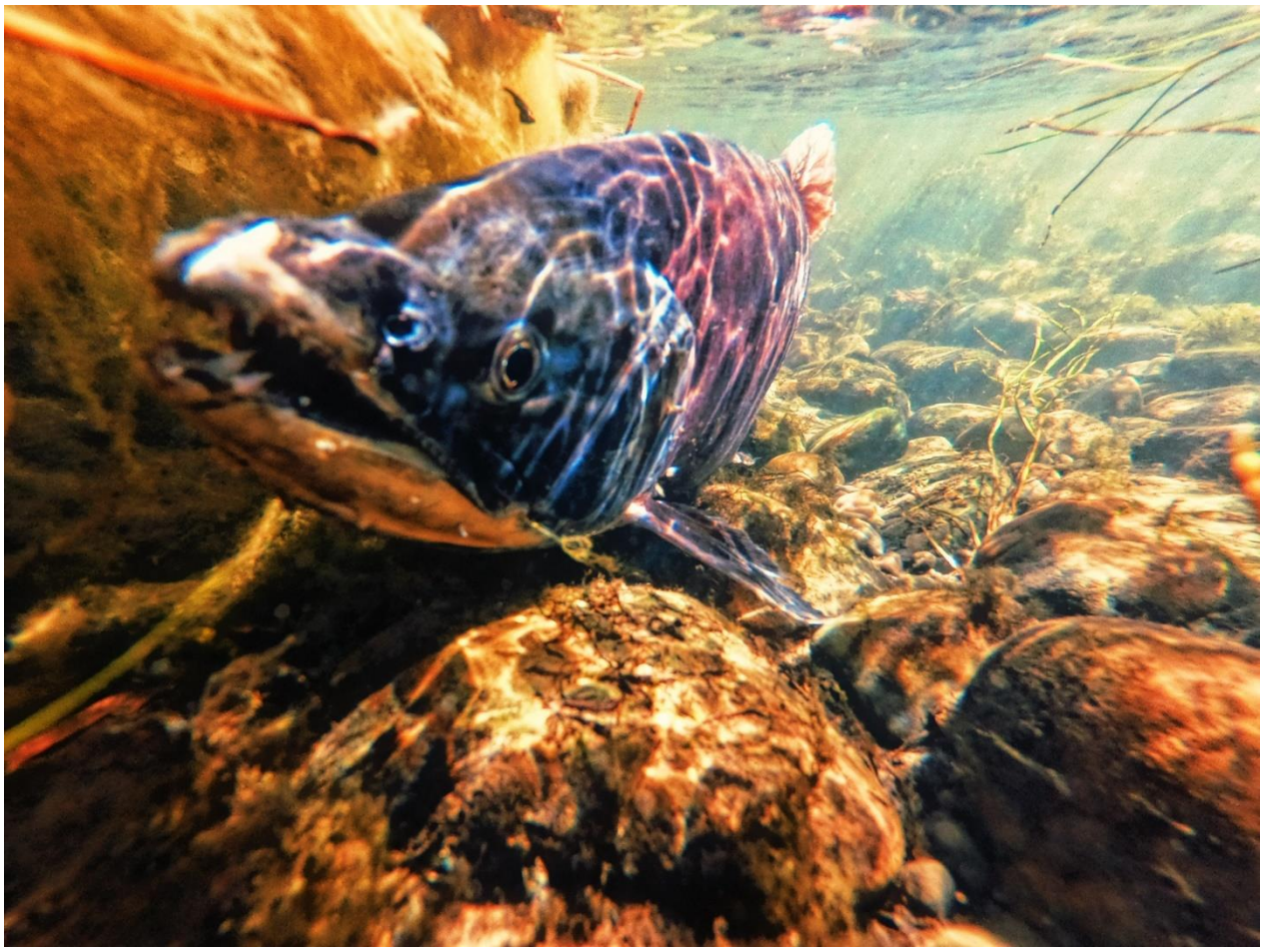
Don A. Christiansen Regional Water Treatment Plant



