Water Planning Perspectives: What Are Nevadans Planning?

Nevada Division of Water Resources

Passed during the 2019 Nevada legislative session, Senate Bill 150 amended the Nevada Revised Statutes (NRS) section 278.0228 to include provisions requiring the governing body of a county or city to develop and maintain a water resource plan. These plans must identify all known water sources within the governing body's jurisdiction and include a plan for how future water use needs will be met by those or other sources. Many Nevada counties and other municipalities have already created or begun working on water resource plans. The status of those known water plans is summarized here, generally organized by county. This is by no means intended to be an exhaustive list. Other water resource plans may exist within this state, and we would greatly appreciate your insight and feedback if you have knowledge of any further resources, or additional comments related to water planning.

Please Contact Us:

Bunny Bishop
Chief, Water Planning
bbishop@water.nv.gov

Nicole Goehring
Water Resource Specialist II
ngoehring@water.nv.gov

Or send general inquiries to the Water Planning Section: waterplanning@water.nv.gov

Great Basin Water Company
2021 Integrated Resource Plan
Cold Springs & Spanish Springs Divisions
(capital improvement emphasis)

Washoe County, 2016-2035 Plan (update in progress)

Population (2020): 486,492 and increasing
Major water sources: Truckee River, Steamboat Creek, Other springs and streams, Groundwater
Primary water uses: Reno/Sparks metro area, Agriculture, Pyramid Lake, Wildlife and Environmental
Planning considerations: Municipal growth; Pyramid Lake health; Truckee River flooding; Closed basin flooding (North Valleys); Water conservation; Resiliency; Smart development and innovation
General note: There are several overlapping plans in Washoe County. TMWA plans cover most of the municipal use, while the Northern Nevada Water Planning Commission (NNWPC) maintains a water resource plan (including storm water and effluent) for TMWA service areas and the rest of the county. Basins 022, 023, & 024 are not included in the planning jurisdiction of NNWPC.

Washoe Co: Truckee Meadows Water Authority (TMWA), 2020 – 2040 Water Resource Plan

TMWA is the primary water supplier for the Reno/Sparks metropolitan area and has a planning process which involves updating its water resource plan every five years. The latest plan iteration identifies strategies to accommodate growth and variability in water supplies including alternative water sources, capital improvements, conservation, and groundwater banking. It also considers climate change by analyzing how that may impact available water supplies, which mainly consist of Lake Tahoe, other Truckee River Reservoirs, and groundwater.

The Lake Tahoe Basin is separate from water planning efforts under the counties in which it sits, primarily due to the unique nature and management of the Lake. For Nevada, the annual amount of Tahoe Basin usage is limited to 11,000 acre-feet per year (23,000 AF on California side), as specified in the Truckee River Operating Agreement. Planning and development is under the jurisdiction of the Tahoe Regional Planning Agency, with general policies to limit growth & development within the basin. In fact, the population of permanent residents in Tahoe has been declining since around 2000, mostly due to an increase in second home ownership, vacation rentals, and short-term living. Lake Tahoe is very deep; water supply issues are generally focused on maintaining lake water quality. Keep Tahoe blue!

Humboldt County, 2020 Plan

Population (2015): 18,248 and increasing
Major water sources: Quinn River, Kings River, Humboldt River and tributaries, Groundwater
Primary water uses: Agriculture (most productive NV county), City of Winnemucca, Industrial use, Mining
Plan goals/concerns: Keep water for use in Humboldt County; Water quality; Humboldt River losses; Groundwater decline in most basins

Pershing County, 2018 Plan

Population (2020): 6,650
Major water sources: Humboldt River, Groundwater
Primary water uses: Agriculture, Mining, Town of Lovelock
Planning considerations: Humboldt River water deliveries; Groundwater quality; GW declines

Storey County, 2016 Master Plan

Population (2014): 3,974 increasing to 4,500 (2030)
Major water sources: Marlette Lake, Truckee R., GW
Primary water uses: Virginia City, Domestic wells, Tahoe Reno Industrial Center
Plan goals/concerns: Low-density development due to aquifer productivity; Plan asks for NDWR help re-assessing GW yields

Carson City, 2018 Plan

Population (2017): 55,438 and growing
Major water sources: GW, Marlette Lake, Streams
Primary water uses: Municipal and domestic
Plan goals/concerns: Arsenic in groundwater; Continue building out and rehabilitating city wells and infrastructure

Douglas County, No Published Plan

Population (2020): 49,488
Major water sources: Groundwater, Carson R.
Primary water uses: Municipal, Domestic, Some agriculture
Planning considerations: Domestic wells; Over pumping; Septic systems; Numerous discontinuous water purveyors and systems; Drought impacts
Note on plan development: A plan is in process but has not yet been published.

