



# Celebrating Our Successes Investing in Our Future

Cascade and its Members Celebrate 15 Years  
of Providing Safe, Clean, Reliable Water



Water for today  
and tomorrow



# Celebrating Our Successes | 1999-2014

Water... it's there when you need it and when you want it

And because of the planning Cascade Water Alliance and its partners have done, it will continue to be. For decades.

Fifteen years after establishment Cascade and its members celebrate successes and continue to invest in its future.

Almost a century ago, water pipes were installed from Seattle to reach the growing "suburbs." But in the 1990s, Seattle became concerned there wouldn't be enough water for the growing region.

To fill that need, 15 years ago, Bellevue, Issaquah, Kirkland, Redmond and Tukwila, and the Sammamish

Plateau and Skyway Water and Sewer Districts came together to form Cascade Water Alliance.

Over the last 15 years we've done just that.

But what about the future?

Cascade purchased Lake Tapps in Pierce County in 2009 for eventual municipal water supply.

We continue to work with our regional partners to make sure the region is investing wisely in the future and planning together so we will all have water for decades.

## Investing in Our Future

Today Cascade Water Alliance is an integral part of regional planning in the Puget Sound region

Planning today for tomorrow, Cascade's investments will mean water for its members and customers for decades.

### Investing Wisely

Cascade has a stable and successful financial and operating history because its financial policies promote stability, rate equity and efficiency.

### Using Water Wisely

Saving water is as important as ever, because for each gallon of water saved today, it puts off for another day, year or decade major investments in new sources of water. This is an integral part of Cascade's water supply strategy.

### Investing in Important Changes

Cascade joined with other partners throughout the state to establish fire hydrant protections, and created a new municipal corporation law that helps provide essential services more easily and cost effectively. We are working to get even more efficient toilets and to make sure communities get lower interest loans to fund vital infrastructure projects.

[cascadewater.org](http://cascadewater.org)

# Cascade at 15

## Cascade is its members

Cascade is made up of the cities of Bellevue, Issaquah, Kirkland, Redmond and Tukwila and the Sammamish Plateau and Skyway Water and Sewer Districts

Together, over the past 15 years, we have been planning for a future with resilient water supply and sustainable revenues. Cascade invests in the future with its members for customers and the region. This includes:

- Operating and maintaining the White River/Lake Tapps Reservoir project for eventual water supply;
- Working with the Lake Tapps community and the four cities that surround the lake (Auburn, Bonney Lake, Buckley and Sumner) to make sure the lake is full and the cities have water for their future needs;
- Working to protect fish habitat with in-stream flow levels in conjunction with the Muckleshoot Indian Tribe and the Puyallup Tribe of Indians;
- Creating a reasonable water supply source for tomorrow by saving water today; and
- Partnering with Seattle and Tacoma to use each drop of water wisely and to plan for the resiliency of the region's water supply at a reasonable price for the future.

Cascade's seven members maintain and operate an extensive water supply system that brings water to your homes and businesses. Here's just some of what they do every day to make sure your water is safe and clean, reliable and cost effective today and tomorrow.





#### Representatives

Cascade Board Member:  
**John Stokes**  
Councilmember,  
City of Bellevue

Cascade Board Alternate:  
**Kevin Wallace**  
Deputy Mayor,  
City of Bellevue

## Bellevue

**Overview:** Bellevue has 25 reservoirs with a total of 42.3 million gallons storage. Its three operating areas provide storage, pressure zones, and pumping facilities to meet customers' water needs.

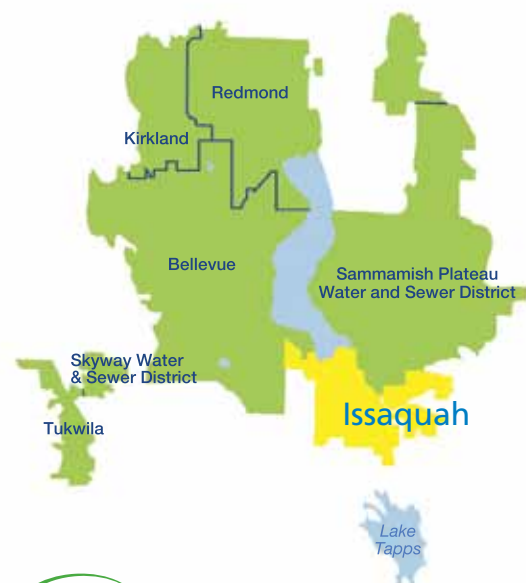
**Challenge:** Bellevue's 2006 Water Comprehensive Plan identified that the West Operating Area will experience a shortfall in drinking water storage in 2016, driven by regulatory needs for emergency storage during water supply outages.