2019 Consumer Confidence Report

About Our Water Treatment Plant

The Utah Valley Water Treatment Plant (UVWTP) underwent construction in 1977 and began treating water from the Provo River on August 1, 1979. At the time, the UVWTP could treat up to 42 million gallons of water per day (MGD) through direct filtration. In 2002, construction of a new update was completed which expanded the plant's capacity to 80 MGD. In January of 2016, another update was completed which added additional water treatment processes to make the plant conventional and expanded the capacity to 100 MGD. The UVWTP was officially renamed to the Don A. Christiansen Regional Water Treatment Plant (DACRWTP) in honor of the former general manager of the Central Utah Water Conservancy District.

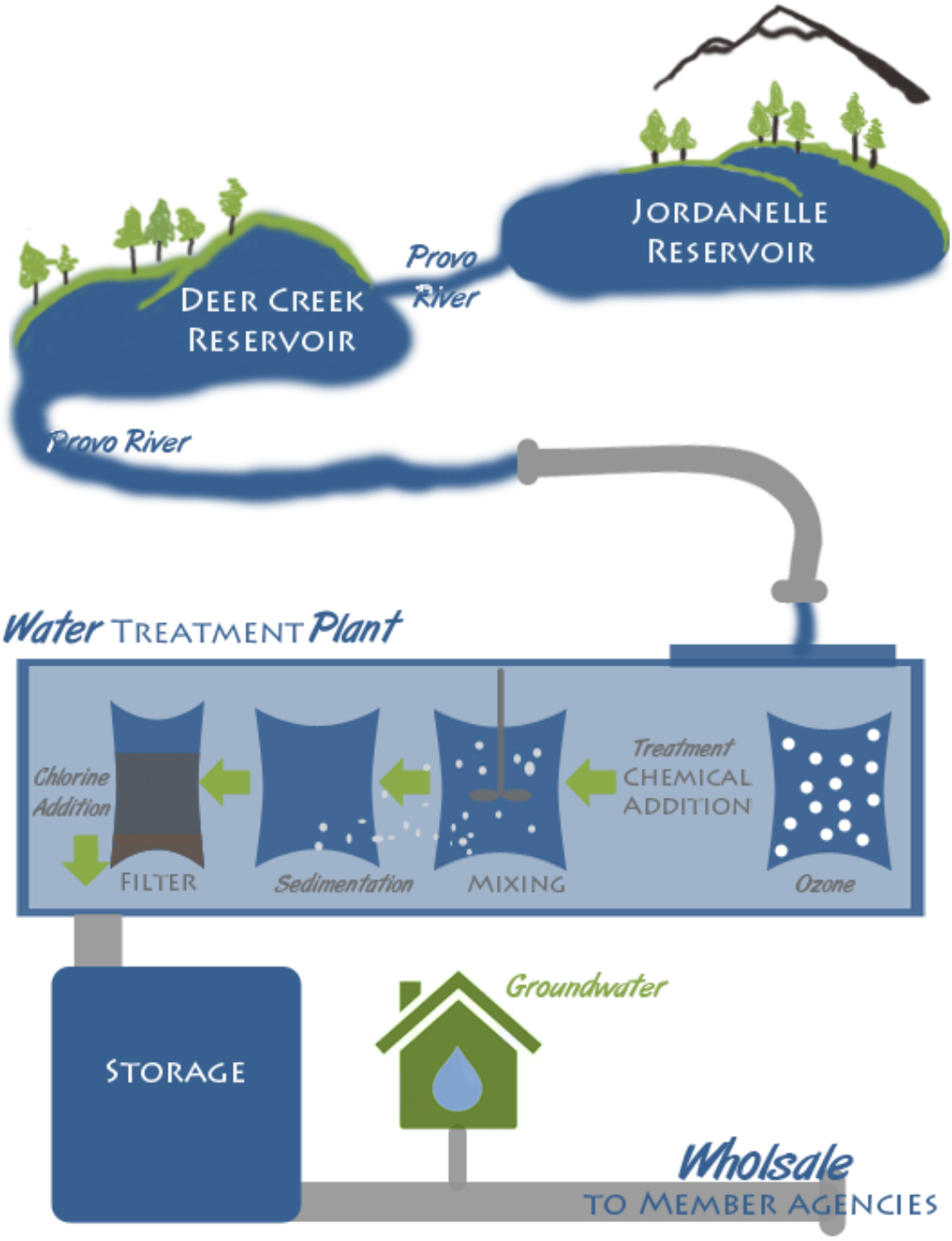
The DACRWTP is a wholesaler facility that provides drinking water to several municipalities and other conservancy districts for distribution to their customers. Today, the DACRWTP and its crew of operators serve to provide approximately 850,000 people in Utah County and Salt Lake Counties, clean drinking water.

