



Cascade Water Efficiency Program 2019 Annual Report

Cascade provides safe, clean and reliable water to members in a cost-effective and environmentally responsible manner.



Summary

The 2019 Cascade Water Efficiency Program (program) saves approximately 52 million gallons of water, 6.4 million kilowatt hours of energy, and 4 million pounds of avoided greenhouse gas emissions per year. These savings are equivalent to providing all the indoor water needs for more than 650 families and removing more than 200 cars from the road. The program benefits thousands of residents, businesses, schools, and public agencies through a variety of education and outreach activities, training, and replacement of old fixtures and equipment. The program promotes Cascade as a leader in resource management, and it provides the requisite water efficiency measures and savings goal Cascade members need to meet their state-mandated water use efficiency requirements. Cascade employs one full-time employee to manage the program, and total expenses in 2019 were \$577,322 including materials, services, and salaries.

PROGRAM AT A GLANCE...

Community Engagement

- 506 Classroom Presentations | 11,946 Students Reached
- 33 Teacher Fellows | 5,170 Student Impacts
- 16 Community Events | 6,500 Customer Interactions
- 25 Cascade Gardener Classes | 849 Cascade Gardener Attendees
- 200 Garden Hotline Calls
- 18 Soil and Water Steward Training Events | 306 Soil and Water Steward Attendees
- 6 Workshops of Drip Irrigation, Rainwater Harvesting, and Community Gardening | 175 Workshop Attendees
- 2 Stream Monitor Workshop Series
- 58 Stream Monitors Certified

Savings Generating Measures (Direct Installations, Rebates, Distribution)	Completed
Residential Clothes Washers	1,311
Residential Showerheads	7,171
Multifamily Showerheads	784
Multifamily Kitchen Aerators	614
Multifamily Bathroom Aerators	1,775
Conservation Items	
Event Distribution	6,585
Customer Orders From Website	300
Cascade Member Requests	1,180
Teacher Requests	3,445
Condominium Requests	1,390





142,469
TOTAL GALLONS
PER DAY
SAVED



Relationship to Long-Term Objectives

The water efficiency program serves Cascade’s mission by lowering regional water demand so that Cascade may delay or defer development of the White River / Lake Tapps Project or other sources of water supply. By utilizing existing water supplies more efficiently, Cascade will save millions of dollars for its members and their ratepayers, leave more water in streams for fish, and reduce the region’s carbon footprint through decreased energy usage involved in the treatment, transmission, and heating of drinking water.



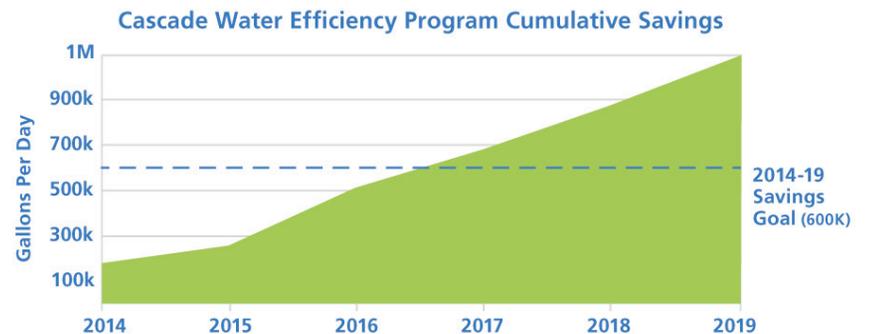
Continued Partnerships

Cascade continues to grow and sustain partnerships in the region to leverage resources and promote the importance of reliable, clean, drinking water. In 2019, Cascade collaborated with many entities including Lake Washington Institute of Technology, Sno-King Watershed Council, Bellevue, Issaquah, Lake Washington, and Tukwila School Districts, Puget Sound Energy, Sustainability Ambassadors, Tilth Alliance, and King County Housing Authority.