Douglas Co: Gardnerville Ranchos, 2014 Water Resource Plan

This water supplier, with 4,143 connections in 2014, has its own independent water resource plan showing adequate water rights and infrastructure to meet projected future needs. Recommendations include continued monitoring for water quality issues and assessing groundwater drawdown trends, as the system relies entirely on wells for supply.

Lyon County, No Published Plan

Population (2020): 59,235 and growing
Major water sources: Groundwater, Walker River, Carson River
Primary water uses: Agriculture in Smith and Mason Valleys (107, 108), Towns of Fernley, Yerington, Dayton
Planning considerations: Water shortages on the Walker River system; Declining groundwater levels; Drought impacts to surface water; Municipal growth and development

Fernley, 2019 Water Resource Plan

Fernley is the largest city within Lyon County. This plan is focused on accommodating growth, projected population doubling in 20 years, and increasing resiliency when considering a variety of outside impacts.

Lyon County Utilities Department (LCUD), 2017 Water Facilities Plan

LCUD operates and maintains the public water system infrastructure in Dayton and Mound House. This plan summarizes current, and evaluates future, water demands.

Churchill County, 2007 Plan

Population (2014): 25,516 and increasingly slightly
Major water sources: Truckee Canal, Carson River, Groundwater
Primary water uses: Agriculture, Municipal & domestic (Fallon), Industrial, Military, Stillwater Nat. Wildlife Refuge & Humboldt Sink
Plan goals/concerns: Water Conservation; Optimize water use & efficiency; Droughts; River flows and associated impacts to agriculture
Note: The water resource plan is focused on unincorporated Churchill County. The county also has a 2019 Water and Wastewater Utilities Master Plan.

Mineral County, No Published Plan

Population (2020): 4,554
Major water sources: Walker River, Streams, Groundwater
Primary water uses: Town of Hawthorne, Military, Walker Lake & related recreation
Planning considerations: Walker Lake and River; Aging infrastructure; Ghost towns and mining refuse; Drought impacts

Esmeralda Co, 2012 Plan

Consumptive water use (2010): 33,269 AF, projected increase to 38,880 AF in 2050
Major water sources: mostly groundwater
Primary water uses: Lithium mines, Agriculture
Plan goals/concerns: Sustainable water use; Lithium mining expansion; Over pumping in Fish Lake Valley (Basin 117)

Great Basin Water Company
2021 Integrated Resource Plan
Pahrump Division
(capital improvement emphasis)

Pahrump Basin 162
Groundwater Management Plan, Nye County Water District 2018

Nye County, 2017 Plan

Population (2014): 51,591 and projected to continue increasing
Major water sources: Groundwater, Mountain streams, Some springs
Water uses: Military, Municipal (Pahrump & Tonopah), Domestic Wells, Mining, Some agriculture
Plan goals/concerns: Sustainable water use; Creation of Nye County unified water district; Over pumping of groundwater in Pahrump; Plan identifies climate change impacts; Ash Meadows National Wildlife Refuge

Elko County, 2017 Plan

Population (2017): ~56,000 with slight increase projected
Major water sources: Headwaters of the Humboldt River, Many other mountain rivers and streams, Snowmelt, Groundwater
Primary water uses: Agriculture, Municipal (Elko, Carlin, Wells, Wendover, Jackpot), Mining, Recreation, Tourism
Plan goals/concerns: Equity on Humboldt River System, Suggests further studies on resource availability; Perennial yields; Plan suggests potential decrease in water use due to efficiency advances for agriculture

Great Basin Water Company
2021 Integrated Resource Plan
Spring Creek Division
(capital improvement emphasis)

Diamond Valley Groundwater Management Plan (2018)

Eureka County, 2016 Plan

Population (2014): 1,903 and increasing
Major water sources: Groundwater
Primary water uses: Agriculture, Mining, Domestic Wells
Plan goals/concerns: Water quantity (especially GW use in Diamond Valley, basin 153); Diamond Valley GW Management Plan; Water quality; Resource sustainability

