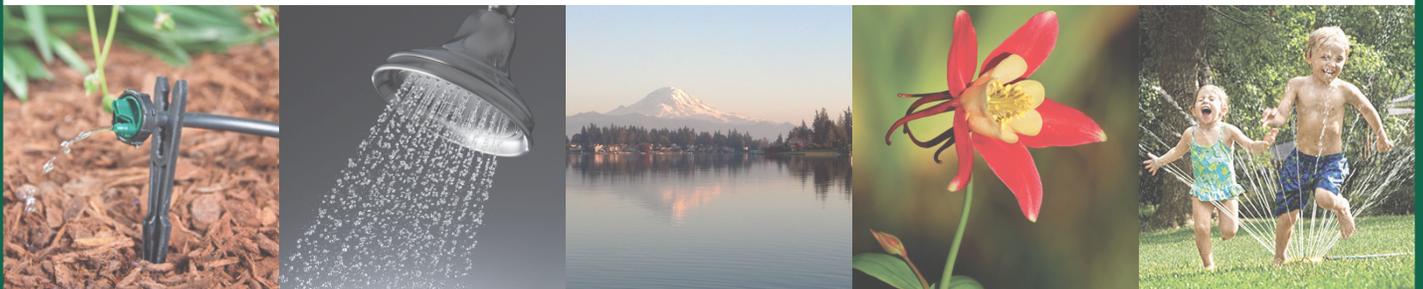




# Cascade Water Efficiency Program 2015 Annual Report

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



## Summary

The 2015 Cascade Water Efficiency Program (program) saves approximately 28.9 million gallons of water, 3.1 million kilowatt hours of energy, and 1.9 million pounds of avoided greenhouse gas emissions per year. The program benefits thousands of residents, businesses, schools, and public agencies through a variety of education and outreach, training, and retrofit actions. The program continues to promote Cascade as a national leader in resource management. The program provides the requisite water efficiency measures and savings goals for Cascade members to meet their state-mandated water use efficiency requirements. Cascade employs 1.5 full-time employees to manage the program, and total program expenses in 2015 were \$587,380, including materials, services, and salaries.

## Savings Goal

Cascade’s water efficiency goal is a cumulative savings of 0.6 million gallons (mg) per day on an annual basis and 1.0 mg per day on a peak season basis by 2020. In 2015, Cascade achieved an annual savings of 79,205 gallons per day or about 13% of its six-year cumulative savings goal. Along with savings from 2014, Cascade has achieved approximately 42% of its 6-year cumulative savings goal.

## Relationship to Long-Term Objectives

Cascade’s water efficiency program works to achieve 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 additional 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.

## Partnerships

Cascade establishes partnerships with many public and private organizations to leverage its resources and keep water efficiency as a critical element of regional sustainability efforts. In 2015, Cascade collaborated on incentive, education, and retrofit programs with Puget Sound Energy, Seattle Public Utilities, King County Housing Authority, US Environmental Protection Agency (EPA), The Master Builders Association, Partnership for Water, King County Green Schools, Northwest Energy Efficiency Alliance, Seattle Tilth, Master Recycler Composters, Lake Washington Institute of Technology, Washington State Nursery and Landscaping Association, and the Washington Association of Landscape Professionals.

2015 Cascade Water Efficiency Program		
Community Engagement		Completed
Classroom Presentations		465
Students Reached		11,269
Road Shows		10
Road Show Customer Interactions		4,890
Water Wall Uses		8
Water Wall Customer Interactions		2,500
Cascade Gardener Classes		30
Cascade Gardener Attendees		724
Garden Hotline		324
Irrigation Trainings		4
Irrigation Training Attendees		150
Real Estate Conservation Trainings		8
Real Estate Conservation Attendees		96
Single Family Water Audits		24
Multifamily Water Audits		112
Rainwater Harvesting Projects		1
Savings Generating	Savings (Gallons Per Day)	Completed
Residential Clothes Washers	20,200	1,246
Residential Showerheads	9,900	1,064
Residential Toilets	178	18
Residential Aerators	278	32
Multifamily Showerheads	3,440	845
Multifamily Bathroom Aerators	6,180	976
Multifamily Kitchen Aerators	595	64
Multifamily Toilets (Repaired)	331	12
Multifamily Toilets (Replaced)	59	6
Commercial Aerators	9,589	223
Commercial Showerheads	7,028	400
PreRinse Spray Valves	2,055	15
Irrigation Projects	1,000	5
Web Page Conservation Items	442	442
Road Shows Conservation Items	17,032	17,032
Member-Provided Items	898	898
<b>Total</b>	<b>79,205</b>	

## Youth Education

In 2015, Cascade provided 465 water education programs to 11,269 students at schools within all Cascade member service areas, representing a 7% increase in the number of students reached compared to 2014. Cascade offers 15 programs designed to help schools meet state Science, Technology, Engineering and Mathematics (S.T.E.M.) requirements. All programs include water efficiency concepts and discuss Cascade and its members. Program evaluations provided by teachers are very positive, and many schools register for programs months in advance.

