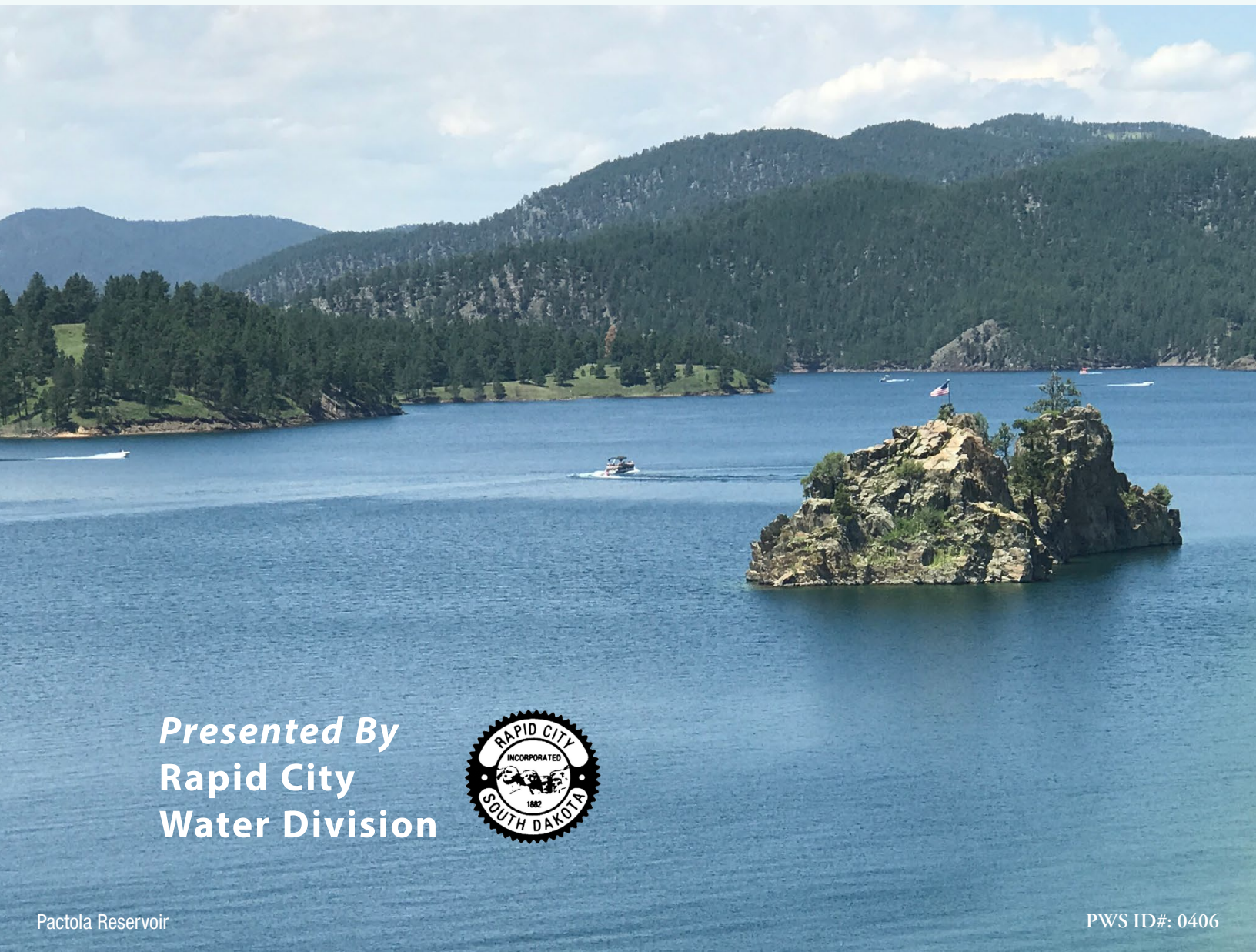


ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019



Presented By
**Rapid City
Water Division**



Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water

to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Community Participation

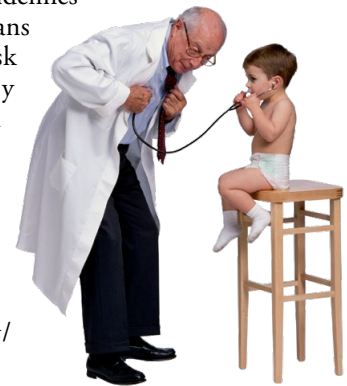
You are invited to attend any of the regularly scheduled Rapid City Council meetings, which are held on the first and third Mondays of each month at 6:30 p.m. in the Council Chambers at the Rapid City/School Administration Building located at 300 Sixth Street. If you would like to attend the Council Public Works meetings, these meetings are held on Tuesday afternoons prior to the Monday Council meetings. The Council Public Works meetings are also held in the Council Chambers at 12:30 p.m.