Lander County, 2010 Plan

Population (2020): 5,734
Major water sources: Groundwater, Reese R., Humboldt R.
Primary water uses: Agriculture, Mining
Planning considerations: Groundwater capture of surface water resources; Over allocation and use of groundwater in Reese River basins and Antelope V. (056, 057, 058)

White Pine County, 2019 Update of 2006 Plan

Population (2019): 10,181 with forecasted decrease
Major water sources: Groundwater (especially Steptoe V. - 179, Spring V. - 184, & Railroad V. - 173), Mountain streams, Some springs
Primary water uses: Agriculture, Mining, Communities of Ely and McGill, Cave Lake State Park and Great Basin National Park
Plan goals/concerns: Concern for general lack of available data and scientific understanding regarding county hydrology; Water quality in drinking water supplies; Goal to prevent interbasin water transfers to locations outside of White Pine County.

Lincoln County, No Published Plan (plan in progress)

Population (2020): 4,499
Major water sources: White River flow system, Meadow Valley Wash, Groundwater, Springs
Primary water uses: Communities of Caliente, Pioche, Panaca, Alamo, Domestic wells, Agriculture
Planning considerations: Carbonate Rock aquifers; Interbasin connectivity; Maintaining spring and stream flows; Drought impacts

The Colorado River is a lifeline of water for the desert southwest and is Southern Nevada's primary water supply. Between all water users it is over-allocated and projected to experience future shortages due to drought and climate change. Planning actions for the river system are very complicated and involve multiple stakeholders including states, tribes, and Mexico. Notable recent plans include the Colorado River Drought Contingency Plan (2019) and the 500+ plan.

Clark County: Virgin Valley Water District, 2020 Water Master Plan

This plan covers the communities of Mesquite and Bunkerville (population approx. 25,000 persons in 2020, with 3.35% annual growth rate suggested). The water district currently uses groundwater for drinking/culinary uses, and surface waters from the Virgin River and nearby springs for irrigation. Growth can be accommodated by further developing groundwater resources until around 2035, after which it is recognized that surface water sources must become a drinking water supply. The current limiting factor is cost of treatment.

Clark County, No Published Plan

Population (2020): 2,265,461 and growing
Major water sources: Colorado River, Virgin River, Groundwater, Some springs
Primary water uses: Las Vegas and surrounding metropolitan area, Mesquite/Bunkerville, Laughlin, Military bases, Hydropower, Industrial, Tourism
Planning considerations: Most populous county; Continuous growth; Adequate Colorado River and Lake Mead water; Groundwater pollution from industrial & military endeavors; Carbonate rock aquifer connectivity; Drought impacts

Clark County: Southern Nevada Water Authority (SNWA), 2023 Water Resource Plan

SNWA is Nevada's largest water purveyor and regularly updates its water resource plan. SNWA serves around 2.25 million persons and plan projections show up to 4 million persons by 2070. Supplies are primarily from Colorado River water, of which SNWA is entitled to 300,000 acre-feet of consumptive use each year. As persistent dry and warm conditions have lowered Lake Mead levels, that allocation has been subject to cutbacks under the Colorado River Drought Contingency Plan. Anticipating continued growth and water shortages, SNWA's plan suggests an aggressive blend of water conservation, banking of unused water supplies, augmentation (of both rights and physical water), and additional capital improvements to facilitate those strategies. The plan also features a climate change analysis and has a stated water consumption goal of 86 GPCD (gallons per person/day) by 2035.

A note about water conservation plans*

Public water suppliers with more than 1,000 customers, who have a published and approved water conservation plan

Public water suppliers with more than 1,000 customers, who have yet to submit or get a water conservation plan approved

This map also shows public water suppliers with greater than 1,000 customers, as permitted and defined by NDEP. Each public water supplier, regardless of size, is required to submit a water conservation plan as per the requirements of NRS 540. Conservation plans must include a number of water-saving provisions, most of which are intended to increase the efficiency of the supplying entity, reduce overall water waste, or encourage customers to decrease their usage. A drought contingency plan is also a required component of any approved water conservation plan. Additionally, many public water suppliers will include some information regarding available water sources or applicable water rights, and projected growth within their service area. Thus, some water conservation plans may cover information required of the water resource plans per NRS 278.
*Water conservation plan data was last updated January 2022.

Water Resource Plan Data as of Jan. 2023

Counties with a published water resource plan

Counties without a published water resource plan

Cities/towns/or water purveyor service areas with a published water resource plan

*All population data was either taken directly from the published water plan, or from the United States Census Bureau: Quick Facts - Population, Census, April 2020