2012 REGIONAL WATER SUPPLY UPDATE

www.watersupplyforum.org
Water

It defines the central Puget Sound region. It’s everywhere. It’s iconic. It’s our identity.

Water is an increasingly precious commodity in some places, but in the central Puget Sound region there will be sufficient quantities of high quality, great tasting water for the next 50 years, giving the region a competitive edge for the future.

The 2012 Regional Water Supply Update was issued by the Water Supply Forum (Forum), a group of large and small water providers in King, Pierce and Snohomish counties, during the 2012 National Drinking Water Week.

Why is this important? Because when growth picks up again, the region will be able to support economic development with well-managed water systems—systems that give residents and businesses the confidence that when they turn on the tap, high quality drinking water will be there every time. Water for people, the environment, fish habitat, recreation, economic vitality and global competitiveness.
Collaborative planning and foresight have resulted in coordinated action that allows the region to deal with growth and uncertainty with well-planned but flexible portfolios of supply options.

Over the past two decades, following the 1992 drought, the future of the region’s water supply began to change and the demand for water decreased dramatically.

Water conservation became the ethic for the region. Population and economic growth occurred, yet total water demand dropped. And while climate change impacts were and continue to be studied, long-term impacts are still unknown. Water suppliers had to plan to be ready to respond to changes.

The region’s water suppliers in the Forum continue to recognize the need to look at potential long-term needs and supplies, and plan accordingly. That means coordinating infrastructure investments while managing existing water systems. Their planning includes new ways of looking at water supply, new relationships and new perspectives.

This 2012 Regional Water Supply Update reflects how municipal water suppliers in King, Pierce and Snohomish counties continue to come together to plan and strategize for the region’s future water resources. It’s based on updated municipal water demand forecasts and reflects significant changes over the past few years. The outlook is very good.

Through the wise stewardship of water, smart infrastructure investments and regional collaboration, our region’s water supply is plentiful. Providing high quality, good tasting drinking water for the next 50 years in an environmentally sensitive manner will enhance the quality of life and livability across jurisdictional lines, and provide an economic advantage for future growth and development.

Tap into it!

BACKGROUND

The Forum is a cooperative effort of public water systems and local governments from King, Pierce and Snohomish counties. It was created in July 1998 to address current and future water supply planning, environmental stewardship and other water supply issues facing the region. It helps facilitate resolution of regional issues, giving all utilities a stronger voice on common issues affecting the utilities and their customers. The Forum coordinates dialogue and provides a setting for working together on regional water supply and related resource issues from the utility perspective. It helps frame long-term water resource needs and opportunities for the central Puget Sound region. As the experts in water supply within the region, the Forum member utilities have the capacity to influence regional public policy in a manner that results in decisions that can assure availability of affordable, reliable, safe drinking water for decades to come.

The Forum provides an opportunity for large, regional providers like Everett, Seattle, Tacoma and Cascade Water Alliance to work with smaller providers within the tri-county area to identify issues, explore solutions and focus on next steps for the region.
Comprehensive Assessments

The first comprehensive regional water supply assessments for the central Puget Sound Region were conducted by the Forum in 2001 and updated in 2009. The goal of those studies was to provide a comprehensive assessment of municipal water supply and demand in the region. They included analyses of regional water supplies and detailed potential future municipal water supply options.

2001 REPORT
The 20-year regional water supply assessment forecasted that there were areas in the region which had significant challenges in meeting the water needs of people and fish with available resources. Of the 158 utilities examined in the assessment, at least 24 anticipated the need for additional supply before 2020. A combination of enhanced water conservation, reuse and new water supplies were identified to address those near- and long-term shortfalls and uncertainties. With the completion of the 2001 Outlook, the Forum committed to continued collaboration with other stakeholders to address regional water resource issues.

2009 REPORT
Again, a consistent forecast technique was used, and demand forecasting and existing and future water supply options were reviewed. However, the findings were quite different this time around. They showed:

- **Adequate existing water supply:**
  Existing supplies would be sufficient to meet projected water demands through 2050 under all planning scenarios evaluated.

