Duchesne Valley Water Treatment Plant

2019 Consumer Confidence Report

About Our Water Treatment Plant

Prior to construction of the Duchesne Valley Water Treatment Plant (DVWTP), residents of Duchesne suffered from both water shortages and water quality issues. In 1967, representatives of CUWCD met with Duchesne residents who reported issues with their culinary water such as taste and odor issues, mineral staining of appliances, and occasions of residents not having any water at all. After exhausting all other options, the newly formed East Duchesne Culinary Water Improvement District petitioned CUWCD for a means to treat water from Starvation Reservoir. CUWCD responded to the petition by commissioning the construction of the DVWTP. Construction of the DVWTP was completed in 1982 and the then four million gallon per day (MGD) plant began providing its first treated water from Starvation Reservoir for residents.

Both an increase in demand for municipal and industrial water as well as increasingly more stringent water quality requirements necessitated an expansion of the DVWTP. From 2008-2010 the plant was expanded from four MGD to eight MGD and added the processes of ozone, chemical feed, flocculation, and filtration. Today, the DVWTP is maintained by a staff of four full-time treatment operators 365 days a year. They work to meet the ever-growing water demand while maintaining the highest quality of water achievable.

The fires and rains that occurred in 2018 continued to present challenges to the DVWTP staff in 2019. One of the largest water quality changes that occurred was an increase in abundance of total organic carbon (TOC) in starvation reservoir which carried over in to 2019. Our staff worked hard to reduce the amount of TOC in drinking water through optimizing plant processes such as ozonation, coagulation, and filtration.

2019 also brought several proliferation cycles of cyanobacteria, algae and diatoms in starvation. Proliferation events such as these can shorten filter run times and require our staff to maintain the filters around the clock in order to keep up with the valley's demand for drinking water.

Our Customers

Duchesne City| East Duchesne Culinary Improvement District | Johnson Water Improvement District | Myton City

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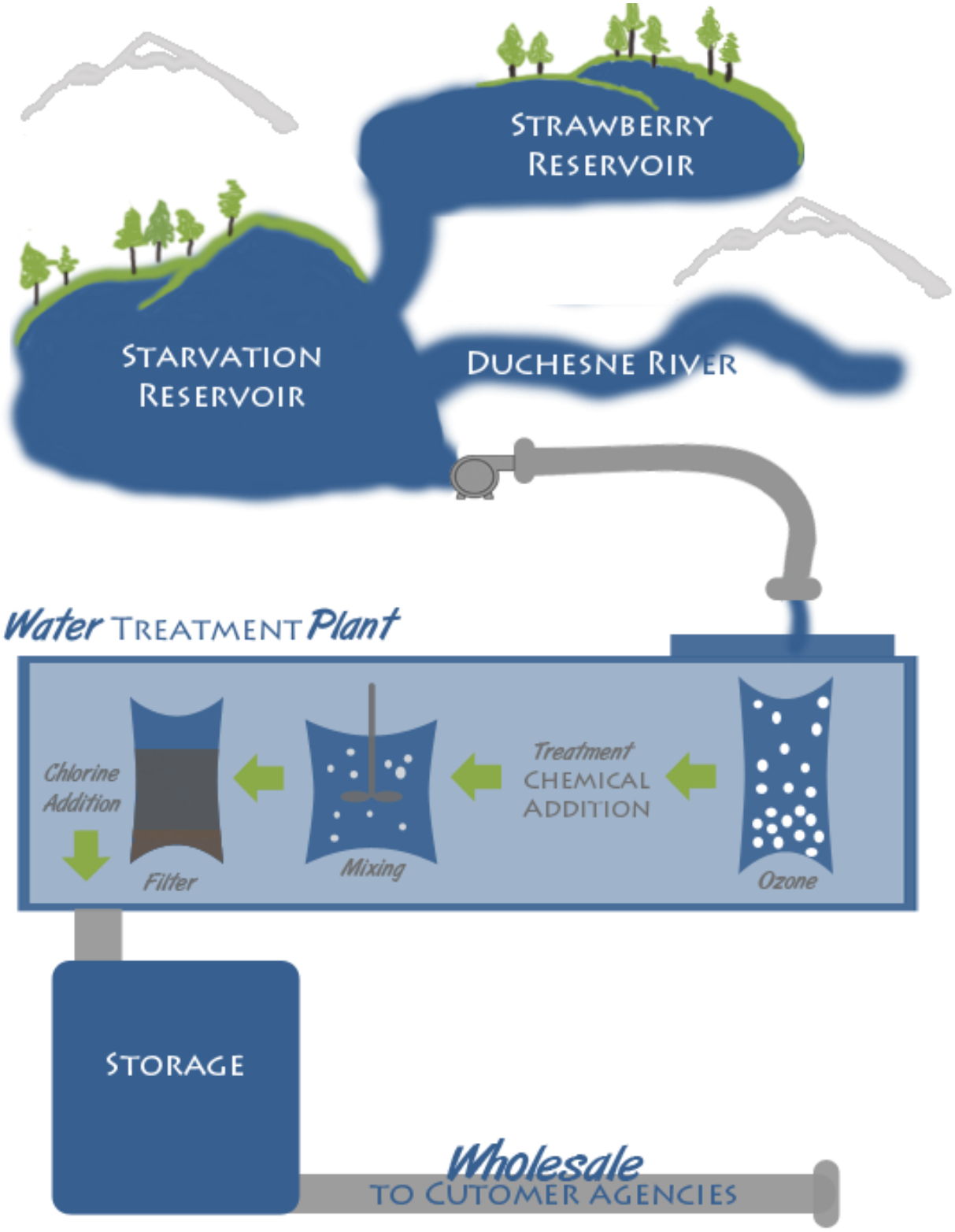
Your Water from Source to Tap