**Potential Impact:** If this problem remains unaddressed, Bellevue will be unable to grow and further enhance the vitality and quality of life.

**Solution:** Bellevue Utilities reexamined underlying assumptions such as how the three operating areas interacted. It was determined that available storage was accessible in its East Operating Area through the construction of enhanced transmission and conveyance capacity and pressure reducing valves.

**Result:** More effective use of existing water storage enabled Bellevue to enhance its cross operating system capabilities and improve its long term operational efficiencies system wide.

[bellevuewa.gov](http://bellevuewa.gov)



#### Representatives

Cascade Secretary/  
Treasurer:  
**Fred Butler**  
Mayor, City of Issaquah

Cascade Board Alternate:  
**Nina Milligan**  
Councilmember,  
City of Issaquah

## Issaquah

**Overview:** Issaquah has more than 6,600 connections being served by 92 miles of pipe, four wells, 11 pipe stations, nine reservoirs and four treatment facilities.

**Challenge:** Issaquah was faced with the need to construct additional storage in two separate operating zones to accommodate fire suppression storage requirements. Issaquah reconfigured its utility to change operating configurations so that only one storage reservoir was needed instead of two.

**Potential Impact:** An extensive process was held to locate a suitable site for the new reservoir. It was determined that the selected site could have a major impact on the adjacent neighbors, park and open space — both during construction and in the long term.

**Solution:** Issaquah decided to upgrade one of its pump stations to pump the fire flow from an operating zone with sufficient storage to meet requirements.

**Result:** This eliminated the need for a reservoir altogether, and saved more than \$3 million for the rate payers — without sacrificing any level of service for fire suppression.

[issaquahwa.gov](http://issaquahwa.gov)



#### Representatives

Cascade Board Member:  
**Penny Sweet**  
Deputy Mayor,  
City of Kirkland

Cascade Board Alternate:  
**Doreen Marchione**  
Councilmember,  
City of Kirkland

## Kirkland

**Overview:** Kirkland has more than 12,000 connections serving families and businesses within almost 10 square miles. The city is served by more than 170 miles of pipe, three pump stations, two reservoirs and almost 1,900 fire hydrants.

**Challenge:** A major existing transmission main was old and fragile. This steel reinforced concrete cylinder water transmission main along NE 85th Street from 114th Avenue NE to 132nd Avenue NE is over 50 years old and has a history of breaks. It is approaching the end of its useful life.

**Potential Impact:** With several breaks over the last seven years, emergency repairs have been costly and have had an impact on the overall integrity of the pipe. The city studied options for its replacement.

**Solution:** In 2014, in coordination with other NE 85th Street Corridor projects, this fragile transmission main will be replaced. The replacement includes:

- Upsizing 16 inch pipe to 24 inch ductile iron water main;
- Increasing capacity for fire suppression needs;
- Increasing capacity to account for past and future growth;
- Improving system reliability;
- Lowering maintenance costs through modernization of the water system infrastructure; and
- Designing it to provide redundancy and flexibility in the water conveyance system.

**Result:** Kirkland residents will have a new transmission main that will be able to supply two city master meters with water and approximately 25 to 30 percent of the entire Kirkland water system demand through this new transmission main.

[kirklandwa.gov](http://kirklandwa.gov)



#### Representatives

Cascade Board Chair:  
**John Marchione**  
Mayor, City of Redmond

Cascade Board Alternate:  
**Tom Flynn**  
Councilmember,  
City of Redmond

## Redmond

**Overview:** Redmond serves more than 18,000 meters, maintains over 325 miles of water main, has 4,000 fire hydrants, operates over 13,000 valves, stores over 30 million gallons of water in 10 reservoirs, and has five wells which produce 35 percent of its water.

**Challenge:** Well #4 was constructed in 2002 and was designed to pump 650 gallons per minute (gpm). It has slowly been losing its pumping capacity over the last 10 years. Redmond pulled the pump and inspected it and the well screens after the well's pumping rate was reduced to 325 gpm.

