

Executive Summary

Purpose

The Consolidated Report on Water Supply in King County (Consolidated Report) summarizes municipal water supply and projected demand from years 2001 through 2020 in King County. The report contains data assembled from various sources and provides a snapshot of the best available information as to existing water supplies within the County. As such, the report is intended to be utilized as a tool to enhance coordination among the many entities with water-supply, land-use management, and regulatory responsibilities, particularly with regard to the following issues:

- Identifying existing and future water-supply needs, as growth occurs;
- Identifying planned or potential solutions at the local and regional scale;
- Assembling and sharing relevant information; and,
- Protecting and enhancing fish habitat while meeting municipal and domestic water supply needs.

The Consolidated Report builds on previous and ongoing planning efforts, such as the 2001 Central Puget Sound Regional Water Supply Outlook (Outlook), and summarizes available information from many different sources. In addition, the report presents information on needs of small water systems, (i.e., those with generally less than 500 service connections) and reviews a range of potential options for meeting these needs. Municipal water supply issues within the King County area are the primary focus of this report, but also included is some discussion on instream flow issues. (Note: This report is not intended to be a comprehensive water supply plan for King County.)

The Consolidated Report was developed under the oversight of Seattle Public Utilities (SPU). Several organizations assisted by providing comments, including the East King County Regional Water Association, South King County Regional Water Association, Cascade Water Alliance, Water Supply Association, King County Department of Natural Resources, and Washington State Department of Health (DOH).

Key Findings

Based upon data provided by King County utilities during the Outlook process, nine out of ten County residents are served by water utilities that have adequate supplies right now to meet projected demand through at least 2020. The report also found that there is sufficient supply from existing sources, in the aggregate, to meet the forecast of total county demand beyond 2020. However, this assumes water could be moved from where it is produced to where it is needed within the county.

In fact, there are numerous legal, institutional and technical barriers that currently limit the movement of water throughout the county. Because of these barriers, there are areas within the county in which existing sources of local supply are not sufficient to meet anticipated growth in water demand over the next 20 years. While many of the utilities in these areas have their own plans to address the projected shortfalls, there are varying degrees of uncertainty related to these plans.

Seattle Public Utilities and its suburban wholesale customers provide water to 74 percent of the population in King County. The available supply for this regional system (i.e., a system serving many individual utilities and jurisdictions) is adequate to meet the projected needs of existing and potential new customers beyond 2020.

Key Issues Affecting Municipal Water Supplies

The following issues affect municipal water supplies:

- 1) *Projected shortfalls in some local areas within the County (the most significant ones being the cities of Issaquah, Kent, and North Bend, Sammamish Plateau Water District, Covington Water District, Water District 111, and Sallal Water Association).* In these areas existing supplies will not be sufficient to meet projected demand unless these utilities are able to extend their current resources or secure new ones. Many of these water utilities have plans on the books to augment their supplies by participating in the Tacoma Second Supply Project or connecting to the regional system.
- 2) *Uncertainty in availability of some supplies.* This uncertainty is due to factors such as potential changes in state or federal regulations, environmental laws for fish or water quality, new interpretations of water law, or climatic changes.
- 3) *Complexity of water-supply project development.* Planning and implementation of water-supply projects is complex and often involves many jurisdictions and agencies. Where new projects are needed, they will require long lead times for planning, permitting, and construction.
- 4) *Small systems (having generally less than 500 connection) needs.* There are indications that some of the very small public water systems will be challenged as they address increased federal and state regulatory requirements, maintaining aging infrastructure, and ensuring that water quality meets public health criteria. While they collectively serve only two percent of the total county population, there are over 1,800 of these small public water systems. It is difficult to predict how many of these small systems will likely experience difficulties significant enough to require them to seek alternative sources of supply or consolidation with other systems. Thus, a range of strategies will need to be employed on an as needed basis. In addition, some individual household wells, which serve an estimated total of approximately 23,000

households in the County, may end up with similar infrastructure or water quality problems necessitating new sources of supply.

Potential Water-Supply Solutions

Water suppliers throughout the County area are working together to identify ways to continue delivering water for municipal and domestic needs while meeting new requirements related to recovery of salmon and other fish species. Solutions will likely include a mixture of enhanced water conservation, water reuse projects, conjunctive use of multiple supply sources, stormwater utilization, enhanced storage, and development of new surface and/or ground water supplies. In addition, several water suppliers' organizations are working cooperatively with State agencies to resolve regulatory constraints associated with sharing water supplies among jurisdictions.

Removing these constraints, coupled with innovative thinking, and cooperation among many organizations, will help ensure that water supply needs are met at the same time that ecosystem needs are addressed. Recent experience with activities such as the City of Seattle's Habitat Conservation Plan addressing instream flows and habitat considerations in the Cedar River basin, as well as successes in regional water conservation efforts, suggest that this challenge can be met in the long-term.

Overview of Municipal and Domestic Water Supply Systems in King County

King County residents get roughly two thirds of their water from surface sources and the rest from ground water. Seattle Public Utilities manages the largest sources in King County, with a combined firm yield of 171 million gallons per day (mgd). Other large suppliers in King County (i.e., those having more than 10 mgd of supply) are Auburn, Kent, Renton, and Lakehaven. Approximately 95 percent of the County's population is served by 51 public water systems that serve 500 customers or more. The remainder of the population is served by over 1,800 smaller public systems, or by private household wells.

