think clear



WATER
QUALITY
REPORT
2023



Water delivered by the Las Vegas Valley Water District meets or surpasses all State of Nevada and Federal Safe Drinking Water Act standards.

One thing is clear: Delivering exceptional, high-quality drinking water to you is our priority EVERY day of the year.

Lately, news about our water resources, drought conditions and the importance of water conservation has dominated the headlines. With the challenges of a more-arid future along the Colorado River—the source of 90 percent of Southern Nevada's water supply—it's no surprise that the topic of water quality seems to take a back seat. Yet, behind the headlines, water quality is our 24/7 mission and the reason you can turn on your tap with confidence.

"Our community

is home to one of the most advanced and reliable municipal water **systems** in the nation"

Residents have asked if having less water amid our drought means a reduction in the quality of our water. In a word: NO.

Despite the drought's impact on Lake Mead's water levels, we draw your drinking water from deep within Lake Mead, where water quality is **optimal**. How do we do that? Intake No. 3 works in tandem with our Low Lake Level Pumping Station and water treatment facilities to ensure our community can continue to access high-quality water even during unprecedented drought conditions. I say with confidence that Las Vegas is the most water-secure city in the Desert Southwest. The infrastructure we've built, along with the conservation plans we've put in place, enable us to serve high-quality water safely and reliably to our community and our customers under any scenario.

But confidence in your water quality should run even deeper: Our community is home to one of the most advanced and reliable municipal water systems in the nation. Our treatment facilities are world-class. Thanks to the Southern Nevada Water Authority's Water Quality Laboratory and Applied Research & Development Center, we are one of the world's premier water utilities, combining high-level research and continuous water-quality testing under one roof.

Americans enjoy some of the world's most comprehensively regulated drinking-water supplies thanks to the stringent requirements of the Safe Drinking Water Act—and we go above and beyond those requirements. The Las Vegas Valley Water District maintains a proactive, multiyear capital plan—investing \$600 million to safeguard water quality and reliability throughout our vast network of reservoirs, pumping stations and pipelines, all the way to your home.

Our team of dedicated scientists, post-doctoral researchers, engineers, technicians, lab analysts, field crews and more are proud to deliver high-quality water to you and to present your annual water quality report. On a personal note, I also want to say thank you to our community—to residents and businesses alike—for using 5.8 billion gallons less water in 2022 than in 2021. Your commitment to safeguarding our most precious resource has helped make Southern Nevada a world leader in water conservation. Please visit Ivvwd.com to learn more about your water quality and for tips on how you can be water smart every day of the year.

John J. Entsminger General Manager

Las Vegas Valley Water District/Southern Nevada Water Authority

LVVWD Board of Directors

Marilyn Kirkpatrick, President • James Gibson, Vice President • Justin Jones • William McCurdy II • Ross Miller • Michael Naft • Tick Segerblom

GET INVOLVED

Open, public meetings of the LVVWD Board of Directors are held at 9 a.m. on the first Tuesday of each month at the Clark County Government Center, 500 S. Grand Central Pkwy. Agendas are posted at least three days before each meeting on Ivvwd.com. Other questions? Email us via the Ivvwd.com "Contact Us" link or send mail to:

Las Vegas Valley Water District Public Services Department 1001 S. Valley View Blvd., MS 780 Las Vegas, NV 89153

Nota en español: Este reporte contiene información muy importante acerca de la calidad del agua. Para recibir una copia en español, llama al 702-258-3838 o visita lvvwd.com.

This report is based on data collected during the 2022 calendar year, unless noted otherwise, and is provided in accordance with the Safe Drinking Water Act.



HOW WE MONITOR, TEST AND TREAT YOUR WATER

In 2022, we conducted nearly 300,000 analyses on more than **53,650** water samples from Lake Mead, our storage reservoirs and 367 community-wide sampling stations—including stations in customers' meter boxes. It's our goal to ensure water quality all the way to your meter, and we monitor in "real time" 365 days a year, around the clock.

Water we draw from the Las Vegas Valley groundwater aquifer is naturally filtered, so it is simply treated with chlorine as it enters the water distribution system. We treat water drawn from Lake Mead at the Southern Nevada Water Authority's two advanced water treatment facilities with a leading-edge combination of ozonation, filtration and chlorination.

State-of-the-art ozonation is our primary water treatment. Ozone provides a very powerful disinfectant with a superior ability to kill bacteria, Cryptosporidium and microscopic organisms that may be present. Multistage filtration systems remove particles from the water, and we add **chlorine** as water

leaves the treatment facilities. This protects water on the way to your tap. We use chlorination throughout Southern Nevada's distribution systems: It's highly effective at destroying viruses and microorganisms during treatment and maintaining disinfection throughout the system. Additional corrosion-control efforts also help maintain water quality through Water District pipelines—all of them lead-free.