Our drinking water is sourced from the Provo River watershed from the Olmstead Diversion located about 7 miles downriver from Deer Creek dam. Upon arrival to the plant, water is first treated with ozone to remove contaminants associated with taste and odor issues and to inhibit the formation of harmful disinfection byproducts. Next, organic molecules and other contaminants are removed from the water through coagulation, flocculation, sedimentation, and filtration processes. Chlorine is added to disinfect the water after the treatment process. The pH of the water is also corrected to prevent corrosion of pipes in the distribution system. We are proud of the water we produce and strive to maintain a culture of excellence. This year, the DACRWTP operators celebrated a new milestone when the plant extended its own record of 3592 consecutive days of producing finished water with a turbidity of < 0.10 NTU.

Our Customers

Orem City | Provo City | Vineyard | Eagle Mountain | Lehi City | Jordan Valley Water Conservancy District | Saratoga Springs | Rocky Mountain Power

Your Water from Source to Tap



Partnership for Safe Water

The DACRWTP is regulated by the Environmental Protection Agency (EPA) and the Utah Division of Drinking Water. Together, these agencies have established limits on the contaminants that may be present in drinking water. Here at the DACRWTP, we take these rules and regulations very seriously. We routinely monitor for regulated as well as unregulated contaminants beyond requirement to ensure that we are delivering the safest drinking water possible. Additionally, we diligently monitor water quality in the watershed and are continually conducting our own research and development to ensure that our processes are optimized.

Because of our passion for water quality, we have joined with other like-minded water utilities, both locally and nationally, to hold ourselves to a higher standard. Together, we set goals that are stricter than regulations and collaborate to achieve these goals.

On February 12, 1997, the DACRWTP joined The Partnership for Safe Water, an alliance comprised of more than six drinking water organizations such as the AWWA and the USEPA and over 200 utilities. The goal of the Partnership for Safe Water is to implement voluntary programs of excellence and preserve public health by setting standards where regulation may not exist.

There are four phases in the Partnership for each member utility. Phases I-III are membership requirements and include maintaining compliance with all regulations, continual data collection to guide process optimization efforts, and a self-assessment of performance.

In 2003, the Don A. Christiansen Regional Water Treatment Plant became the second plant in the nation to receive the rarely achieved and voluntary Phase IV "Excellence in Water Treatment" award from the Partnership. The final phase was a demonstration to the other Partnership peers and organizing bodies that the DACRWTP meets all the stringent goals through plant optimization and performance. To date, there are only 17 plants in the nation that have achieved phase IV status.

Watershed Protection

Watersheds are defined as geographical divisions which collect a unifying flow of both surface and groundwater into one basin, river, reservoir etc. The Provo River watershed is just one of the thousands of watersheds in North America but is the primary source for drinking water for the majority of Utahns.

We are working closely with the Utah Division of Water Quality, other conservancy districts, municipalities, and other members of private and public organizations to protect our watershed. Through alliances such as the Provo River Watershed Council we collect and share data to continue to protect our resources. As part of the Provo River Watershed Council we promote and support watershed best management practices through partnerships and collaboration, education, and water quality monitoring. These efforts help ensure high quality source water for the DACRWTP.