Savings Goal

Cascade’s water efficiency savings goal is a cumulative savings of 0.6 million gallons (mg) per day on an average annual basis and 1.0 mg per day on an average peak season basis for the period 2014 - 19. In 2019, Cascade achieved a savings of 142,469 gallons per day or about 24% of its six-year savings goal. Along with savings from 2014–18, Cascade has achieved approximately 169% of its annual savings goal, slightly more than one million gallons per day.





Classroom Presentations

Cascade provided 506 classroom presentations for 11,946 students at schools within Cascade member service areas. Cascade offers fifteen programs designed to help schools support the Next Gen Science Standards and Washington Science, Technology, Engineering, and Mathematics (STEM) concepts and Next Gen standards. All programs discuss water efficiency and include an explanation of Cascade and its members. Program evaluations provided by teachers are very positive; many schools register for programs months in advance.



Community Science

Cascade is continually developing new material to meet the needs and interests of educators who want to teach the science of water. Kirkland students were introduced to concepts such as watershed dynamics, water quality indicators, and challenges within their watershed. Students learned how to take samples to measure the nitrate, phosphate, and pH levels of a local stream and how to interpret the data to draw conclusions about the stream's water quality. The program has since expanded to schools within Redmond and Tukwila.

"We got to see first hand how pollution affects our local water systems and that felt really powerful."

"Teaching about environmental impacts to young learners helps shape how they will act in the future, so I think what you're doing is invaluable."

"I really appreciate the support from Cascade Water Alliance."

– Local Teachers



Community Gardens

Cascade’s partnership with Tilth Alliance includes community workshops on rainwater harvesting, drip irrigation, and other topics to help residents use water wisely. Residents construct community gardens and maintain pea patches with the support of Tilth Alliance and Cascade.

Garden Hotline

Cascade supports the regional Garden Hotline, a service provided by Tilth Alliance, Seattle Public Utilities, and others. Residents can call the Garden Hotline Monday through Saturday and receive expert advice on sustainable gardening techniques and conserving water in their landscapes. In 2019, 200 residents in Cascade member areas utilized this service. The Garden Hotline also promotes Cascade Gardener events.



Partner Spotlight

“Lake Washington Institute of Technology (LWTech) has enjoyed a partnership with Cascade Water Alliance (Cascade) for several years that has incorporated the principles of sustainable water management into our Environmental Horticulture program. Through this partnership, we created a unique irrigation learning lab to teach our students the principles of efficient irrigation. This partnership led Cascade and LWTech to create the Sustainable Landscape Technology Certificate, which includes classes that target some of the most critical aspects of landscaping, such as irrigation system maintenance, proper plant selection, and sustainable hardscaping. Cascade’s industry insight and guidance has been invaluable to our students.”

**– Dr. Amy Morrison, President,
Lake Washington Institute of Technology**

Problem-Based Learning for Water Systems

Problem-Based Learning for Water Systems provides middle school and high school teachers with a range of academic entry points including science, social studies, math and language arts to incorporate the study of water into their classrooms. Teachers are supported by Cascade through a stipend, materials and resources, and educational opportunities relating to water issues.

Through this innovative program, Cascade targets its resources to have a broader and more lasting impact in classrooms across its service area. In 2019, Cascade supported 33 Teacher Fellows who engaged 34 additional teaching peers. Together these educators impacted 5,170 students in all school districts within Cascade-member areas.

The units created by teachers for their classrooms include our changing water cycle and the importance of conserving water, the global water crisis, wastewater engineering, snowpack data analysis and the Puget Sound ecosystem, water chemistry and water purification engineering, writing science fiction to explore water scarcity issues, and rain water harvesting math.



“My Students have benefitted from the Water Challenge Curriculum as they have engaged in problem-based learning and crafting solutions that could possibly be implemented in their community. **They see themselves as advocates for positive change that directly impacts their families, their schools, and their watershed.** Students learn about local history and local issues, and begin to recognize the delicate balance of economy, society and the environment. The Water Challenge Curriculum increases awareness and engagement in community and world issues demonstrating that students can be advocates for positive change and feel empowered to do so.”