**Potential Impact:** The pump column was corroded, caused by the low pH groundwater, along with low levels of iron and manganese in the groundwater. The well screen was being choked by iron fixing bacteria.

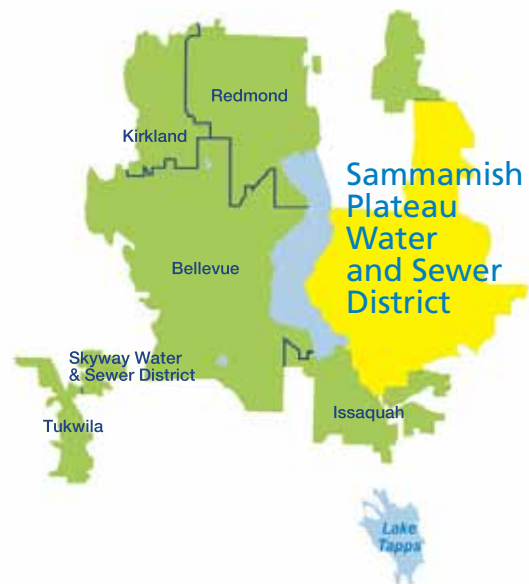
**Solution:** The following actions were taken to address these challenges:

- Rebuild the pump column with stainless steel parts to minimize corrosion;
- Rehabilitate the well using hydro-pulsing technology, along with brushing to clean and open up the well screens; and
- Change the operation parameters of the well to make sure the groundwater level stays above the well screens to minimize the chances of oxygen getting to the iron fixing bacteria.

**Result:** These fixes will take about six months to complete. The changes in operating parameters, along with the fixes, will mean a higher and more consistent well pumping rate and safe, clean water for Redmond residents.

[redmond.gov](http://redmond.gov)





#### Representatives

**Cascade Board Member:**  
**Lloyd Warren**  
*Vice President, Board of Commissioners,  
Sammamish Plateau Water & Sewer District*

**Cascade Board Alternate:**  
**Bob Abbott**  
*President, Board of Commissioners,  
Sammamish Plateau Water & Sewer District*

## Sammamish Plateau Water and Sewer District

**Overview:** The District serves almost 17,000 connections with 336 miles of pipe, 12 operating wells, seven pump stations, eight reservoirs and seven treatment facilities.

**Challenge:** Field operators were eager to be able to do their work more efficiently.

**Solution:** As part of its automation plan, an effort was implemented to:

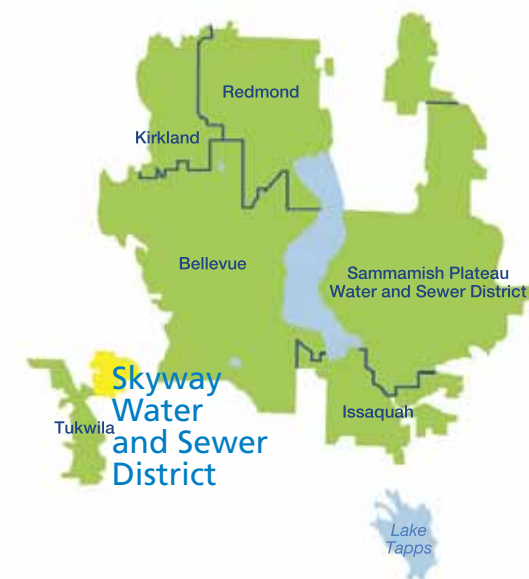
- Automate current paper records for assets;
- Allow for proactive scheduling of maintenance work;
- Track costs to specific assets; and
- Simplify record-keeping.

In 2012, the District purchased the mobile application infraMAP® Software so staff can perform paperless inspections, operations, and maintenance of water and sewer assets in the field.

**Result:** Originally designed to eliminate paperwork and make everyone's job easier, the program has been perfected by the field personnel that use it every day.

It improves overall productivity and optimizes resources by reducing job turnaround times, maintenance costs, and travel times. It simplifies asset identification via GIS and GPS, improves scheduling and optimization of work and field resources. It also provides electronic dispatches to devices in the field and revisions to scheduled tasks. And it automatically allocates time, labor and material costs to jobs performed for timely reporting and updating of the District's annual operations work plan.