Through these collaborative efforts, we have established a source water protection plan that can be viewed on our website: **https://cuwcd.com/resources.html**

For any questions about the plan, please contact our Water Quality Manager:

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Provo River Watershed Council
If you would like to learn more about watershed protection visit our website:

ProvoRiverWatershed.org

Our CWP Team

The Central Utah Water Development Project, or CWP, was created to provide water to communities in north Utah County and Salt Lake County. In 2005, Central Utah Water Conservancy District purchased 42,400 acre feet of water rights and other water assets from Geneva Steel. From these acquisitions, 15 well sites have been planned while 5 have been fully drilled and developed. Additionally 23 miles of pipeline, 10 million gallons of storage, a pump station and chlorination facilities are able to provide cities such as Saratoga Springs, Eagle Mountain, Lehi, Vineyard, and even Jordan Valley Water Conservancy District with 53,312 acre feet of water annually. The other wells will be developed as the need for water in the communities served by CWP increases.

Our CWP wells are some of the deepest in Utah at approximately 1500 feet deep! Water from this deep ground aquifer is of incredibly high quality (see pages 11– 13) and has won several awards for best tasting groundwater at the AWWA Intermountain Section Conference.

A Message 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. Food and Drug Administration (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.

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, in some cases, radioactive material, and may 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; and
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800.426.4791).

www.water.epa.gov

Safe Drinking Water Hotline
(800)-426-4791

DACRWTP Finished Water

	UNITS	2019 AVERAGE	2019 RANGE	MONITORING CRITERIA		LIKELY SOURCE(S) / COMENTS Unless noted otherwise, the data presented in this table are from testing conducted in 2019
				MCL	MCLG	
MICROBIOLOGICAL						
Total Coliform	% positive per month	0	0	5%	0	Coliforms are naturally present in the environment; as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.
Escherichia coli	% positive per month	0	0	TT	TT	Fecal coliforms and E. coli only come from human and animal fecal waste.
Turbidity	NTU	0.017	0.014-0.023	95% <0.3	NA	Naturally occurring and soil runoff.
Lowest Monthly % Meeting TT	%	100% (Treatment Technique requirement applies only to treated surface water sources)				
PESTICIDES/PCBs/SOCs						
All other Parameters	µg/L	ND	ND	Varies	Varies	Various sources
VOC						
Chloroform	µg/L	13.3	2.9-39.8	NE	70	By-product of drinking water disinfection.
Bromodichlormethane	µg/L	4.9	2.0-9.0	NE	0	By-product of drinking water disinfection.
Dibromochloromethane	µg/L	1.7	0.6-3.1	NE	60	By-product of drinking water disinfection.
All other Parameters						
Total Organic Carbon	mg/L	2.11	1.68-2.51	TT	NE	Naturally occurring
UV-254	1/cm	0.025	0.01-0.31	UR	NE	Naturally occurring. This is a measure of UV-absorbing organic compounds.

	UNITS	2019 AVERAGE	2019 RANGE	MONITORING CRITERIA		LIKELY SOURCE(S) / COMENTS Unless noted otherwise, the data presented in this table are from testing conducted in 2019
				MCL	MCLG	
DISINFECTANTS/DISINFECTION BY-PRODUCTS						
Chlorine	mg/L	0.8	0.2-1.9	4	4	Drinking water disinfectant.
Total THMs	µg/L	19.9	5.7-49.1	80	NA	By-product of drinking water disinfection.
HAA5s	µg/L	15.1	4.7-30.6	60	NA	By-product of drinking water disinfection.
Bromate	mg/L	ND	ND	0.01	0	By-product of drinking water disinfection.
PRIMARY INORGANICS						
Arsenic	µg/L	ND	ND	10.0	0	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes.
Barium	µg/L	56	56	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride	mg/L	0.2	0.2	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories.
Nitrate	mg/L	0.3	0.3	10	10	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits.
Selenium	µg/L	.7	.7	50	50	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines.
RADIOLOGICAL						
Alpha, gross	pCi/L	0.5	0.5	15	0	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Radium 228	pCi/L	0.28	0.28	5	0	Erosion of natural deposits.
Beta, gross	pCi/L	0.9	0.9	50 (4mrem/yr)	0	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation.