- **Many new supplies exist:**
  More than 400 million gallons per day from new water supply and conservation projects were identified. (Lake Tapps was one of the new supplies identified.)

- **Shortages are possible beyond 2050 under certain circumstances:**
  If demographic growth projections became greater than forecasted, there could be shortages of as much as 100 millions gallons per day in 2060 if no supply improvements are constructed or new supplies brought on line.

- **Adequate time is available to make decisions:**
  The findings indicated that with water to meet regional needs through 2050, decision makers were afforded the time to determine next steps.

- **Continued regional coordination and review are needed.**

- **Recommended effective water resource decisions are needed:**
  - Continue to involve regional stakeholders in the development of future Outlooks.
  - Use a collaborative water resource management decision-making process.

Those recommendations have been the focus of the Forum since 2009. Careful planning, long-term thinking and significant investments secured adequate water for well into the future, unlike many other regions of the country. Because of changing factors, the 2012 update was undertaken.

*Upper Cedar River*
Everett

In the last century, the Everett water system has grown from a simple localized system for the residents of Everett to a vital regional water provider. The Everett water system now supplies water to the majority of Snohomish County (more than 550,000 residents) through a network of local water providers. This includes Spada Reservoir—50 billion gallon capacity, Chaplain Reservoir—4.5 billion gallon capacity, Drinking Water Treatment Plant at Chaplain Reservoir—132 million gallons per day (MGD) Department of Health approved capacity, four main transmission lines—ranging from 48 to 51 inches in diameter, four pump stations, 18 pressure zones, 15 storage facilities—ranging from 0.1 to 24 million gallons in capacity, and 370 miles of distribution pipeline. Today, Everett has water rights for 255 million gallons of water per day (MGD) from the Sultan River system and a pending water right application for an additional 129 MGD. By maintaining a strong working partnership with the utility’s wholesale customers, Everett is well poised to meet the water needs of the community for the foreseeable future.

Everett

In spite of a population increase over the past decade, water sales (i.e., billed consumption) has been essentially flat. This means that per capita consumption (i.e., gallons per capita per day) has continued on a downward trend. The trend actually started in the early 1990s. This, along with the departure of the Kimberly-Clark pulp mill, had dramatically dropped the forecasted demand for water from the Everett system.
Seattle

Between 1990 and 2010 in Seattle's regional service area, which includes wholesale customers such as Cascade Water Alliance in east and south King County, population has increased by 15 percent while water demand decreased about 30 percent (50 MGD).

Seattle Public Utilities (SPU) provides drinking water to a service area population of 1.3 million within the greater Seattle metropolitan region of King County and portions of southern Snohomish County. Approximately one-half of its water is used by retail customers and one-half is sold through wholesale contracts to 19 municipalities and special purpose districts, plus Cascade Water Alliance. SPU’s water supplies consist of surface water from the Cedar and South Fork Tout rivers, as well as two well fields that are available to provide drought and emergency supply. Together these supplies can provide 172 million gallons per day. SPU’s forecasts indicate that available supply will remain above water demand through at least 2060, even when climate change impacts are considered.
Tacoma

Tacoma Water serves more than 320,000 people in Tacoma and portions of South King County directly, with service to up to 200,000 more through wholesale and partnership arrangements. The Green River serves as Tacoma Water’s primary water supply, delivering high quality water via snow melt, seasonal rains and groundwater. Tacoma Water owns only 11 percent of the 148,000-acre watershed, but vigorously protects the water supply by controlling access, patrolling lands and maintaining agreements with other landowners. Tacoma Water also owns 24 wells in and around Tacoma. The wells, which supplement the water supply from the Green River, are critical to meeting peak summer demands and customers’ future drinking water supply. Tacoma Water is furthering its water protection methods by building a filtration facility on the Green River; it has also replaced all of its open storage reservoirs with enclosed tanks.

During the same period in Tacoma, the number of customers increased by 33 percent and the total water demand decreased by the same percentage.

