

Municipal Water Demand, Supply, and Needs—Twisp and Winthrop, Washington

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Prepared for the Methow Watershed Council by Mosaic Planning Studio

Introduction

This paper has been developed to provide the Methow Watershed Council (MWC) with a high-level analysis of water needs in the towns of Twisp and Winthrop. It identifies possible approaches and resources for accommodating projected growth in the two towns' incorporated and unincorporated expansion areas. The paper also suggests ways in which the MWC may be able to help the towns meet identified growth needs.

The "Town of Twisp" and "Town of Winthrop" sections below address water supply and demand in each town, highlighting capacity and any unmet needs. The "Municipal Expansion Areas" section addresses water-service development in areas that have been designated for future expansion beyond the towns' corporate boundaries.

Town of Twisp

Population projections are one factor in evaluating a municipality's water needs. Both the Town of Twisp's comprehensive plan and its Water System Plan (WSP) were last updated in 2015 and include population figures calculated roughly a decade ago. Each plan provides population projections based on three rates of annual growth: low, medium, and high. While the comprehensive plan does not specify which rate the town uses for planning, the WSP uses an annual growth rate of 2%.

The WSP projected a 2021 population of 1,085. The Washington State Office of Financial Management estimated Twisp's population at 1,095 as of April 1, 2024, suggesting an actual growth rate of about 1.5%—slightly below the 2% rate used in the WSP and between the low and medium rates used in the town's population projections. At 2% annual growth, the town's projected 2035 population would be 1,432, according to the WSP.¹

Another factor in evaluating demand for water is expectations regarding new development. Development in Twisp was hampered for several years after the town lost some of its water rights in litigation following appeals related to those rights.² As discussed below, the town now appears to have an adequate supply to meet its projected needs, based on water conservation measures taken by the town and acquisition of water rights from the Methow Valley Irrigation District (MVID).

Twisp anticipates development of several significant housing projects over the next several years. The projects, undertaken by private developers, are in various stages of planning and permitting. They include Blackbirds, Jamie's Place, Orchard Hills, Milltown, Stonefly, and Twisp Family Haven. Those six projects could add roughly 240 to 275 dwelling units to the town's housing stock if and when they are fully built out. According to recent U.S. Census data, there are currently just over 500 dwelling units in Twisp, so the increase in demand for water could be striking.

¹ Projections in the Water System Plan (WSP) do not account for the proposed Milltown development, which would include land to be annexed by the town. The WSP predates the Milltown proposal.

² In Washington State, municipal water rights are exempt from relinquishment but are still subject to abandonment.

New housing units are likely to attract residents to Twisp quickly because demand for housing in the valley is high. However, the timeline for full buildout of most of the projects is uncertain. Some of the projects will only create buildable lots, not completed dwellings. It may take a decade or more for all of the lots to be developed. Twisp's Isabella Ridge long plat provides an example: 12 lots were created in 2016; to date, houses have been built or are under construction on eight lots, while the remaining four are still vacant.

As noted above, the Town of Twisp's WSP was last updated in 2015; the plan covered a 20-year period, from 2015 to 2035. Twisp has now procured funding for development of a new WSP, and a consultant has been selected to begin that work in June 2025. The town anticipates that the new WSP will be published in the spring of 2026. Its findings may alter some of the baseline information provided in this white paper.

The town has three functional groundwater wells that supply the town's potable water: Wells No. 2, 3, and 4. Twisp's Well No. 1 is not adequate for supplying potable water and is permanently out of service—piping connecting the well to the water system has been removed, the circuit breakers opened, and the telemetry system removed. Since the 2015 WSP was written, improvements have been made to increase the level of reliability within the water utility system. The town addressed the decline in production of existing Well No. 4 by redrilling it, and it is currently on line. Recently, standby generators have been installed at Wells No. 2 and 3 to provide function during power outages.

The town has multiple water rights it uses to withdraw its municipal water supply from its existing groundwater wells. Two certificates, with priority dates of 1967 and 1971, allow annual use (Qa)³ of up to 224 acre-feet/year⁴ (ac-ft/yr), with an instantaneous withdrawal limit (Qi)⁵ of 1,600 gallons per minute (gpm). Additionally, a permit⁶ with a priority date of 2013, created through acquisition of a water right from the MVID, allows an additional 248.4 ac-ft/yr to be withdrawn from the wells, with a Qi of 620 gpm.

In total, then, the town has an instantaneous withdrawal allowance of 2,220 gpm and an annual allowance of up to 472.4 ac-ft/year. The 2013 permit is mitigated by the original MVID water right that was put in trust for the MVID flow-improvement project, and, according to the town, it is not interruptible by the Methow Subbasin Instream Flow Rule.