	UNITS	2019 AVERAGE	2019 RANGE	MONITORING CRITERIA		LIKELY SOURCE(S) / COMENTS Unless noted otherwise, the data presented in this table are from testing conducted in 2019
				MCL	MCLG	
SECONDARY INORGANICS *Aesthetic standards*						
Color	CU	0.5	ND-16.0	SS=15	NE	Decaying, naturally-occurring organic material and suspended particles.
pH		7.8	7.22-8.14	SS=6.5-8.5	NE	Naturally occurring.
Sulfate	mg/L	58	58	SS=250	NE	Erosion of natural deposits.
Total Dissolved Solids	mg/L	336	336	SS=500	NE	Erosion of natural deposits.
UNREGULATED PARAMETERS (Monitoring not required)						
Alkalinity	mg/L	132	110-166	UR	NE	Naturally occurring.
Conductivity	µmhos/cm	292	236-433	UR	NE	Naturally occurring.
Calcium Hardness	mg/L	139	108-184	UR	NE	Naturally occurring.
	grains/ gallon	8.1	6.3-10.8	UR	NE	Naturally occurring.

CWP Ground Water

	UNITS	2019 AVERAGE	2019 RANGE	MONITORING CRITERIA		LIKELY SOURCE(S) / COMENTS Unless noted otherwise, the data presented in this table are from testing conducted in 2019
				MCL	MCLG	
MICROBIOLOGICAL						
Total Coliform	% positive per month	0	0	5%	0	Coliforms are naturally present in the environment; as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.
Escherichia coli	% positive per month	0	0	TT	TT	Fecal coliforms and E. coli only come from human and animal fecal waste.
Turbidity	NTU	0.05	0.02-0.48	5	NA	Naturally occurring
PESTICIDES/PCBs/SOCs						
All other Parameters	µg/L	ND	ND	Varies	Varies	Various sources.
VOC						
Chloroform	µg/L	16.0	2.1-44.2	NE	70	By-product of drinking water disinfection.
Bromodichlormethane	µg/L	5.3	1.7-9.9	NE	0	By-product of drinking water disinfection.
Dibromochloromethane	µg/L	1.8	0.7-3.7	NE	60	By-product of drinking water disinfection.
All other Parameters	µg/L	ND	ND	Varies	Varies	Various sources.
DISINFECTANTS/DISINFECTION BY-PRODUCTS						
Chlorine	mg/L	0.79	0.25-2.20	4	NE	Drinking water disinfectant
Total THMs	µg/L	23.1	3.8-53.8	80	NE	By-product of drinking water disinfection.
HAA5s	µg/L	16.9	ND-36.0	60	NE	By-product of drinking water disinfection.

	UNITS	2019 AVERAGE	2019 RANGE	MONITORING CRITERIA		LIKELY SOURCE(S) / COMENTS Unless noted otherwise, the data presented in this table are from testing conducted in 2019
				MCL	MCLG	
RADIOLOGICAL						
Alpha, gross	pCi/L	2.2	0.6-4.3	15	0	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Radium 228	pCi/L	0.4	0.04-0.73	5	0	Erosion of natural deposits.
Beta, gross	pCi/L	1.4	0.4-2.7	50 (4 mrem/yr)	0	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation.
PRIMARY INORGANICS						
Arsenic	µg/L	1.8	1.0-3.4	10.0	0	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes.
Barium	µg/L	81	58-126	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Cyanide	mg/L	0.0005	ND-0.002	0.2	0.2	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Nitrate	mg/L	0.2	ND-0.2	10	10	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits.
Selenium	mg/L	0.0007	ND-0.0012	0.05	0.05	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines.

