

2010 WATER QUALITY REPORT

DATA COLLECTED FOR CALENDAR YEAR 2009

Our Promise to You: *Quality. Delivered.*

On behalf of the staff and Board of Directors at Truckee Meadows Water Authority (TMWA), I am pleased to provide you with our annual Water Quality Report. Our mission at TMWA is to always provide reliable service, delivering high-quality water straight to your tap. In accordance with the U.S. Environmental Protection Agency (EPA) Consumer Confidence Rule, this information is provided to help you, our customer, understand the issues vital to our water supply.

We are pleased to report that for the ninth year since TMWA's inception in 2001, our system is in complete compliance with all EPA and State of Nevada drinking water quality standards and regulations. In most cases, TMWA provides water that is significantly better than those standards require. TMWA is also committed to ensuring the reliable delivery of high-quality water by continually improving our water distribution system. Over the last 9 years, we have spent more than \$150 million rehabilitating the water system's infrastructure, including underground water mains, water tanks, pump stations, wells and treatment facilities.

We encourage you to contact us regarding any aspect of your water service, whether you have a water quality question, concern or issue, or would like additional information. Visit us at www.tmh2o.com or call our Water Quality Department at 834-8118. Our water experts are happy to answer any of your questions.

Yours in good health,



General Manager



Clean, clear water begins at the source

Lake Tahoe is more than a beautiful place—it is the main source of our water supply that is fed by snow melt and rain from throughout the northern Sierra Nevada and transported to us by the Truckee River. Typically, TMWA meets more than 85 percent of our annual customer demands using Truckee River resources. The remaining customer demands are met using groundwater that comes from deep-water aquifers, which we tap through more than 30 wells located within our service area. TMWA only uses eight percent of the total flow of the Truckee River in a drought year and uses an even smaller percentage of water in a non-drought year.

Our highly skilled scientists, engineers and operators continually monitor our water quality. More than 1,000 laboratory tests are performed each month on over 180 samples taken from various locations in the TMWA distribution system. Testing is performed at both the production facilities (treatment plants and wells) and throughout the distribution system to ensure high-quality water is delivered to our customers.

Why is protecting the Truckee River important?

As the major source of our water supply, the river's environmental health can directly impact human health. Preventing pollution is far less expensive than spending money on water treatment. Protecting this remarkable jewel in our semi-arid region benefits the water supply as well as fish and wildlife habitat and recreation.

Our water operations process meets regulations

TMWA treats the water we serve our customers at two top-notch treatment facilities—the Chalk Bluff and Glendale Water Treatment Plants. We are proud to report that each year our water treatment and distribution process meets all regulatory requirements. In a continued effort to provide the best drinking water possible to our customers, TMWA has joined Partnership for Safe Water. This Partnership is a cooperative effort between the U.S. Environmental Protection Agency (EPA), American Water Works Association (AWWA), and other drinking water organizations, including surface water utilities. Their goal is to provide a new measure of safety to millions of Americans by implementing prevention programs where legislation or regulation does not exist. By joining Partnership for Safe Water, TMWA is working toward increasing protection against microbial contamination in our drinking water supply.

How does our tap water compare to bottled water?

Tap water is every bit as safe as bottled water. In fact, tap water undergoes more testing than bottled water, according to the AWWA. To ensure tap water is safe to drink, the EPA develops and sets regulatory standards that limit the amount of contaminants in public water supplies. These water quality standards are among the world's most stringent, requiring water utilities to monitor for more than 100 contaminants. The EPA's standards are enforced by the State of Nevada Division of Environmental Protection and the Washoe County District Health Department.

TEST RESULTS: 2009 WATER QUALITY DATA

The table below lists all of the drinking water contaminants that we detected during the calendar 2009 year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data

presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

CONTAMINANTS	MCLG or MRDLG	MCL, TT or MRDL	2009 Result	System Weighted Average	Range Low	Range High	Violation	Typical Source
Disinfectants & Disinfection By-Products (There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)								
Chlorine (as Cl ₂) (ppm)	4	4	0.8	0.8	0.4	1.2	No	Water additive used to control microbes.
Haloacetic Acids (HAA ₅) (ppb)	NA	60	28.4	28.4	2.21	66	No	By-product of drinking water chlorination.
TTHMs [Total Trihalomethanes] (ppb)	NA	80	35.8	35.8	11.6	67	No	By-product of drinking water disinfection.
Inorganic Contaminants								
Antimony (ppb)	6	6	3.1	0.041	ND	6.31	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Arsenic (ppb)	0	10	6.31	1.404	ND	16.8	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm)	2	2	0.021	0.019	ND	0.021	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium (ppb)	100	100	3.4	0.002	ND	3.4	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Nitrate [measured as Nitrogen] (ppm)	10	10	2.46	0.071	ND	2.46	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	8.2	0.260	ND	8.2	No	Erosion of natural deposits.
Beta/photon emitters (pCi/L)	0	50	5.2	0.058	ND	5.2	No	Decay of natural and man-made deposits.
Radium (combined 226/228) (pCi/L)	0	5	1.383	0.014	ND	1.383	No	Erosion of natural deposits.
Volatile Organic Contaminants								
Tetrachloroethylene (ppb)	0	5	2.91	0.004	ND	2.91	No	Discharge from factories and dry cleaners.