Partnership for Safe Water

The DVWTP 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 DVWTP, 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 together 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 DVWTP 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.

Additionally, the DVWTP is one of the founding members of the Utah Eastern Water Quality Alliance. Formed in 1998, this alliance is comprised of several utilities based in the Eastern region of Utah as well as members from the Utah Division of Drinking Water and State Department of Health. The goal of the alliance is to work with other like-minded utilities to hold ourselves to a higher standard than regulation—on a local level.

The Eastern Alliance meets quarterly to discuss process improvement projects, water quality issues, regulations, peer-mentoring, and other topics. We are proud to collaborate with this group in a setting that is unprecedented in any other state.

Watershed Protection

The Starvation Reservoir watershed is comprised of approximately 1,088,315 acres that spans from Strawberry Reservoir to the south side of the Uintah mountain range. Starvation is fed primarily by flows from the Strawberry River and Duchesne River via Knight Diversion. Human activities in the watershed including recreation, oil well development, and livestock grazing can all impact the water quality inside of the watershed.

We are actively partnering with other agencies, municipalities and parties in the Duchesne Valley to identify potential sources of contamination and work together to manage them. We have developed specific source water protection plans for the Starvation Watershed which can be found on the following website:

https://cuwcd.com/resources.html

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

Mike Rau
(801)-226-7113
miker@cuwcd.com

By Protecting our watershed, we are protecting our drinking water.