GROWTH IN POPULATION AND WATER CONSUMPTION
Tacoma Regional Water System: 1975–2011

TACOMA WATER’S PAST AND CURRENT FORECASTS
of Water Demand and Supply
Between 2009 and 2012, the long-term decline in water use continued, dropping more than 10 percent due to a variety of factors, such as:

- Water supplier improvements to their systems increased efficiencies and saved water.
- Industrial and landscape changes meant less water used and needed.
- Costs of water, wastewater disposal and treatment, and power used for hot water heating increased while incomes flattened or declined.

Additional external factors have also made an impact:

- The economic picture has been gloomy.
- Growth has slowed to a trickle.
- There has been a marked lack of development.
- Increased housing density and smaller multiple dwelling units reduced the need to water large grass lawns.
- Enhanced building and plumbing code changes reduced water use.
- More efficient appliances meant more reductions in use.
- The tremendous personal conservation ethic of the Northwest meant less household use.
- The last two rainy summers resulted in flat water use.
Since the mid-1990s, drastic changes in water demand have occurred in the region. Water demand has fallen far below even the most conservative planning estimates due to a variety of factors.

Residential water use reported in the 2009 Regional Outlook for utilities in the three-county region shows about a 25 percent decrease in water use per household from 1990 to 2005 for both single- and multi-family residential customers (see figure on page 8). That decrease in average water use per household was primarily a reflection of increased water use efficiency, including savings from utility-sponsored water conservation programs. Commercial and industrial water users have also significantly reduced their water use. Utilities continue to see further declines in water use and anticipate this trend to continue in the future, albeit with smaller declines expected.
The central Puget Sound region has sufficient water for at least the next 50 years, given considerations of growth in the region and the potential impacts of climate change.

The regional water suppliers are making significant improvements and enhancements to their long-established systems. For example, Seattle is now able to refill Chester Morse Lake to higher levels, providing more water later in the year. Tacoma’s treatment projects enhance supply reliability. And Cascade Water Alliance, through long-range planning for new water supply sources, purchased Lake Tapps in Pierce County. That additional supply has also led to interdependent arrangements with four neighboring communities around Lake Tapps (Auburn, Bonney Lake, Buckley and Sumner), ensuring their future water needs are met.

A critical part of supply has been the tremendous value, investments and opportunities already realized by all the utilities. The region’s utilities also maintain active conservation programs as a part of effective resource management. Attention is currently focused on the scale and timing of existing and future programs. The overall supply in the region is very good.
THE IMPACT

The Forum’s vision is to maximize the use of existing supplies before developing new supplies, which maximizes ratepayer value at lower costs. The region’s water leaders are working together to make this a reality.

As suppliers look out 50 years and beyond and work to achieve collaborative and efficient use of available resources, there will be economic opportunities and a competitive advantage provided for the central Puget Sound region because of wise water planning.

Cascade Water Alliance

Formed in 1999, Cascade serves 400,000 residents and more than 22,000 businesses. Members include the cities of Bellevue, Issaquah, Kirkland, Redmond and Tukwila and the Sammamish Plateau Water and Sewer District, the Skyway Water and Sewer District and the Covington Water District. Cascade has current agreements with Seattle and Tacoma for short-term water supply. In 2009, Cascade purchased Lake Tapps in Pierce County for long-term water supply and secured one of the most significant new municipal water rights issued by the state in a decade. Planning for the future is also being driven institutionally through landmark agreements that left sufficient water in the White River for fish, and also satisfy the future needs of four nearby cities, as well as recreation for the lake.
LOOKING AHEAD

The Forum continues to be the central venue for regional discussions about water supply. The strength of the Forum is that it provides water suppliers in King, Snohomish and Pierce counties with a way of identifying and analyzing regional and national trends as well as external challenges. The Forum allows the entities to come together for mutual agreements or actions as needed.

Sharing a common vision better positions the Forum, and each individual member utility, to take appropriate actions for their customers, ensuring them and the entire region that high quality, good tasting drinking water will be available when they turn on the tap—today and for the next 50 years.

Read the Water Supply Forum’s Waterlink newsletter at: www.watersupplyforum.org

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