HOW TO UNDERSTAND TEST RESULTS

We monitored for 91 U.S. EPA-regulated contaminants in 2022; 76 of these have "primary" standards and we list them in this report if detected in our water. You'll find a complete Water Quality Summary on Ivvwd.com, should you wish to view additional monitoring results not required in this report.

We also monitored for more than 75 unregulated contaminants and for Cryptosporidium, which is required by the EPA for water systems that treat surface water. Please see additional information on page 7 about source-water detection of Cryptosporidium.



Las Vegas Valley Water District

Website, Report Water Waste Ivvwd.com Water Quality 702-258-3215 Public Information 702-258-3930

Conservation Incentives and Coupons (SNWA)

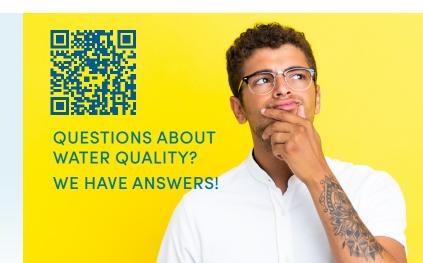
Website snwa.com

Environmental Protection Agency

Website epa.gov

Safe Drinking Water Hotline 800-426-4791

Nevada Division of Environmental Protection Website ndep.nv.gov/water



WATER QUALITY TEST RESULTS				LAS VEGAS VALLEY WATER DISTRICT DISTRIBUTION SYSTEM ®			LAS VEGAS VALLEY WATER DISTRICT GROUNDWATER (WELLS) ⁽¹⁾		ALFRED MERRITT SMITH WATER TREATMENT FACILITY ®			RIVER MOUNTAINS WATER TREATMENT FACILITY ®			These results represent levels of regulated contaminants in the treated water supply, based on 2022 data, except where noted. Visit Ivvwd.com for a complete Water Quality Summary.
REGULATED CONTAMINANTS	UNIT	MCL (EPA Limit)	MCLG (EPA Goal)	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	POSSIBLE SOURCES
Alpha Particles	pCi/L	15	0	Entry	Point Monitori	ng Only	N/D	4 (2)	N/D	N/D	N/A	4	4	N/A	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation
Arsenic	ppb	10	0	Entry Point Monitoring Only			0.7 (2)	4.0 (2)	1	2	1	2	2	2	Erosion of natural deposits
Barium	ppm	2	2	Entry Point Monitoring Only			0.03 (3)	0.08 (2)	0.1	0.1	0.1	0.1	0.1	0.1	Erosion of natural deposits; discharge from metal refineries; discharge of drilling wastes
Bromate	ppb	10	0	Entry Point Monitoring Only			N/A (groundwater is	/A (groundwater is not treated with ozone)		4	4 (4)	3	7	6 (4)	By-product of drinking-water disinfection by ozonation
Copper (5)	ppm	1.3 ⁽⁶⁾ (Action Level)	1.3	N/D	2.3 ⁽⁷⁾	0.9 (90th% value)	Distribution System Monitoring Only		Distribution System Monitoring Only			Distribution System Monitoring Only			Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	ppm	4.0	4.0	0.3	0.7	0.6	0.1 (2)	0.5 (2)	0.7	0.8	0.7	0.3 (8)	0.8	0.7	Erosion of natural deposits; water additive (9)
Free Chlorine Residual	ppm	4.0 ⁽¹⁰⁾ (MRDL)	4.0 ⁽¹⁰⁾ (MRDLG)	0.11	1.8	1.0 (4)	Distribution System Monitoring Only		Distribution System Monitoring Only			Distribution System Monitoring Only			Water additive used to control microbes
Haloacetic Acids	ppb	60	N/A ⁽¹¹⁾	N/D	40	35 ⁽¹²⁾	Distribution Syste	em Monitoring Only	Distribution System Monitoring Only			Distribution System Monitoring Only			By-product of drinking-water disinfection
Lead (5)	ppb	15 ⁽⁶⁾ (Action Level)	0	N/D	16 ⁽⁷⁾	2.6 (90th% value)	Distribution Syste	em Monitoring Only	Distribut	Distribution System Monitoring Only			ion System Monito	oring Only	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate (as Nitrogen)	ppm	10	10	Entry	Point Monitori	ng Only	0.7	5.5 ⁽¹³⁾	0.3	0.4	0.3	0.3	0.5	0.4	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	ppb	50	50	Entry Point Monitoring Only		N/D	3 (2)	2	3	2	1	2	2	Erosion of natural deposits; discharge from mines; component of petroleum	
Radium 226 and Radium 228 (combined)	pCi/L	5	0	Entry	Point Monitori	ng Only	N/D	3.7 (2)	N/D	N/D	N/A	N/D	N/D	N/A	Erosion of natural deposits
Total Coliforms	percent positive per month	5%	0	0%	0.6%	0.1%	Distribution System Monitoring Only		Distribution System Monitoring Only			Distribution System Monitoring Only			Naturally present in the environment
Total Trihalomethanes	ppb	80	N/A ⁽¹¹⁾	2	73	70 (12)	Distribution Syste	em Monitoring Only	Distribution System Monitoring Only			Distribution System Monitoring Only			By-product of drinking-water disinfection
Turbidity	NTU	95% of samples <0.3 NTU ⁽¹⁴⁾	N/A	Treatment Facility Monitoring Only			Treatment Facility Monitoring Only		100% of samples were below 0.3 NTU. Maximum NTU was 0.07 on Dec. 10, 2022.			100% of samples were below 0.3 NTU. Maximum NTU was 0.09 on Aug. 8, 2022.			Soil runoff
Uranium	ppb	30	0	Entry Point Monitoring Only		2 (2)	3 (2)	3	4	4	3	4	4	Erosion of natural deposits	