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

DVWTP 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	ND-1	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 (surface water)	NTU	0.04	0.02-0.09	95% <0.3	NA	Naturally occurring and soil runoff
PESTICIDES/PCBs/SOCs						
All other Parameters	µg/L	ND	ND	Varies	Varies	Various sources
DISINFECTANTS/DISINFECTION BY-PRODUCTS						
Chlorine	mg/L	1.2	0.9-1.7	4	4	Drinking water disinfectant
Total THMs	µg/L	23.8	5.2-43.7	80	NE	By-product of drinking water disinfection.
HAA5s	µg/L	17.7	5.5-36.1	60	NE	By-product of drinking water disinfection.
Bromate	mg/L	ND	ND	0.01	0	By-product of drinking water disinfection.
ORGANIC MATERIAL						
Total Organic Carbon	mg/L	3.3	3.1-3.6	TT	NE	Naturally occurring
UV-254	1/cm	0.04	0.021-0.055	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	
SECONDARY INORGANICS Aesthetic standards						
Color	CU	0.046	ND-5.0	SS=15	NE	Decaying, naturally-occurring organic material and suspended particles
Iron	mg/L	0.04	0.04	SS=0.3	NE	Erosion of natural deposits
Odor	TON	0.26	ND-1.4	SS=3	NE	Various sources
pH		8.18	7.8-8.4	SS=6.5-8.5	NE	Naturally occurring
Sulfate	mg/L	93	93	SS=250	NE	Erosion of natural deposits.
Total Dissolved Solids	mg/L	417	359-465	SS=500	NE	Erosion of natural deposits
UNREGULATED PARAMETERS (Monitoring not required)						
Alkalinity	mg/L	204	170-222	UR	NE	Naturally occurring.
Conductance	µmhos/cm	608	502-682	UR	NE	Naturally occurring.
Calcium Hardness	mg/L	221	148-260	UR	NE	Naturally occurring.
	grains/ gallon	12.9	8.7-15.2	UR	NE	Naturally occurring.

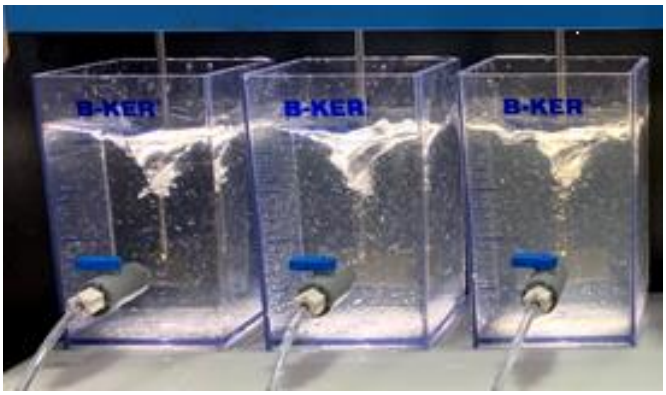
Water Quality Data Acronyms

- **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

You might be familiar with our excellent staff at the DVWTP who are also certified lab technicians, but did you know that they are supported by a whole team of scientists? We are the Water Quality team, and we are actively involved in monitoring both the watershed and the drinking water quality for the people of the Duchesne Valley.

Monitoring of Harmful Algal Blooms: Harmful algal blooms are comprised of cyanobacteria (not algae) that carry the genetic tools necessary to produce toxins such as microcystin. The presence of cyanobacteria in our Utah waters is not a new situation. To the contrary, CUWCD has been monitoring the proliferation cycles of these organisms for decades now. In addition to our routine monitoring which includes cell counts via microscopy and nutrient data such as nitrogen and phosphorus, we have expanded our capabilities to test directly for cyanotoxins in our lab. In 2019 we observed a proliferation of cyanobacteria during the late summer months in Starvation reservoir. We coordinated with our staff at the DVWTP to monitor the situation daily. We are proud to report that the finished water produced by our DVWTP plant during this event remained free of cyanotoxins.



Plant Process Optimization: The fires and heavy rains that followed in 2018 changed the water quality of Starvation by adding more sediments and total organic carbon to the reservoir. These were events that pushed our plant staff who worked hard to keep the finished water at the same high-quality water that you have come to expect from them. In the aftermath of those changes which are still evident today, the water quality team has worked with the DVWTP staff throughout 2019 to optimize different aspects of plant processes to ensure that all of our efforts are maximized.

For More Information

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Other Resources

Division of Drinking Water
195 North 1950 West
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