The 2015 WSP indicated the then-current water demands were 1,135 gpm (Qi) and 243 ac-ft/yr (Qa). The projected 2035 demands were estimated to be 1,135 gpm (Qi) and 338 ac-ft/yr (Qa).⁷

³ Qa: The annual quantity of water allowed with each water right, expressed in acre-feet (ac-ft).

⁴ Acre-feet are commonly used to measure large volumes of water—for irrigation or reservoir storage, for instance. An acre-foot is the amount of water needed to cover one acre to a depth of one foot—about 325,851 gallons.

⁵ Qi: An instantaneous quantity of water, expressed in gallons per minute (gpm) or cubic feet per second (cfs). Qi is the maximum amount of water that can flow at one time. It may refer to the amount of water allowed by a permit or be limited by physical constraints such as a water purveyor's pumping capacity.

⁶ A water right permit is permission by the state to develop a water right; it is not a final water right. A permit allows the holder to proceed with construction of a water system and start putting the water to beneficial use, in accordance with the terms of the permit. Once the water right has been developed and Washington State's Department of Ecology has confirmed that all the conditions of the permit have been met, the state issues a Certificate of Water Right. The certificate is the legal record of a water right and is recorded by the Auditor in the county where the right is to be used.

⁷ Twisp's Qi is limited by the capacity of the town's pumping system rather than by the town's water rights. The 1,135 gpm cited here is the flow rate with all three existing well pumps operating at capacity, so that figure doesn't change over time. It is well below the water right Qi of 2,220 gpm.

The 2015 WSP's Source Production Capacity Analysis indicated that the town's primary wells have sufficient capacity to meet requirements (specifically Maximum Daily Demand [MDD])⁸ through the 20-year planning period and that the town has sufficient source capacity to meet reliability requirements through 2035. Those findings will be reconfirmed during the WSP update, and town staff indicated high confidence that MDD will be met through 2035.

Twisp uses three reservoirs to store water—two concrete tanks in the Painter's Addition neighborhood west of the Methow River and one metal tank on Mill Hill east of the river.⁹ The WSP shows the storage volumes available in the reservoirs are adequate through the 20-year planning horizon. Those findings will also be reconfirmed during the WSP update.

In the past seven years, Twisp has invested more than \$20,000,000 in water and sewer infrastructure to accommodate future growth. There is a high level of confidence in the Public Works Department that the existing infrastructure will be adequate for significant growth during the current 20-year planning period.

Town of Winthrop

The Town of Winthrop's comprehensive plan dates from 2015, and the plan's population projections are outdated—Winthrop has grown faster than the plan anticipated. However, the town has two recent documents that reflect the growth rates Winthrop has seen in the last several years—a 2023 Housing Action Plan (HAP) and a 2025 Water System Plan (WSP).

The HAP includes population projections based on a 3% growth rate. The HAP projected a population of 584 in 2025, rising to 1,055 in 2045. The Washington State Office of Financial Management estimated Winthrop's population at 590 as of April 1, 2024, reflecting a growth rate slightly higher than projected. Generally, though, the 3% growth rate seems realistic when projected over a 20-year planning period.

Growth is unlikely to be as steady as the projections suggest. In particular, the town may experience spurts in demand for water as new developments are completed and occupied. The Methow Housing Trust's Cascade Meadows North neighborhood will add 46 units (including the Housing Authority of Okanogan County's Wildrose Apartments) over the next few years, increasing Winthrop's housing stock by approximately 13%.

Several other housing developments are in the early stages of planning. It's uncertain whether all of them will proceed, and build-out numbers and timelines are not known. Those projects could add 50 or more additional lots. As in Twisp, it may be several years before all of the lots are occupied. New developments that do proceed are likely to attract residents quickly, given the Methow Valley's chronic housing shortage.

Another factor that affects water delivery is availability of connections. In 2024, Winthrop adopted a moratorium on subdivision applications due to a shortage of authorized connections to the town's water

⁸ Maximum Daily Demand (MDD) means the highest actual or estimated quantity of water that is, or is expected to be, used over a 24-hour period, excluding unusual events or emergencies. MDD is typically expressed as gallons per day per ERU (gpd/ERU). An ERU is an Equivalent Residential Unit—a standard unit of measure that can be applied to both residential and non-residential water uses to estimate a town's water use.

