

Water Quality Management

Managing water quality and supply sustainably in our region is essential to ensuring our Truckee Meadow's community may thrive now and into the future. Meeting community demand requires a long-term outlook for not only water resource management but also initiatives to ensure the Truckee River watershed is healthy and thriving in perpetuity.

Even though the Truckee River provides most of the water for municipal use in the Region, groundwater is also a vital component of our community's water supply. During times of low river flows (such as under drought conditions), or during times when Truckee River water is heavy with sediment or otherwise unavailable, the community may be entirely dependent on groundwater. In the Truckee Meadows, up to 30% of our drinking water is currently derived from groundwater in a given year. Smaller residential lots and drought-friendly landscaping have also factored into the ability to serve more people with less water, as outdoor irrigation in the summer can increase residential consumption significantly. Of note, summertime conservation with Assigned Day Watering has been in effect since the mid-1980s. This program helps distribute demand across the system during the summer.

The surface and groundwater that become our community's drinking water are managed and regulated at the federal, state, and local levels. The U.S. Environmental Protection Agency (EPA) is the federal agency charged with the protection of human health and the environment. EPA sets standards that protect surface and groundwater resources and ensures the safety of drinking water. To learn more, read about the Safe Drinking Water Act and the Clean Water Act.

Callout Box: The National Groundwater Association advocates that we all have an **individual stake** in protecting groundwater. As consumers and community members, we can all take steps to prevent groundwater contamination by acknowledging the causes of preventable groundwater contamination, considering which apply to us, and taking action to prevent contamination. We all benefit from a sustainable, contaminant-free aquifer system. For the average resident, this means:

- Knowing what hazardous substances are in and around your home. These substances include solvents, cleaners, paints and lacquers, fertilizers, animal manures, herbicides, insecticides, etc. Storing and using these substances should be done carefully, and according to manufacturer's recommendations, and most importantly -- disposing of them responsibly. NEMO Nevada, a program of the University of Nevada Cooperative Extension, has published numerous helpful factsheets about water protection, including What to Do About Household Chemicals.
- Understanding your household's water use, both indoor and outdoor, so you can make choices to conserve the resource.
- Realizing that protecting groundwater reduces risks to the water supply. That, in turn, means less treatment and remediation costs, which can be substantial.

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State agencies such as the Nevada Division of Environmental Protection (NDEP) administer many of the regulations put into place by EPA. If your drinking water comes from a private well, you are responsible for the water's safety. Drinking water suppliers in the Reno/Sparks area, such as Truckee Meadows Water Authority and Sun Valley General Improvement District, are responsible for providing customers with an annual report that includes where their drinking water comes from and what (if any) contaminants may be in it.

EPA develops and enforces the National Primary Drinking Water Regulations that apply to public water systems. These standards protect public health by limiting the concentrations of contaminants in drinking water. EPA has set the maximum contaminant level (MCL) for tetrachloroethene -- commonly known as PCE -- in drinking water at 5 parts per billion, or 5 micrograms per liter ($\mu\text{g}/\text{L}$). It only takes a small amount of PCE to contaminate water to concentrations above the MCL: approximately 1 teaspoon of PCE would contaminate 450,000 gallons of water to a PCE concentration exceeding the MCL (450,000 gallons is the amount of water in two Olympic-sized swimming pools).

EPA sets legal limits on over 90 contaminants in drinking water. The legal limit for a contaminant reflects the level that protects human health and that water systems can achieve using the best available technology. EPA rules also set water-testing schedules and methods that water systems must follow. The Safe Drinking Water Act (SDWA) gives individual states the opportunity to set and enforce their own drinking water standards if the standards are at a minimum as stringent as EPA's national standards.

Callout Box (located on the side of the paragraph below): TMRPA and Source Water Protection

In collaboration with Resource Concepts, Inc. (RCI), the Western Regional Water Commission (WRWC), and the Nevada Division of Environmental Protection (NDEP), TMRPA aided in the mapping of critical source water protection areas (SWPAs) within our Region. This effort bolstered the "Integrated Source Water and 319(h) Watershed Protection Plan for Public Water Systems and the Truckee River in the Truckee Meadows." TMRPA then developed a website, www.WashoeCountyCleanWater.org, to ensure the information is publicly available. City and Regional Planners may use this information in their work to verify that areas contemplated for development will not impact critical SWPAs and help to safeguard our water supply.

Possible policy additions for the 2024 Regional Plan regarding source water protection are to require local government master plans and affected entity facility plans to reference and/or utilize the "Integrated Source Water and 319(h) Watershed Protection Plan for Public Water Systems and the Truckee River in the Truckee Meadows" and require a request for comments from Truckee Meadows Water Authority or Northern Nevada Public Health, if under their jurisdiction, when a proposed subject site intersects with a critical SWPA. This policy language aims to align source water protection efforts and to enhance coordination with water utility providers and local planning entities.