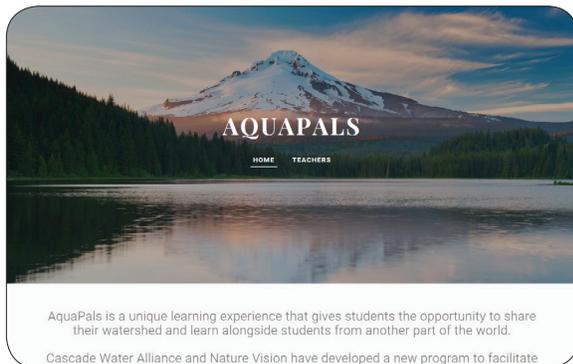


Youth Education Program

*“The aquatic insect dip was an excellent opportunity for students to study our pond. They understand the importance of keeping our pond clean and where the water goes after it leaves the pond. Looking at the creatures in the pond was awesome! Thank you!” – Marcy Rice, Tukwila Elementary*

## AquaPals

AquaPals is a youth education program created by Cascade and administered through its vendor, Nature Vision, that facilitates online student learning and sharing about water issues. Students use a secure website to share projects, photos,



AquaPals Website

and research. Students can compare and contrast what they learn about their watershed or water supply with participating students from around the country. In 2015, Cascade connected an additional 14 classrooms through the program. Cascade is working with schools in California, South Dakota, Wisconsin, Alaska, and other states to arrange additional connections.

## Teacher Fellows

The Teacher Fellows program recruits master teachers from Bellevue, Issaquah, Lake Washington, and Tukwila school districts to design water-based curricula for inclusion into their respective districts. Teachers are supported by Cascade through a stipend and through materials and resources relating to water systems and water resources.

This program allows Cascade to target its resources to have a broader and more lasting impact within school districts.

Teachers from all districts were recruited in 2015, and teams made significant progress developing their respective curriculum units.

In November, Cascade held a one-day water symposium at Chinook Middle School in Bellevue to promote the Teacher Fellows program and to encourage a dialog with educators about incorporating the science of water and water issues into Washington schools. The day included presentations from Cascade, US EPA, Seattle Public Utilities, and other agencies. Nearly 100 attendees came from Cascade member school districts and from other school districts including



Chuck Clarke, Cascade CEO  
Water Symposium

Seattle, Tacoma, Olympia, Yakima, and Moses Lake.

### **Irrigation Learning Lab**

Cascade designed and installed the Irrigation Learning Lab, a demonstration irrigation system, for the Environmental Horticulture program at Lake Washington Institute of Technology (LW Tech) in Kirkland. The learning lab is being used to train students on the fundamentals of smart irrigation management, and the school facilities are open as a training resource for Cascade-provided training for the landscape and irrigation industry.

This partnership allows Cascade to promote the importance of efficient irrigation to students and members of the industry.

Cascade launched the system in May and it has been used as a training tool for students on many occasions and was used to train members of the industry from Seattle Tilth, Washington State Nursery and Landscaping Association, and Washington Association of Landscape Professionals.

Cascade and LW Tech are also developing a new certification program entitled Sustainable Landscaping Technologies, which is scheduled to launch in the fall of 2016.



Director Penny Sweet  
Irrigation Learning Lab Dedication

### **Cascade Road Shows**

Cascade participated in ten community festivals and events in 2015. All members were represented, and Cascade engaged with approximately 4,900 residents distributing 17,000 conservation items and answering questions about water supply and water efficiency. The following events were attended:

- Tukwila Backyard Wildlife
- Bellevue Strawberry Festival
- Skyway Community Event
- Issaquah Salmon Days
- Kirkland Farmers Market (2)
- Redmond Derby Days
- Sammamish Days
- NW Flower and Garden Show
- Trends Conference



Cascade Road Show  
Sammamish Days

### **Garden Hotline**

Cascade supports the regional Garden Hotline, a service provided by Seattle Tilth. Homeowners can call the Garden Hotline Monday through Saturday and receive expert advice on sustainable gardening techniques and conserving water in their landscapes.

### **Real Estate Professionals Training**

Cascade provided training to members of the real

estate industry on aspects of water efficiency and management, water rights, stormwater, and water pollution.

The training covered a variety of topics designed to help real estate appraisers and brokers better understand the complexities of developing and providing municipal drinking water services and the importance of water efficiency. Representatives from the Washington departments of health and ecology discussed water rights issues, US EPA staff covered the WaterSense program, and Cascade’s Ed Cebon explained the economics of water conservation. Seattle Tilth provided a hands-on drip irrigation activity and Nature Vision used the enviroscape model to demonstrate problems caused by non-point source pollution.

Real estate professionals are an important stakeholder, and it is advantageous for Cascade to have members of this industry promoting water efficiency.

One hundred ninety-six people were trained in eight workshops over the course of the year, and attendee evaluations were very positive at all trainings.