– Maile Morgan, *7th grade Social Studies, Bellevue School District*

“The support in finding relevant resources has strengthened connections between my classroom and the real world and has deepened my own content knowledge. Working together with other teachers to make units more authentic and inspiring has been an extremely valuable use of my time. My students are becoming better problem-solvers and can see how science relates to their community as a result. I cannot recommend this program enough!”

– Emma Morris, *11th-12th grade AP Environmental Science, Lake Washington School District*



Water Watchers

Cascade partners with the Sno-King Watershed Council (SKWC), a community-based water monitoring program in King and Snohomish Counties, to deliver workshops and training to residents who are interested in becoming Water Watchers and monitoring local streams.

The goal of SKWC is to foster watershed stewardship through development of volunteer water monitors, which aligns with Cascade's goals. Residents learn how to monitor physical, chemical, and biological indicators of watershed health. The collected data is input into a national database and may be used for protection and restoration of watersheds, streams, and lakes as well as advocacy for the improvement of water quality and public health and to implement environmental education programs.

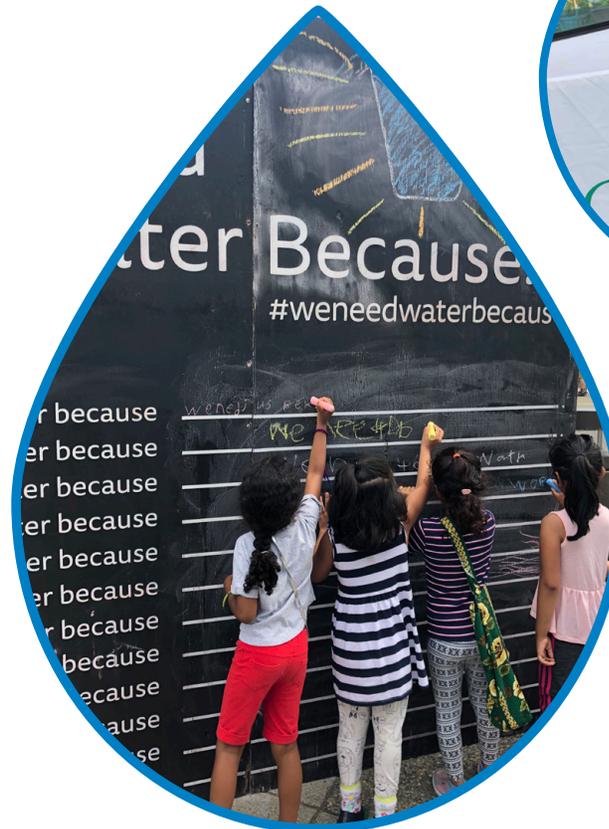
In 2019 Cascade supported SKWC in providing four water monitoring workshops covering bacteriological monitoring, water chemistry monitoring, and stream biomonitoring. The courses resulted in 58 people trained to be water monitors.

With this partnership, Cascade has trained staff from Nature Vision, Cascade's primary vendor for water education, resulting in water monitoring for classrooms now being offered as part of Cascade's programs.

Community Events

Cascade participated in sixteen community events and festivals in 2019 to promote the value of water and show conservation actions. All members were represented, and Cascade engaged with approximately 6,500 residents. Staff distributed 6,585 conservation items and answered questions about water supply and water efficiency. Cascade participated in the follow events or locations:

- Northwest Flower and Garden Show
- Earth Day at Bellevue Art Museum
- Tukwila Backyard Wildlife Festival
- Crossroads Farmers Market
- Sammamish Parkadilly
- Kirkland Concert Series
- Skyway Health and Safety Fair
- Issaquah Salmon Days
- Kirkland Farmers Market
- Redmond Derby Days
- Sammamish Days
- Redmond Town Center
- Crossroads Mall
- Redmond Lights
- Sammamish Party on the Plateau
- Tukwila See You in the Park





We Need Water Because...