KEY TERMS

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

AMSWTF: Alfred Merritt Smith Water Treatment Facility

Disinfection by-product: A substance created by the chemicals or processes used to destroy potentially harmful microorganisms.

Locational running annual average: The average of sample results taken at a particular monitoring location for the previous four consecutive quarters.

LVVWD: Las Vegas Valley Water District

Maximum Contaminant Level (MCL): 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.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG):
The level of a drinking water disinfectant below which there
is no known or expected risk to health MRDLGs do not refler

is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

N/A: Not applicable

N/D: Not detected. Does not equate to zero, but refers to an amount below analytical reporting limits.

Nephelometric Turbidity Unit (NTU): A measurement of water's clarity.

Ozonation: An advanced water treatment process that involves the addition of ozone, a very powerful gaseous disinfectant, to water to destroy bacteria, *Cryptosporidium* and other pathogens. Ozonation processes began at AMSWTF and RMWTF in 2003.

Part per billion (ppb): A unit used to describe the levels of detected contaminants. Equivalent to 1 cent in \$10 million.

Part per million (ppm): A unit used to describe the levels of detected contaminants. Equivalent to 1 cent in \$10,000.

Picocuries per liter (pCi/L): A measure of the radioactivity in water. Low levels of radiation occur naturally in many water systems, including the Colorado River.

Running annual average: The average of sample results for 12 consecutive months or four consecutive quarters, based on the monitoring requirements.

RMWTF: River Mountains Water Treatment Facility

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

Turbidity: A measure of water clarity, which serves as an indicator of the treatment facility's performance.

FOOTNOTES

- (1) Some Safe Drinking Water Act (SDWA) regulations require monitoring from the distribution system, while other SDWA regulations require monitoring at the entry points to the distribution system (LVVWD wells, AMSWTF, RMWTF).
- (2) Annual monitoring not required, data from 2021.
- (3) Annual monitoring not required, data from 2020.
- (4) This value is the highest running annual average reported in 2022. Reports are filed quarterly.
- (5) Samples are collected from LVVWD customers' taps.
- (6) Lead and copper are regulated by a Treatment Technique (TT) that requires systems to control the corrosiveness of their water. If more than 10% of tap-water samples exceed the Action Level, water systems must take additional steps. For copper the Action Level is 1.3 ppm, and for lead it is 15 ppb.
- (7) Maximum values greater than the Action Level are allowable as long as the 90th percentile value is less than the Action Level. .

- (8) RMWTF fluoridation system was out of service at time of collection. Follow-up sampling took place when the fluoridation system returned to service and results were within operation range.
- (9) By state law, the Southern Nevada Water Authority is required to fluoridate the municipal water supply. This law is not applicable to groundwater.
- (10) Chlorine is regulated by MRDL, with the goal stated as a MRDLG.
- (11) Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants. Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (60 ppb); chloroform (70 ppb). Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (20 ppb); monochloroacetic acid (70 ppb). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.
- (12) This value is the highest locational running annual average reported in 2022. Reports are filed quarterly.
- (13) While your drinking water meets EPA standards for nitrate, it does contain low levels of nitrate. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agriculture activity. If you are caring for an infant, you should ask for advice from your health care provider.
- (14) Turbidity is regulated by a Treatment Technique (TT) requirement: 95% of all samples taken after filtration each month must be less than 0.3 NTU. Maximum turbidity cannot exceed 1.0 NTU.