[spwsd.org](http://spwsd.org)



#### Representatives

**Cascade Board Member:**  
**Jon Ault**  
*President, Board of Commissioners,  
Skyway Water and Sewer District*

**Cascade Board Alternate:**  
**C. Gary Schulz**  
*Vice President, Board of Commissioners,  
Skyway Water and Sewer District*

## Skyway Water and Sewer District

**Overview:** Skyway has approximately 3,300 water connections serving an area covering nearly two square miles. The District has six reservoirs, four water pump stations, eight pressure zones, 40 miles of water main and more than 500 hydrants.

**Challenge:** Skyway Water and Sewer District is located in unincorporated King County between the cities of Renton, Seattle and Tukwila. As a low income, unincorporated community without significant commercial activity or tax base, public infrastructure in the area has largely gone unimproved for many years. There are many areas where the water mains are in excess of 50 to 75 years old, are undersized and cannot support additional development or connections, or are comprised of outdated materials.

**Potential Impact:** Emergency repairs to water mains are costly and the overall integrity of the distribution system continues to decline.

**Solution:** Along with programmed main replacements, the District targets replacement of water mains in coordination with projects constructed by neighboring jurisdictions. Upon short notice, the District constructed approximately 550 lineal feet of ductile iron water main to replace an existing asbestos cement pipe that was in conflict with construction of the King County Renton Avenue South Pedestrian Improvements.

**Result:** Construction of the new main extends the useful life of the water distribution system, reduces the liability associated with operating substandard facilities, eliminates emergency maintenance and repair of an aged main, and improves the overall reliability of the system.

[skywayws.org](http://skywayws.org)



#### Representatives

**Cascade Board Vice Chair:**  
**Jim Haggerton**  
*Mayor, City of Tukwila*

**Cascade Board Alternate:**  
**Verna Seal**  
*Councilmember,  
City of Tukwila*

## Tukwila

**Overview:** Tukwila provides water to more than 2,100 connections, 43 miles of pipe, one pump station and one reservoir. Seattle granted Tukwila its first water in 1927. Today, only 15 percent of Tukwila water is sold to single and multi-family residents, while 85 percent is for commercial, industrial, schools and government use.

**Challenge:** Water main failures over the last 10 years in the Andover Park commercial and retail areas east of Southcenter Mall have brought attention to the type of pipe and age of material installed.

**Potential Impact:** Nearly all the water systems south of Interstate 405 were installed in the 1960s when the Tukwila Central Business District was first developed. It was made of cast iron pipe. Two recent major failures were the result of system pressure on that old pipe.

**Solution:** These failures required Tukwila to determine new priorities for an antiquated cast iron system. A program is now underway to replace the aging cast iron with new, stronger pipe material for Tukwila's high system pressure.

**Result:** Constructing an upgraded 12-inch water main will ensure greater fire flow capacity and improve reliability along this important retail corridor.

[tukwilawa.gov](http://tukwilawa.gov)





# Our water history...

1889

Washington becomes the 42nd state to enter the Union; without contracts or local representation Seattle provides water to local region

1982

Seattle enters into 30-year agreement with 27 regional water purveyors

1991

Formation of Tri-Caucus (Seattle, Suburban Cities Association and King County Water Alliance)

1995

Planning and development of new water supply sources to meet needs and governance issues

1996

Interim Water Group forms to create a new entity

1997

Multi utility agreement for developing Tacoma's Second Supply Project (Tacoma, Seattle, Kent, Lakehaven Utilities District and Covington Water)

1998

Cascade Water Alliance organization planning complete; membership opens to agencies

1999

Cascade Water Alliance created with Bellevue, Issaquah, Kirkland, Redmond, Tukwila, Sammamish Plateau Water and Sewer District, Skyway Water and Sewer District and Covington Water District (other original members who did not continue as members include Duvall, Mercer Island and Woodinville Water District)

2001

Cascade and Puget Sound Energy (PSE) enter into agreement to jointly pursue water rights for Lake Tapps (PSE will cease century long production of hydroelectric power); Seattle offers water purveyors new 60-year full or partial requirements contracts

2003

Cascade signs declining block contract with Seattle for water

2004

PSE halts all power production on Lake Tapps; the community's goal is to save the lake

2005

Cascade and PSE execute term sheet related to Cascade acquisition of Lake Tapps; Seattle drops out of participation in Tacoma Second Supply Project; Cascade signs Tacoma Wholesale Water agreement