Projected Shortfalls and Potential Solutions

Based on the information reviewed for the Consolidated Report, 20 water systems in the County are projected to have potential shortfalls in water supply by year 2020, unless they are able to extend their current resources through enhanced conservation, or secure additional supply. Many of these utilities have local plans to address the projected shortfalls, though there are varying levels of uncertainties related to these plans.

Of these 20 systems, 10 are large systems for which detailed analyses have been performed. These systems are listed in Table ES-1, along with the projected year that the systems' existing demands are anticipated to exceed existing supplies.

Shortfall Area	Year Projected Demand Exceeds Existing Supply
Ames Lake Water Association	2013
Black Diamond Water Department	2007
Covington Water District	2002
Issaquah Water System	2003
Kent Water Department	2000
King County Water District 111	2012
City of North Bend	2000
City of Pacific	2000
Sallal Water Association	2008
Sammamish Plateau Water & Sewer	2002

Footnotes:

(1) In aggregate and assuming water can be moved from where it is produced to where it is needed, enough water is available from existing supplies in King County to meet total countywide projected demand beyond 2020. However, since there are limits on the movement of water throughout the County, there are some areas in which existing sources of local supply, while able to meet current demand, are not sufficient to meet anticipated growth in local demand over the next 20 years.

The remaining ten systems are small Group A community water systems that have not been analyzed in detail as a part of this report. These systems are listed below:

- | | |
|--|--|
| <input type="checkbox"/> Auburn Mobile Park | <input type="checkbox"/> Heights Water |
| <input type="checkbox"/> Burton Water Company | <input type="checkbox"/> Meridian Meadows |
| <input type="checkbox"/> Dawnbreaker Water Association | <input type="checkbox"/> Sunset Park Water Company |
| <input type="checkbox"/> Dockton Water Association | <input type="checkbox"/> Valley View Trailer Park |
| <input type="checkbox"/> Grotto Water Company | <input type="checkbox"/> Y Bar S Water Company |

The Tacoma Second Supply Project (TSSP) figures prominently in many of the solutions described in this report. SPU has partnered with Tacoma Public Utilities (TPU), Kent, Covington and Lakehaven Utility District to develop the TSSP. An intertie will be included as an element of this project to permit sharing of supplies between the TPU and SPU systems. One-third of the TSSP water will be allocated to Tacoma, one-third to Seattle, and one-ninth to each of the three participating south King County utilities. The TSSP will meet the needs of these south King County utilities for water over the next two decades. SPU expects to use much of its share of the TSSP to serve additional suburban communities that need assistance in meeting their water supply needs.

As discussed above, an improved ability to share water within the region would enhance the potential for meeting water supply needs using existing sources. This could also contribute to improving flows for fish habitat, by offsetting the need to produce water locally in areas where municipal withdrawals have been linked to reducing stream flows and impacting fish populations.

Regardless of the solutions selected to meet these water needs, collaborative efforts among local governments, state agencies, and others will be essential to ensuring that residents and businesses have access to water supplies, while fish habitat is protected and enhanced.

Small System Needs in King County

Small public water systems in the County face challenges that are in many ways different from those faced by the larger utilities discussed in this report. Unlike larger systems that face potential water supply shortages in large part due to growth, small systems more often struggle to address infrastructure problems and water quality concerns, due to a lack of financial, technical, and administrative resources.

It is difficult to predict the number of small systems that will experience problems within the next 20 years. Very few, if any, small systems in King County have had to switch sources in the past 10 years. Due to limitations in available data, the number of such cases is not estimated in this report.

The Consolidated Report presents a general strategy for addressing the needs of small systems that could potentially be affected by these problems. The solution framework that is developed contains seven individual options for alternate water supply provision, together with a structured framework for identifying the best options for an individual system. In many cases, it is likely that the preferred solution will be for small systems facing difficulties to make new arrangements to obtain water from larger utilities in the County.

Policy and Implementation Considerations

A variety of policy issues, legal constraints, and institutional relationships affect water supplies in the County area and the ability to meet the challenges of growth and habitat protection. These issues vary somewhat depending on the scale of the water supply involved, such as regional, local, or small systems. The Consolidated Report summarizes some of these issues. Examples of the issues discussed include:

- Partnerships for evaluating and implementing water-supply options;
- Water right considerations, such as tribal treaty rights, hydraulic continuity, and limitations on moving water from one water service area to another;
- Policies for wheeling water supplies from one location to another;
- Environmental considerations;
- Compliance with growth management policies; and,
- Responsibilities related to small systems.

Finding solutions to these issues involves ongoing collaboration among a variety of organizations and stakeholders, including Seattle Public Utilities, East King County Regional Water Association, South King County Regional Water Association, Cascade Water Alliance, the Water Supply Association, King County government, Tribes, and individual water systems. In addition, the support and involvement of stakeholders, local elected officials, and the state legislature will be vital to these efforts.

Conclusion

The Consolidated Report on Water Supply in King County presents information on water supply in the County area, identifies projected shortfalls between year 2001 and year 2020 in specific communities, and offers credible solutions. It also discusses the special needs of small water systems (i.e., those with generally less than 500 connections), and options for meeting these needs.

Providing sufficient water supplies for communities in the County area, while protecting and improving fish habitat, will require continual effort. It is likely that a mixture of solutions will be needed, including an improved ability to share water supplies among communities. The Consolidated Report is intended to support and promote continued collaboration and coordination of water supply planning.