Cascade's public education campaign challenged residents to consider the value of water by completing the sentence, "We need water because..." The program includes a portable, modular chalkboard and handheld blackboard signs in seven languages prominent in Cascade's member service areas (Chinese, Spanish, Russian, Vietnamese, Hindi, Korean and English) for residents to share their responses, as well as a branded photo backdrop and photobooth props.

The campaign provided a unique way to engage with people on the importance of water and demonstrated Cascade's leadership in resource conservation. Residents provided creative and insightful responses during events about water's critical role in our lives and the region.

Fix-A-Leak Week

In March, Cascade supports US EPA's annual Fix-A-Leak Week, which encourages people to find and fix leaks in their homes, schools, and businesses. During that week, Cascade produced and ran newspaper ads in local newspapers promoting the Fix-A-Leak Week mission of helping people save water.

Cascade Gardener

This program uses expert instructors to teach gardeners how to have beautiful landscapes without excessive water and chemicals inputs. Cascade provided 25 classes for approximately 849 residents at venues in all member areas.



Irrigation Training

Cascade worked with the King County Housing Authority to provide irrigation training for staff, perform irrigation system assessments, and help with landscape planning and development of policies relating to landscape and irrigation management.



WaterSense Initiatives

Cascade continues its partnership with Puget Sound Energy to provide point-of-purchase rebates for EnergyStar certified residential clothes washers and WaterSense labeled showerheads.

Puget Sound Energy provides the administration of these programs with Cascade sharing in only the direct rebate costs making these measures very cost-effective. Cascade cost-shared in 1,311 clothes washer rebates and 7,171 showerhead rebates in 2019.

Irrigation Assessments

Cascade provided irrigation assessments to properties like the Eastside Children's Academy to help them save water and money. The assessments provide a detailed audit of the functionality and efficiency of irrigation systems, as well as plant and soil health. Assessments sometimes reveal opportunities for significant water and monetary savings and Cascade remains engaged with property managers to help them affect change to the landscape and irrigation.

Multifamily Retrofits

Cascade partners with Puget Sound Energy to provide direct installation of showerheads and faucet aerators in apartment complexes at no charge to the tenant or property owner. In 2019, Cascade cost-shared in the installation of 784 high-efficiency showerheads and 2,389 aerators in apartments and condominiums in member areas.

Website Ordering

Cascade offers free water efficiency items, such as showerheads, shower timers, and rain gauges, to homeowners in its member service areas through its website. The online ordering process is easy, and the items are shipped to the customer's door. Cascade provided 6,315 items to residents, apartment complexes, and Cascade members for distribution to customers.



Moving Ahead

In 2018 Cascade revised its Transmission and Supply Plan and water savings goal. The new goal continues Cascade's current level of water conservation activities and funding support through 2022. The water efficiency program will continue to offset the impacts to regional water demand through growth so for the foreseeable future, overall annual water demand will likely remain flat or near flat when adjusted for weather. Areas for continued or increased emphasis in 2020 include:

Teacher and student education on water issues and the study of water

- Opportunities for stream sampling to learn analytical techniques for water quality monitoring, data collection and analysis, and reporting
- More resources for teachers, such as videos, water study units, lesson plans, and materials, workshops, field trips, and expert presenters

Targeted outreach to multicultural groups

- Gardening classes in a variety of languages
- Attendance at community events
- Materials printed in various languages

Irrigation efficiency assistance to high-volume water users

- Technical assistance
- Materials to move towards sustainable landscaping

Continued training on irrigation efficiency and sustainable landscape training

- Lake Washington Institute of Technology's Sustainable Landscape Technology program
- Cascade Gardener classes
- Soil and Water Stewardship Program