⁹ The locations of Twisp's wells and reservoirs are shown in Figure 1-1 in the town's WSP. There is a link to the WSP in the "Selected Resources" section below.

system. In August of that year, the Washington State Department of Health authorized additional connections, and the town terminated the moratorium.

Based on the 2025 WSP, Winthrop is well-positioned to meet current and short-term water needs but will need to take action to accommodate the projected 2045 population.¹⁰ The town has a water right that allows an instantaneous withdrawal (Qi) of 640 gallons per minute (gpm) and anticipates adding pumping capacity in the 10- and 20-year planning horizons. In order to maintain operation flexibility in the system, the town would prefer to have capacity to run all current and future wells simultaneously and needs an additional 910 gpm of instantaneous water rights to do so. Winthrop plans to request at least 910 gpm of additional Qi from Washington State's Department of Ecology (subsequently referred to as Ecology) to cover the combined supply capacity of the planned future water-supply improvements.

Winthrop's water right allows an annual withdrawal (Qa) of 469 acre-feet (ac-ft). The town has adequate Qa to meet current and projected needs until 2043 based on population projections in the WSP. Twenty-year (2045) needs exceed available Qa by 2.6 ac-ft. The town has proposed a multistage approach to addressing the potential Qa water rights deficit:

- Monitor status of additional water rights. Winthrop applied for additional water rights in 1994. Whether Ecology will process those water rights applications is questionable.
- Decrease system-wide distribution leakage (DSL). Unaccounted-for water usage makes up about 38% of Winthrop's overall water use, which equates to approximately 116 ac-ft of water annually. Unaccounted-for water may include unmetered connections, inaccurately reporting source/service meters, and DSL. Town staff suspect the primary culprit for elevated unaccounted-for usage is DSL.¹¹ A reduction in unaccounted-for water could result in Winthrop maintaining annual consumption using only the water rights it already has.
- Purchase additional water rights from neighbors. The town is in preliminary discussions with the Chewuch Canal Company and Ecology to purchase an additional 150 ac-ft/year water right (preliminary figure, as discussions on this topic are ongoing), using storage in Pearrygin Lake to retime irrigation water for municipal use.

In addition to future potential water rights deficits, the 2025 WSP has identified several areas of physical system deficiencies that will probably need to be addressed within the 20-year planning horizon. They include improvements to storage facilities, backup supply and overall reliability, control system, and aging or inadequate distribution piping.

The WSP offers an estimate of the cost of 10-year and 20-year capital improvements to address those deficiencies as \$13,160,000. Winthrop will also need a sewage system update to handle projected growth. The town is in the process of planning that system, which has an expected cost of about \$31,000,000, but has not yet secured funding for construction. Maximum grant and loan amounts, detailed in the WSP, may affect the town's project planning and phasing.

Winthrop recently started updating its comprehensive plan. The town does not plan a complete re-write but will address certain identified needs, including water supply and demand. Securing additional water

¹⁰ According to Winthrop's WSP, the annual volume rate (Qa) will be adequate until 2043. There is a link to the WSP in the "Selected Resources" section below.

¹¹ Washington's Water Use Efficiency rule requires that systems with a three-year running average DSL exceeding 10% develop a water loss control action plan. From 2019 to 2022, Winthrop's average DSL exceeded 10%; the town's WSP includes the required water loss control action plan.

rights will be particularly important to ensure that the town can continue to accommodate growth, including the affordable housing that is needed for workers employed both within and outside the town.

Municipal Expansion Areas

Both Twisp's and Winthrop's comprehensive plans identify areas outside the town limits into which the towns anticipate expanding to accommodate future growth, and both include goals and policies related to development in those areas. Links to documents that show the towns' expansion areas can be found in the "Selected Resources" section below.

Washington State's Growth Management Act (GMA) requires most counties and the municipalities within them to work together to designate urban growth areas in order to accommodate the municipalities' projected populations. Okanogan County and its cities and towns are not subject to those requirements because the county's population and growth rate are below the threshold at which full planning under the GMA is required. However, the two towns have chosen to designate lands into which they expect to grow in their comprehensive plans, in part to facilitate long-range planning for infrastructure, including water-system expansion.

Twisp uses the term "urban growth area" in its comprehensive plan, while Winthrop has elected to use the terms "potential annexation areas" and "areas of interest" to align with Okanogan County's land-use framework. (Both Twisp's and Winthrop's comprehensive plans pre-date the county's current plan, which includes an updated framework.)