CONTAMINANTS	MCLG	AL	Your Water	System Weighted Average	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	0.078	NA	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead - action level at consumer taps (ppb)	0	15	0	NA	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Notes: SYSTEM WEIGHTED AVERAGE: The 2010 Water Quality Report is mandated by the EPA to give our consumers the HIGHEST recorded value of any constituent detected from all sources in 2009. However, most groundwater wells, in which most of our reported constituents were detected, are only used when system demands are at their peak during the summer months. In 2009, these wells made up less than 9 percent of the water that TMWA customers consumed. For the first time, TMWA is including a "system weighted average" value, which is based on the percentage of total production and highest compliance value recorded for the year. In this way, we not only report the highest value detected in our system for any constituent, but we also give you an idea of how little that groundwater is used when compared with the total water produced from our two surface water plants. This report will also allow us to give you a more meaningful representation of the water you receive, not just a highest detected value for a well that may only operate one day a week.

PCE/ARSENIC/HAA/ANTIMONY: Compliance for these constituents is determined by calculating the running annual average. Sampling is conducted either on a daily basis or a quarterly basis at designated locations. A corresponding quarterly average is determined from these samples and the running annual average is calculated by using the four most recent quarterly averages. A single sample may show that an individual elevated result is over the MCL but the compliance value remains below the MCL. All water meets all local, state and federal standards and your water is safe to drink.

UNIT DESCRIPTIONS			
Term	Definition	Term	Definition
ppm	Parts per million, or milligrams per liter (mg/L)	NA	Not applicable
ppb	Parts per billion, or micrograms per liter (µg/L)	ND	Not detected
pCi/L	Picocuries per liter (a measure of radioactivity)	NR	Monitoring not required, but recommended

IMPORTANT DRINKING WATER DEFINITIONS	
Term	Definition
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.
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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	Maximum Residual Disinfection 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.
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.

HEALTH INFORMATION ABOUT WATER QUALITY

RESULTS OF *CRYPTOSPORIDIUM* MONITORING

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Truckee Meadows Water Authority routinely monitors our source water and finished water for *Cryptosporidium*. No *Cryptosporidium* oocysts were detected in the finished water sampled from the Chalk Bluff and Glendale Water Treatment Facilities.

ADDITIONAL INFORMATION FOR ARSENIC

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

ADDITIONAL INFORMATION

Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Some people who drink water containing trichloroethylene and tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.

WATER TREATMENT PLANT FILTER LOADING RATE

After satisfactory demonstration, TMWA has been granted approval by the Nevada State Health Division, Bureau of Health Protection Services to operate the conventional treatment plants at the accelerated filter loading rate up to 7.5 gpm/square foot. This approval is under the condition that any individual filter does not exceed 0.2 NTU while operating at the accelerated filter loading rate.

Treatment process focuses on health

The water delivered to your tap meets all U.S. Environmental Protection Agency (EPA) and State of Nevada drinking water health standards. It undergoes a multi-stage treatment process and is rigorously tested daily. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people with cancer undergoing chemotherapy, people 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 from their health care providers about their drinking water.

The EPA/CDC has guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants. More information about these and other contaminants and potential health effects can be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791. We test for *Cryptosporidium* weekly in both our source water and treated water. *Cryptosporidium* can be present in the Truckee River, but has not been found in the treated water that goes to your tap.

Why are there contaminants in my drinking water?

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. More information about contaminants and potential health effects can be obtained by calling the

Required Consumer Confidence Report (CCR) statement addressing lead in drinking water

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. TMWA is responsible for providing high-quality drinking water, but 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 2 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 or at <http://www.epa.gov/safewater/lead>.

Where can I get water quality data?

The Water Quality section of our Web site (www.tmh2o.com) provides water quality information for different areas of our service territory. We also maintain a news and information page with fact sheets on water quality issues, as well as information on home water filtration systems. Additional information on our water sources, distribution and treatment can also be found online. If you have additional questions, or need more information, please contact any of the following staff:

Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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 can pick up substances resulting from the presence of animals or 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 storm water 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 storm water 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 storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. In addition, the Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Source Water Assessment and its availability

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 TMWA's susceptibility to potential sources of contamination was initially provided by the State of Nevada in 2003. The summary of this source water assessment was first included in the TMWA 2004 Water Quality Report and may now be accessed online at www.tmh2o.com.

Information pertaining to the initial findings of the source water assessment is available for viewing in person at the offices of the Bureau of Safe Drinking Water, 901 South Stewart St., Ste. 4001, Carson City, NV 89701. Appointments are suggested; please call 687-9520. Office hours are 8 a.m. to 5 p.m., Monday through Friday.

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Truckee Meadows Water Authority (TMWA) is a not-for-profit, community-owned water utility, overseen by elected officials and citizen appointees from Reno, Sparks and Washoe County.