Source Water Overview

Source Water Inventory

An inventory was developed to identify facilities and the "source water" used by each State regulated public water system in Washoe County.

> "Source Water" in Nevada means an untreated source of water used to supply drinking water to the general public. For example, "source water" is groundwater before it is pumped out by a well and surface water flowing to or in the Truckee River before it is diverted to one of Truckee Meadows Water Authority (TMWA) treatment plants.

Geodatabases were constructed with available information regarding these facilities such as location, construction, and water use rates. This data about local facilities was used by the Local Planning Teams to characterize sources of drinking water for communities in Washoe County, including:

- Active wells and springs
- Existing surface water diversions from the Truckee River
- Potential future wells and diversions (existing inactive wells and anticipated new siting locations)

This information was obtained from multiple references and databases, including:

- Databases and information maintained by the TMWA
- The Nevada Drinking Water Information System (Drinking Water Watch)
- Nevada Division of Environmental Protection, Bureau of Safe Drinking Water surveys (Source Water Assessment and Vulnerability Assessment Program)
- Washoe County Health District surveys and personal communication
- Previously endorsed Well Head Protection Plans
- Online mapping resources supported by windshield surveys conducted by Resource Concepts, Inc. (RCI)

Source Water Protection Areas

The Local Planning Team formed two technical subcommittees to review sources of water and to develop criteria to delineate Source Water Protection Areas (SWPAs). The Groundwater Focus Group and the Surface Water Focus Group met multiple times from 2018 through 2019 to review criteria for management area boundaries (Table 1), and two levels were identified:

> "Source Water Protection Area" represents an area where the community has established a precautionary boundary to safeguard the water quality of its drinking water sources. Within this boundary, education, monitoring, and land use planning can provide more comprehensive management of surface water and groundwater resources. These boundaries encompass aquifers and surface waters more broadly vulnerable to human activity in the region.
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> "Critical Source Water Protection Area" represents the land surrounding an individual well or stream where the water quality is potentially most vulnerable to contamination from human activities. Within this area, contaminated ground or surface water is more likely to reach the drinking water supply system. Consequently, the community or public water systems (PWS) can focus on this area to develop specific management strategies that will protect their water supply from becoming contaminated.

Table 1. Methods for SWPAs Delineated in Washoe County

	Source Water Protection Areas	Critical Source Water Protection Areas
	Precautionary Boundary	**Boundary for Proximity to Source Water**
Groundwater Capture Zones and Aquifer Recharge	Topographic boundaries that correspond with the intersection of unconsolidated valley or alluvial fill with consolidated (or bedrock) formations in local valleys where groundwater aquifers are extensively used to supply drinking water to communities in the Truckee Meadows. 20-year time-of-travel "calculated fixed radius" capture zones for wells outside the topographic boundaries of the key valley fill aquifers.	20-year time-of-travel groundwater "captures zones" for existing and potential future wells in the Truckee Meadows based on TMWA MODflow models for key aquifers: Truckee Meadows (North and South), Spanish Springs Valley, Lemmon Valley, and Cold Springs Valley. 20-year calculated time-of travel radius or 1000-foot minimum radius for municipal system wells (TMWA and Great Basin Water Company), or 750-foot minimum radius for small PWS wells, if not included in regional models. Existing Well Head Protection Areas for certain water systems that have existing Well Head Protection Plans. Upgradient watershed areas for spring developments.
Surface Water Buffers	1000-foot buffer from the Truckee River centerline and its tributaries upstream of the TMWA Glendale Water Treatment Plant, as well as other perennial streams that contribute to aquifer recharge in the Truckee Meadows or are potential future "source water".	A 300-foot buffer from the Truckee River centerline and a 150-foot buffer from perennial stream centerlines that are tributary to the Truckee River that are located upstream of the TMWA Glendale Water Treatment Plant. 150-foot buffers from other perennial stream centerlines along the Sierra Front in watersheds that contribute to aquifer recharge in the Truckee Meadows or that are potential future "source water".