The best way to protect groundwater, and lessen potential public health issues, is to prevent it from becoming contaminated in the first place. Areas where water (from rainfall, snowmelt, or irrigation) at the land surface infiltrates toward the groundwater table (where it can be captured by a water supply well) are known as wellhead protection areas. Good practices in the handling and disposal of hazardous materials in these areas are considered critical for protecting groundwater against contamination. Protecting water at its source -- before it enters the drinking water supply -- is the goal of Nevada's

Integrated Source Water Protection Program (ISWPP) managed by NDEP. Originally part of Nevada's Comprehensive State Ground Water Protection Program, the ISWPP has been expanded to include source water protection beyond wellhead and groundwater protection areas. Source water includes lakes, springs, streams, rivers, and wells that become our water supply. EPA and NDEP both have web pages dedicated to source water protection.

The Nevada Division of Environmental Protection's (NDEP) Bureau of Water Quality Planning (BWQP) oversees the collection of environmental data that is used to characterize the physical, chemical and biological conditions of water bodies throughout Nevada. The water quality monitoring program includes routine sampling at more than 70 sites on the State's major river and stream systems. Water quality standards define the water quality goals of a water body by designating beneficial uses of the water and setting numeric or narrative criteria necessary to protect those uses. Beneficial uses established in the Nevada Administrative Code (NAC) 445A.122 include:

- watering of livestock
- irrigation
- aquatic life
- recreation involving contact with water
- recreation not involving contact with water
- municipal or domestic supply
- industrial supply
- propagation of wildlife
- waters of extraordinary ecological or aesthetic value, and
- enhancement of water quality

Water quality standards are adopted by the State Environmental Commission (SEC) and are approved by the U.S. Environmental Protection Agency (EPA). Water quality standards for metals (including mercury) and other toxic compounds are contained in the NAC 445A.144. The standards are based on concentrations found in the water column and do not include standards for fish tissue.

Callout Box (located on the side of the paragraph below): TROA

To ensure the river is managed efficiently, in 2008 the states of Nevada and California, the United States Government, the Truckee Meadows Water Authority (TMWA) and the Pyramid Lake Paiute Tribe all signed the Truckee River Operating Agreement (TROA). This agreement allocates 90 percent of the river's water to Nevada, which comes after years of uncertainty between Nevada and California over the distribution of the river's water. The agreement also protects our Northern Nevada water supply, increases drought storage for the Truckee Meadows community, modifies the operation of federal and selected non-federal reservoirs in the river system to protect and improve water quality and provides enhanced river flows for endangered and threatened fish species. By managing the river flow, the Truckee River is able to supply water to a diverse group of water users: power generation, municipalities, industry, and agriculture as well as being the primary source of water for Pyramid Lake. The river is critical to maintaining Pyramid Lake water levels and supporting the endangered Cui-ui lake sucker and the threatened Lahontan Cutthroat Trout, (USGS). As part of the TROA, a very important component is the aggressive recovery program for the Cui-ui fish and Lahontan Cutthroat Trout.

The region's primary drinking water utility is Truckee Meadows Water Authority (TMWA), a community-based water utility formed through a joint-powers agreement between the City of Reno, City of Sparks and Washoe County. TMWA's water supply portfolio is a mix of surface water and groundwater that serves over 440,000 residents. Groundwater provides approximately 15-20% of supply from regional aquifers. Surface water is conveyed by the Truckee River, which provides 80-85% of the water TMWA produces but amounts to only 3-9% of total river flow. Upstream drought reserves are held in six reservoirs and are held primarily for use during drought. Detailed storage information can be found on TMWA's upstream reserves tracker.

TMWA adheres to all federal, state, and local water regulations set forth by the Environmental Protection Agency, State of Nevada Division of Environmental Protection, and the Washoe County Health District. TMWA is required to monitor and meet regulatory standards for more than one hundred contaminants. All water delivered to customers is treated and must adhere to some of the strictest drinking water regulations in the world. TMWA is a not-for-profit, community-owned water utility overseen by elected officials from Reno, Sparks, and Washoe counties. TMWA employs a highly skilled team that ensures the treatment, delivery, and availability of high-quality drinking water around the clock for more than 440,000 residents of the Truckee Meadows.

Although your drinking water meets EPA standards for arsenic, it does contain low levels. EPA standards balance the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The 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.

Relevant Agencies:

- Truckee Meadows Water Authority (TMWA)
- Western Regional Water Commission (WRWC)
 - o Northern Nevada Planning Commission (NNPC)
- Nevada Division of Environmental Protection (NDEP)
- Pyramid Lake Paiute Tribe
- Resource Concepts Inc (RCI)
- Washoe County Health District (WCHD)
- Nevada Integrate Source Water Protection Program

Relevant Data: