Unfortunately, this can also create a false sense of security. Winter weather can be very unpredictable and change in a very short amount of time. We need to be prepared for the worst when traveling in the winter time. Everyone should have a survival kit when traveling in their vehicle during the winter. Items that can be in your survival kit could include: a shovel, windshield scraper & small broom, flashlight and batteries, water, energy bars, matches and small candles, extra winter clothes, first aid kit, blankets, tow rope, cat litter for traction, booster cables, cell phone adapter, fluorescent distress flag, etc.

Hopefully, we will never have to experience a blizzard as horrific as the Children's Blizzard, but we can still be stuck in a winter storm somewhere along the road and it is best to be prepared. Have a safe winter.

Merry  
Christmas  
... and Happy ...  
New Year

FROM THE MID-DAKOTA STAFF  
AND  
BOARD OF DIRECTORS

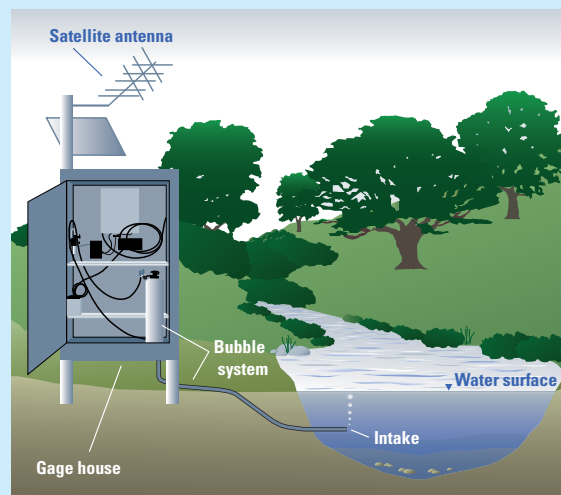
# WATER MATTERS

## Streamflow-Gaging Stations

Since settlement in the U.S, there has been a need to know how much water is flowing in both natural streams and later in man-made structures such as canals and reservoir outlets. Some man-made structures are built such that the flow or releases from them is accurate and known. For natural streams, determining the flow (often termed “discharge”) is much more complicated. Why do we need this information? The discharge of a stream is used by many different agencies and groups, whether to evaluate water use/water rights, determination of possible pollution loading, flooding, drought, and maximum flows for evaluation of bridge or culvert sizes to name just a few. Having accurate up-to-date information allows managers to make more informed decisions.

There are a number of ways to measure the discharge in a stream but they all include common necessary information: the velocity (or speed) of the water, the width of the stream, and the depth of the stream. The more detailed the information, the more accurate the determination.

For measurement of a continuous discharge, it is not financially or logistically possible to collect a discharge measurement at daily or even sub-hourly frequency. In these cases, the water-surface elevation, or river stage, is measured with instrumentation and then used to determine the discharge (see figure 1). The gage house contains the equipment that collects and transmits the water level or gage height data via satellite. Other data such as precipitation, air temperature, or water



temperature may also be collected at these locations. Once the river stage data is received the discharge is calculated. To do this, there must be a mathematical relation developed between the gage height to the actual discharge in the stream. This relation is called a discharge rating.

For streams and rivers, the relation between the river stage and the discharge varies on a continual basis, so the rating needs to be updated as these changes take place. This can be driven by events that change the basic shape of the river channel (such as the example in figure 2), whether that is a build-up of debris, erosion, or changes in the bank shape. So when you see a Federal or State agency out in the stream or with equipment on the bridge, know that they are there to collect important information to monitor this valuable natural resource.

Find more information on how streamflow-gaging stations work by reading this short fact sheet: <https://pubs.usgs.gov/fs/2011/3001/pdf/fs2011-3001.pdf>

To view river stage and discharge collected at U.S. Geological Survey streamgages across South Dakota: <https://waterdata.usgs.gov/sd/nwis/current?type=flow>. Streamgages are funded and supported by various Federal, State, and local partners.

### Back page content provided by:

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605-394-3200 – <http://sd.water.usgs.gov>