The county's comprehensive plan, adopted in 2021, provides for designation of City Expansion Areas (CEAs). According to provisions in the plan's land-use element, cities and towns may propose CEA boundaries; criteria for such proposals are listed and include the municipality's ability to provide water and other services in the CEA. The county's goal is "coordination and cooperation between local governments," and although county government retains sole authority for land use review in CEAs, the comprehensive plan's objectives include encouraging municipalities to "plan for future infrastructure and service growth into a specific identified area."

Some jurisdictions have extended utilities into areas they expect to annex, said Okanogan County Planning Director Stephanie "Pete" Palmer. Until the land has been annexed, however, the county retains permitting authority. Both Twisp's and Winthrop's comprehensive plans include policies related to extension of services to areas that will be annexed, making clear that development adjacent to either town would require close coordination in order to serve both town and county interests.

Both Twisp and Winthrop have adopted policies favoring coordination with Okanogan County. Winthrop's comprehensive plan objectives include developing an interlocal agreement with the county regarding development in the town's potential annexation areas; the town has not, to date, pursued such an agreement. Winthrop's town planner does monitor development notices and would work with the town's planning commission to comment on any proposals within the town's expansion area, but such proposals are rare. Twisp's planner is not aware of any recent development proposals in the town's urban growth areas.

If development were proposed in either town's expansion area, Ms. Palmer said she would work with the town and the affected property owners. She also said that if the county were drafting a plan that affected those areas, she would reach out and work with the town.

Winthrop has had conversations about water service for two areas outside town limits—one that is designated as a potential annexation area and one that is not. Most recently, the town explored the possibility of providing water for a residential development that could be planned for the Sunny M property recently acquired by the Methow Conservancy. The parties have agreed that the town will not

provide water to that site, in part because it is outside Winthrop's service area as defined in the town's water right. The site is not designated as a potential annexation area.

The town did agree, several decades ago, to provide water for the Belsby Field Area, which abuts the town boundary, is within Winthrop's municipal service area, and is designated as a potential annexation area. The town would probably require that the land be annexed if water were to be provided, said town planner Rocklynn Culp.

Conclusions

Twisp's water rights and delivery system are adequate for the town's current and projected population. The town's wastewater treatment plant is being updated this summer, with the expectation that it will be adequate to serve the town's population throughout its useful life.

Winthrop's water rights provide adequate quantity to meet the town's needs for another 18 years, based on projected population growth. The town is working to procure additional rights to meet future needs. Winthrop is also seeking a change in its permitted pumping rate to create flexibility in meeting demand for water. The town is in the early stages of planning for updates to its wastewater treatment plant to accommodate projected growth.

Both towns are updating or have recently updated their comprehensive plans and housing action plans. The towns engage professional engineers to update their Water System Plans as needed.

Adequate water—including both water rights and the municipality's capacity to develop infrastructure—is critical to growth and development in the towns of Twisp and Winthrop, as is coordination between the towns and Okanogan County.

Because municipal water rights and zoning codes allow for denser development than is possible in unincorporated areas, future annexation of land in the towns' expansion areas may create opportunities for additional housing development. Depending on development costs, that could include new affordable housing. New development close to the towns also offers advantages that include proximity of municipal services and urban amenities, in addition to preservation of rural land uses outside the expansion areas, creating a further incentive for development within expansion areas.

Water for people, including sufficient water supplies for towns, is a current priority for the Methow Watershed Council (MWC), which made understanding the topic of municipal water important to the council. The MWC could have a role in supporting coordinated planning and future development in local towns by:

- Convening planners representing Okanogan County and the cities and towns in the county to talk about water system development in the towns' expansion areas (and perhaps other common interests) and establish dialogue that will help the county and municipalities work effectively together.
- Supporting local municipalities in acquiring adequate water, so that water is not a limiting factor in the towns' ability to provide land and services for affordable housing development.
- Supporting capital-funding requests in accordance with the towns' water needs and comprehensive plans—for instance, by providing letters of support, explaining the towns' needs on the MWC's website and in its newsletter, or researching funding opportunities.

Selected Resources

[Town of Twisp Comprehensive Plan](#). May 2016

[Town of Twisp Land Use Designation Map](#). The map shows the town's urban growth boundary, which delineates the urban growth area.

[Town of Twisp Water System Plan \(September 2015\)](#)

[Town of Winthrop Comprehensive Plan \(December 2015\)](#). The town's planning area is shown in Figure I.1 on P. I-10.

[Town of Winthrop Housing Action Plan \(2023\)](#)

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Disclaimer

Please note that the Town of Twisp makes no assurances that any of the information provided in this white paper is accurate or correct. Twisp uses its own professional planning and engineering resources to determine how to manage its municipal water utility. This report has not been reviewed by any of Twisp's Water System Plan experts.