ADDITIONAL TEST RESULTS

Many large water systems, including ours, also monitor for specific constituents that the U.S. EPA is considering for drinking-water regulation. We provide information to the EPA as part of the Unregulated Contaminant Monitoring Rule (UCMR)—a hallmark of the 1996 amendments to the Safe Drinking Water Act to further protect water quality. The rule benefits the environment and public health by providing the EPA with scientifically valid data on contaminants of interest, but not yet regulated, in drinking water. UCMR 4 monitoring took place in 2018 and 2019; this is the final year we will report these results. UCMR 5 monitoring for 29 per- and polyfluoroalkyl substances (PFAS) and lithium is currently taking place: Those results will be reported starting in 2024. Learn more at epa.gov/dwucmr.



ADDITIONAL TEST RESULTS – UCMR 4 (Data from 2019)					LAS VEGAS VALLEY WATER DISTRICT DISTRIBUTION SYSTEM			WATER PC	VEGAS VAL R DISTRICT DINTS TO THE BUTION SY	ENTRY HE	
M	ONITORED DNTAMINANTS ⁽¹⁵⁾	UNIT	MCL (EPA Limit)	MCLG (EPA Goal)	MINIMUM	MAXIMUM	AVERAGE	MINIMUM	MAXIMUM	AVERAGE	POSSIBLE SOURCES
Н	AA 5 (16)	ppb	60	N/A ⁽¹⁷⁾	N/D	41	26	N/A	N/A	N/A	By-product of drinking-water disinfection
НА	AA 6 Br	ppb	N/A	N/A	N/D	29	21	N/A	N/A	N/A	By-product of drinking-water disinfection
НА	4A 9	ppb	N/A	N/A	N/D	96	44	N/A	N/A	N/A	By-product of drinking-water disinfection
М	anganese	ppb	N/A	N/A	N/A	N/A	N/A	2.2	11.0	6.6	Erosion of natural deposits

FOOTNOTES

(15) Monitoring for each of the monitored contaminants in the UCMR 4 table was conducted to comply with the Unregulated Contaminant Monitoring Rule 4 (UCMR 4) set by the U.S. EPA Safe Drinking Water Act. Per the rule, monitoring is conducted within the distribution system and at entry points to the distribution system. Unregulated contaminant monitoring helps the U.S. EPA to determine where certain contaminants occur and whether the agency should consider regulating those contaminants in the future. With the exception of HAA 5, these contaminants have no MCLs or MCLGs.

(16) HAA 5 refers to five specific haloacetic acids that may be found in drinking water. Results for this regulated contaminant in the UCMR 4 table are different from the results in the Water Quality Test Results table because UCMR 4 monitoring required separate locations and monitoring periods than those used for HAA 5 compliance monitoring. Monitoring for the HAA 5 compounds, in conjunction with UCMR 4 Assessment Monitoring, is required under the authority provided in Section 1445(a)(1)(A) of the SDWA.

(17) Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants. Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (20 ppb); monochloroacetic acid (70 ppb). Bromoacetic acid and dibromoacetic acid are regulated with this group but have no MCLGs.

INFORMATION FOR VULNERABLE INDIVIDUALS

Some people may be more vulnerable to contaminants in drinking water than the general population. Those with compromised immune systems such as cancer patients undergoing chemotherapy, people who have had organ transplants, those with HIV/AIDS or other immune-system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice from their health-care providers about drinking water. Call the Safe Drinking Water Hotline at 800-426-4791 for Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants.

SOURCE WATER ASSESSMENT AVAILABLE

The federal Safe Drinking Water Act was amended in 1996 and requires states to develop and implement source water assessment programs to analyze existing and potential threats to the quality of public drinking water throughout the state. A summary of the Las Vegas Valley Water District's susceptibility to potential sources of contamination was initially provided by the state of Nevada. The summary of this source water assessment was originally included in an LVVWD Water Quality Report and now may be accessed at Ivvwd.com. Call 702-258-3930 if you have questions. Learn more about the Nevada Source Water Assessment Program at ndep.nv.gov/water/source-water-protection.

MORE ABOUT YOUR SOURCE WATER

All water originates from a source. Sources for both tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land—such as the Colorado River, our primary water source—or through the ground, it dissolves minerals and, in some cases, other contaminants. It also may pick up substances resulting from the presence of animals or from human activity.

Tap water as well as bottled water may reasonably be expected to contain at least small amounts of some contaminants—any substances that are not H₂O. It's important to understand that the presence of contaminants does not necessarily indicate that water poses a health risk—particularly in light of claims made by some home water-treatment companies and reports about water quality or the environment.

Before the Las Vegas Valley Water District delivers your tap water, it undergoes a multistage treatment process. We test your water rigorously to ensure it meets strict Safe Drinking Water Act standards. Our goal is to effectively treat and manage contaminants that may be present in source (untreated) water, including:

Microbial contaminants such as viruses and bacteria that may come from wastewater discharges or animal wastes from urban or agricultural runoff;

Inorganic contaminants such as salts and metals that can occur naturally or result from industrial or domestic wastewater discharges, farming or mining;

Pesticides and herbicides that may come from urban stormwater runoff from agricultural and residential uses;

Organic chemical contaminants including synthetic or volatile organic chemicals that are by-products of industrial processes and can come from gas stations, industrial discharges and stormwater runoff;

Radioactive contaminants that can occur naturally or as a result of industrial activities.

To ensure tap-water safety, EPA regulations limit the amount of certain contaminants in water provided by public water systems. Learn more by calling the EPA Safe Drinking Water Hotline at 800-426-4791 or visit the Nevada Division of Environmental Protection website at ndep.nv.gov/water.

Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide similar protection for public health.

SOURCE WATER NOTIFICATION: CRYPTOSPORIDIUM

Cryptosporidium, a naturally occurring microscopic organism, is found in 95 percent of all surface water in the U.S., and the EPA requires its monitoring for water systems that treat surface water. If ingested, Cryptosporidium can cause gastrointestinal distress and fever. Laboratory staff test for Cryptosporidium in water regularly and found one positive sample in source (untreated) water out of 24 samples taken in 2022. Subsequent

samples were negative. While filtration alone is generally effective at removing *Cryptosporidium*, both the Alfred Merritt Smith and River Mountains water treatment facilities are equipped with ozonation, which offers an even greater level of protection. Ozonation is among the most-effective processes at successfully destroying microorganisms such as *Cryptosporidium* prior to delivery of **treated** water supplies to customers.

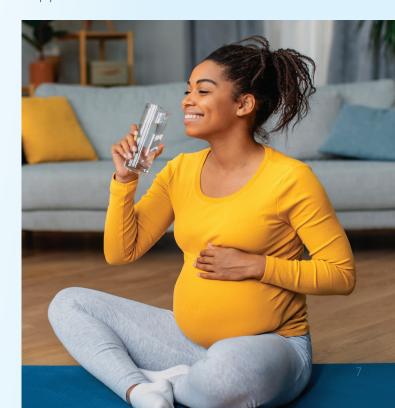
LEAD AND COPPER EDUCATION NOTICE

The Las Vegas Valley Water District's water infrastructure does NOT contain lead service lines. The state of Nevada and the EPA require public education for lead and copper, and the Water District monitors for both.

Your water meets state and federal requirements for lead, but if present at elevated levels, lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Water District is responsible for providing high-quality drinking water but cannot control the variety of materials used in home plumbing components. Homes built before 1986 are more likely to have lead-based plumbing components.

When your water has been sitting for several hours, minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your tap water, have your water tested by a private laboratory. For more information, call the EPA Safe Drinking Water Hotline, 800-426-4791, or visit epa.gov.

In December 2021, the U.S. EPA took a series of actions to improve the Lead and Copper Rule that are intended to better protect families and communities in years to come, particularly those that have been disproportionately impacted by lead in drinking water. Learn more about action areas, including additional tap sampling and lead service line replacements, at epa.gov, and depend on your Water Quality Report to keep you informed.









Inside: It's clear. Your drinking water meets or exceeds ALL Safe Drinking Water Act standards.

2023 WATER QUALITY REPORT

Hey, Southern Nevada,







Your tap water meets or surpasses all safe drinking water standards. It is highly treated using state-of-the-art technology and it's tested by water scientists nearly 300,000 times a year! In fact, it meets more stringent requirements than bottled water. Get free info about in-home treatment systems at snwa.com and try these simple, super-affordable ways to enhance your water's taste:

CHILL OUT: Keep a pitcher of tap water in the fridge. You'll boost flavor and zap the chlorine-y feel.

ADD CITRUS: Small lemon, lime or orange slices equal BIG zest.

FILTER: You filter your calls, why not your water? An activated carbon filter, like those in carafe systems, is a low-cost solution.

MAINTAIN: It might not be the water....it might be you! Keep up with filter replacement and maintenance schedules if you have a built-in filtration system to avoid in-home issues. And know your water hardness (280 parts per million or 16 grains per gallon) when setting your water softener.