	UNITS	2019 AVERAGE	2019 RANGE	MONITORING CRITERIA		LIKELY SOURCE(S) / COMENTS Unless noted otherwise, the data presented in this table are from testing conducted in 2019
				MCL	MCLG	
SECONDARY INORGANICS *Aesthetic standards*						
pH		7.73	7.38-8.12	SS=6.5-8.5	NE	Naturally occurring.
Sulfate	mg/L	13.5	3-20	SS=250	NE	Erosion of natural deposits.
Total Dissolved Solids	mg/L	182	166-235	SS=500	NE	Erosion of natural deposits.
UNREGULATED PARAMETERS (Monitoring not required)						
Alkalinity	mg/L	114	103-128	UR	NE	Naturally occurring.
Conductivity	µmhos/cm	298	236-473	UR	NE	Naturally occurring.
Calcium Hardness	mg/L	98	66-152	UR	NE	Naturally occurring.
	grains/ gallon	5.6	3.9-8.9	UR	NE	Naturally occurring.

Water Quality Data Acronyms

- **1/cm:** Reciprocal centimeters
- **AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.
- **CFU/100 mL:** Colony-forming units per 100 milliliters.
- **CU:** Color unit
- **EPA:** Environmental Protection Agency
- **FDA:** Food and Drug Administration
- **HAA5s:** Haloacetic acids.
- **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 maximum residual allowable for chlorine added to drinking water for disinfection purposes.
- **mg/L:** milligrams per liter, or parts per million (like 1 minute in 2 years)
- **MPN/mL:** Most probable number per milliliter
- **NA:** Not applicable.
- **ND:** None detected.
- **NE:** None established.
- **ng/L:** Nanograms per liter, or parts per trillion (like 1 minute in 2 million years).
- **NTU (Nephelometric Turbidity Units):** A measure of water clarity.
- **pCI/L:** Picocuries per liter.
- **Range:** Values shown are a range of measured values. Single values indicate a single measured value.
- **TT (Treatment Technique):** A required treatment process intended to reduce the level of a contaminant in drinking water.
- **TTHMs:** Total trihalomethanes.
- **TDS:** Total dissolved solids.
- **TOC:** Total organic carbon.
- **TON:** Threshold odor number.
- **TSS:** Total suspended solids.
- **µmhos/cm:** Microhms per centimeter.
- **µg/L:** Micrograms per liter, or parts per billion (like 1 minute in 2,000 years).
- **UR:** Unregulated at this time.
- **UV-254:** Ultraviolet light measured at a wavelength of 254 nm.

An Update from the Water Quality Team

Monitoring of Harmful Algal Blooms: Cyanobacteria play a small role in the ecosystem of our watershed. These cyanobacteria can be found transiently in Deer Creek and have been observed to accumulate on shores through wind and wave activity. These short-lived accumulations are sometimes also associated with the presence of cyanotoxins, which, like the organisms they originate from, are also transient. In order to be sure that our drinking water remains free of cyanotoxins we have proactively entered into a collaborative research project with BYU to combine our expertise, sampling efforts and monitoring tools. It is our goal to both better understand these organisms and develop a comprehensive early warning system to monitor for cyanotoxins. In 2019, we did not observe any toxins present below Deer Creek dam in the Provo River.

Emergency Response: The water quality team is prepared to respond to emergencies that may impact the health of the Provo River. On May 28, 2019, a semi tanker carrying butane lost control on the road and crashed into Deer Creek near the Charleston area. Emergency responders and CUWCD personnel cooperated to deploy protective booms around the partially submerged tanker. The water quality team was able to respond to the scene and sample near the wreck as well as below the dam to ensure that all contamination resulting from the wreck was contained. We continued to monitor daily for the presence of contamination on Deer Creek while coordinating our sampling efforts and results with governing agencies such as the DEQ and the local health department until contamination was no longer present inside of the booms. While incidents such as this one don't occur very often, we stand at the ready to respond to all types of emergencies to ensure that the drinking water we produce is the highest quality possible.

For More Information

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Other Resources

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Salt Lake City, Utah 84114
801-536-4200
www.drinkingwater.utah.gov
www.drinkiingwater.utah.gov

Safe Drinking Water Hotline
1-800-426-4791
www.water.epa.gov