2008

Cascade signs agreement with Puyallup Tribe of Indians and Muckleshoot Indian Tribe ensuring in-stream flows on the White River (White River Management Agreement); Cascade and Seattle amend declining block contract for additional water supply

2009

Cascade finalizes purchase of Lake Tapps from PSE; Cascade and the Lake Tapps community sign agreement ensuring lake levels (Lake Tapps Homeowners Agreement)

2010

Cascade issues environmental impact statement; Department of Ecology issues water rights; Cascade, Auburn, Bonney Lake, Buckley and Sumner sign Lake Tapps Area Water Resource Agreement ensuring the four communities around the lake will have water for the future

2012

Cascade becomes a municipal corporation

2013

Cascade renegotiates contracts with Seattle and Tacoma in further regional partnerships

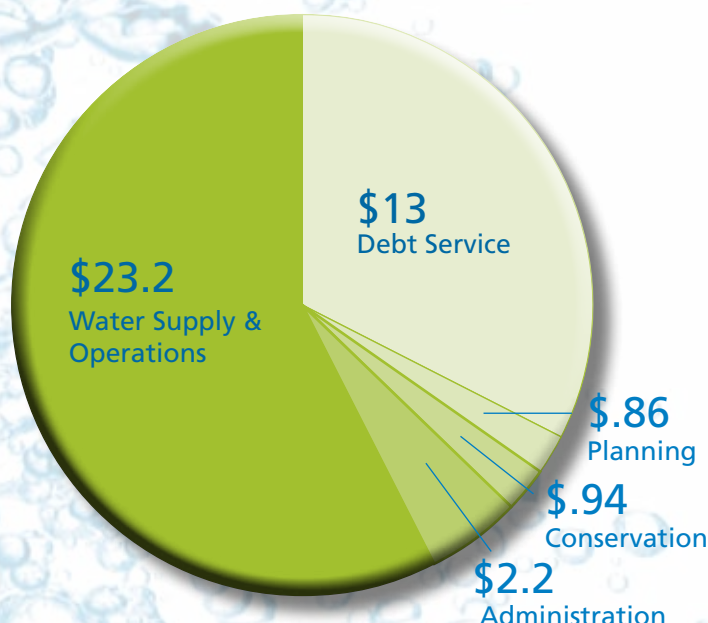
2053

Expiration of Cascade supply agreement with Seattle

Design: Sarah Conradt | Photography: Mel Curtis

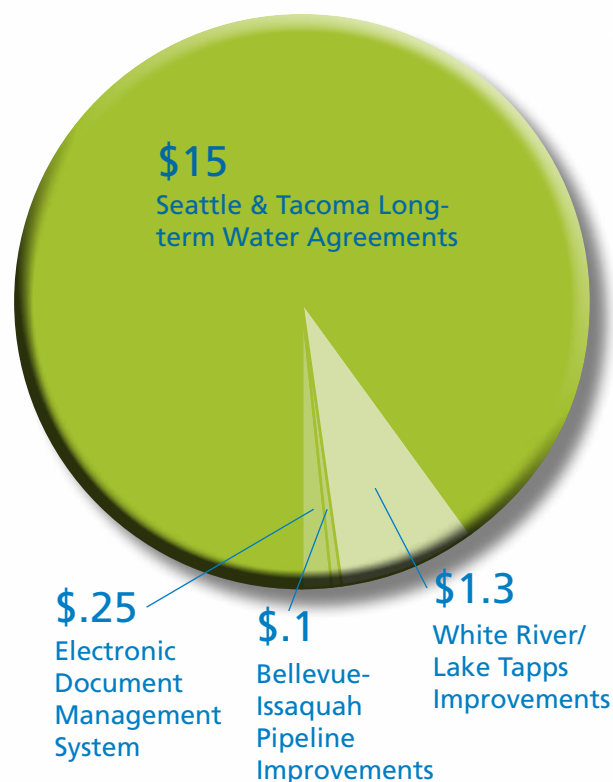
## 2013 Operating and Debt Service Budget

\$ in millions (\$40,336,218 total)



## 2013 Capital Budget

(\$16,725,000 total)



City of Bellevue  
City of Issaquah  
City of Kirkland  
City of Redmond

City of Tukwila  
Sammamish Plateau Water & Sewer District  
Skyway Water & Sewer District

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Bellevue, WA 98004

[cascadewater.org](http://cascadewater.org)