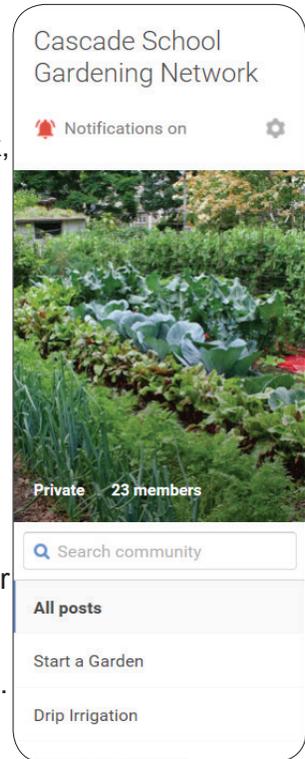


Ed Cebon, Cascade Economist  
Water Conservation for Real Estate  
Professionals Workshop

## School Gardening Network

Cascade established the School Gardening Network, an online resource for teachers interested in gardening to learn about the resources available from Cascade and Seattle Tilth and receive expert gardening and irrigation advice.

This program leverages resources to help teachers plan and create waterwise gardens, grow food for their schools and food banks, and communicate with experts and other teachers.



## ECOSS

Cascade assisted the Environmental Coalition of South Seattle (ECOSS) in creating a water conservation handout for newly arriving Bhutanese and Burmese in Tukwila.



Water Conservation Flyer

## We Need Water Because...

Cascade’s public education campaign challenged residents to consider the value of water by answering the question, “We need water because....” Residents wrote their responses on a portable, modular Water Wall.



Water Wall at Redmond Derby Days

This campaign provided a unique way to engage the public on the importance of water and demonstrated Cascade’s leadership in resource conservation.

The Water Wall appeared in all Cascade member jurisdictions in 2015.

## Cascade Gardener

This program uses expert instructors to teach gardeners how to have beautiful landscapes without excessive water and chemicals. Cascade provided 30 classes for approximately 724 residents at venues in all member areas.

## Cascade Videos

Cascade’s videos on drip irrigation and beautiful landscapes through smart watering were among the videos chosen by the California Urban Water Conservation Coalition (CUWCC) for inclusion into its video library. Cascade’s video on drip irrigation conversion has been viewed more than 127,000 times.

## Rainwater Harvesting

Cascade installed a rainwater harvesting and drip irrigation system at the Three Cedars Elementary School in Bellevue to support the school’s new vegetable garden and rain garden. The project utilized students and parent volunteers.



## Skyway Water Audits and Retrofits

During the summer, Cascade performed 24 water audits at single-family residences in Skyway's discounted rate program. The audits revealed many opportunities for savings including toilet, showerhead, and faucet aerator retrofits, and leak repairs. Retrofit work was performed by McLendon Hardware. Many old fixtures were identified and replaced. The homes will be monitored for changes in water use.



Skyway General Manager Cynthia Lamothe and Director Jon Ault with Skyway Resident Ms. Macapagal (participant)

## King County Housing Authority Water Audits and Retrofits

Cascade provides free water audits and high efficiency fixtures for properties owned and managed by the King County Housing Authority (KCHA).

Subsidized housing often contains old, inefficient fixtures, which waste water and drive up KCHA utility costs. Cascade's relationship with KCHA results in cost-effective savings and support of a public agency.

Cascade audited 88 units in Aspen Ridge (Skyway) and 24 units in Newport Apartments (Bellevue). One hundred fifty-six fixtures were replaced, and 12 leaking toilets were repaired in these properties and four other properties previously audited in 2014.



King County Housing Authority Property

## Clothes Washer / Showerheads

Cascade partners 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 shared in 1,246 clothes washer rebates and 1,064 showerhead rebates to customers in 2015.

## Commercial Fixture Installation

Cascade installs high efficiency showerheads and aerators in businesses, restaurants, schools, health club organizations, and public areas at no charge to the customer.

Showerhead and aerator installation is one of the most cost-effective water efficiency measures available, and this program provides an opportunity for Cascade to assist and interact with commercial customers.

Cascade installed more than 600 pieces of hardware at dozens of locations including Top Pot Donuts (Redmond), Blue Sky Church (Bellevue), Sunny Hills Elementary (Sammamish), Extended Stay (Tukwila), Homegrown Sandwiches (Kirkland), and Gerks Cycle (Issaquah).

### **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 2015, there were 801 showerhead installations and 934 aerator installations in apartments in condominiums, such as Mondrian (Bellevue), Avondale Park (Redmond), and Avana at Forbes Creek (Kirkland).

### **WaterSense New Homes**

Cascade launched the WaterSense New Homes program to provide incentives to builders who achieve certifications through the Built Green program and the US EPA's WaterSense New Homes program for new single-family homes.

WaterSense certified new homes may save millions of gallons of water per home over the lifetime of the residence compared to a new home that is not built to these standards. The program is managed through a partnership with Built Green, which leverages Cascade's limited resources and creates interest in water efficiency in the construction industry.

Though no homes achieved certification through this program in 2015, six local builders have enrolled 33 planned homes, including 10 Habitat for Humanity homes, which are expected to be completed in 2016.

### **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 ordering process is easy, and the items are shipped to the customer's door. Cascade provided 1,340 items to residents, apartment complexes, and Cascade members for distribution to customers in 2015.