Source Water Assessment

A source water assessment has been completed for our system. The purpose of the assessment is to determine the susceptibility of each drinking water source to potential contaminant sources. The state has performed an assessment of our source water and determined that the relative susceptibility rating for the Rapid City public water supply system is moderate. Information on this assessment can be obtained by calling the State Department of Environment and Natural Resources at (605) 773-3296 or by visiting the following website: http://denr.sd.gov/des/gw/Sourcewater/Source_Water_Protection.aspx.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Information on the Internet

The U.S. EPA (<https://goo.gl/TFAMKc>) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Jeff Crockett, Water Superintendent, or Jim Ackerman, Water Production Supervisor, at (605) 394-4162.

Where Does My Water Come From?

Rapid City uses a number of sources for our water system, including two infiltration galleries located along the Rapid Creek alluvium: the Jackson Springs Gallery and the Girl Scouts Gallery. We utilize eight wells that draw water from the Minnelusa and Madison Aquifers. We also utilize surface water from Rapid Creek, which originates in the Rapid Creek drainage area west of Rapid City. This source includes the Deerfield and Pactola Reservoirs. These reservoirs supply water to the Mountain View and Jackson Springs surface water treatment plants for municipal use as well as downstream irrigation use. The Deerfield and Pactola dams are operated and maintained by the City of Rapid City Water Division under a contract with the U.S. Bureau of Reclamation.



Flocculation Basin at the Jackson Springs Water Treatment Plant. Flocculation is one step in the conventional water treatment process.

Impact of Zebra Mussels

The zebra mussel is a small mussel native to Russia. In 1988 it reached North America by a transatlantic freighter. Since then, they have continued to spread throughout the country. Zebra mussels are very successful invaders because they live and feed in many different aquatic habitats and breed prolifically (each female produces 1 million eggs per year) for their entire five-year life span.

Adult zebra mussels colonize on living and nonliving surfaces, including boats, buoys, piers, plants, and clams. They are a great concern to drinking water utilities because they can attach to water intake pipes, severely restricting the flow of freshwater. They can also impact water quality by increasing taste-and-odor problems in the water supply.

Zebra mussels are almost impossible to eradicate once they become established. Water utilities have had to retool their water intake systems to prevent zebra mussel-related problems costing millions of dollars a year. Utilities rely on a variety of methods to remove mussels from intake pipes; since there is no single, ideal removal solution, new methods are constantly under investigation.

While complete removal may be impossible, preventing zebra mussel spread is not. Human activities have spread them into many inland lakes and streams, usually through recreational boating, fishing, and diving practices. Simple steps such as draining live wells, cleaning vegetation off boat trailers, removing attached zebra mussels from boat hulls, and not dumping bait into lakes or rivers can prevent the spread of zebra mussels into non-infested waters.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

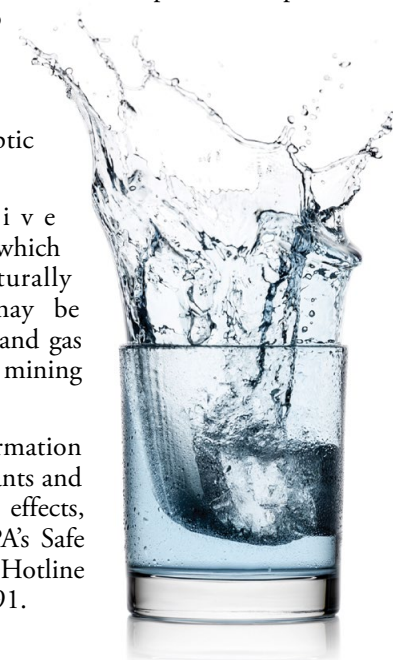
Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more information on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2017	2	2	0.055	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2019	[4]	[4]	1.15	NA	No	Water additive used to control microbes
Fluoride (ppm)	2019	4	4	0.93	0.57–0.93	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] ¹ (ppb)	2019	60	NA	<15	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2019	10	10	1.71	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] ¹ (ppb)	2019	80	NA	18.45	NA	No	By-product of drinking water disinfection
Total Coliform Bacteria (Percent of positive samples)	2019	TT	NA	2	NA	No	Naturally present in the environment
Turbidity ² (NTU)	2019	TT	NA	0.10	0.03–0.10	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2019	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff
Tap water samples were collected for lead and copper analyses from sample sites throughout the community							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2018	1.3	1.3	0.243	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2018	15	0	4	0/30	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Bromide (ppb)	2019	29.2	25.1–29.2
Manganese (ppb)	2019	2.26	0.428–2.26

¹The Amount Detected is the highest locational running annual average (LRAA).

²Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. Results are for the Jackson Springs WTP. The Mountain View WTP was not operated in 2019.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90 percent of our lead and copper detections.

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

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

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

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.



BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

34
BILLION

1
MILLION The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

135
BILLION

300
MILLION The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

2
BILLION