

Leveraging Conservation Programs for Drought Response

PNWS-AWWA Conference

April 27, 2018

Seattle
 Public
Utilities

Overview of Presentation

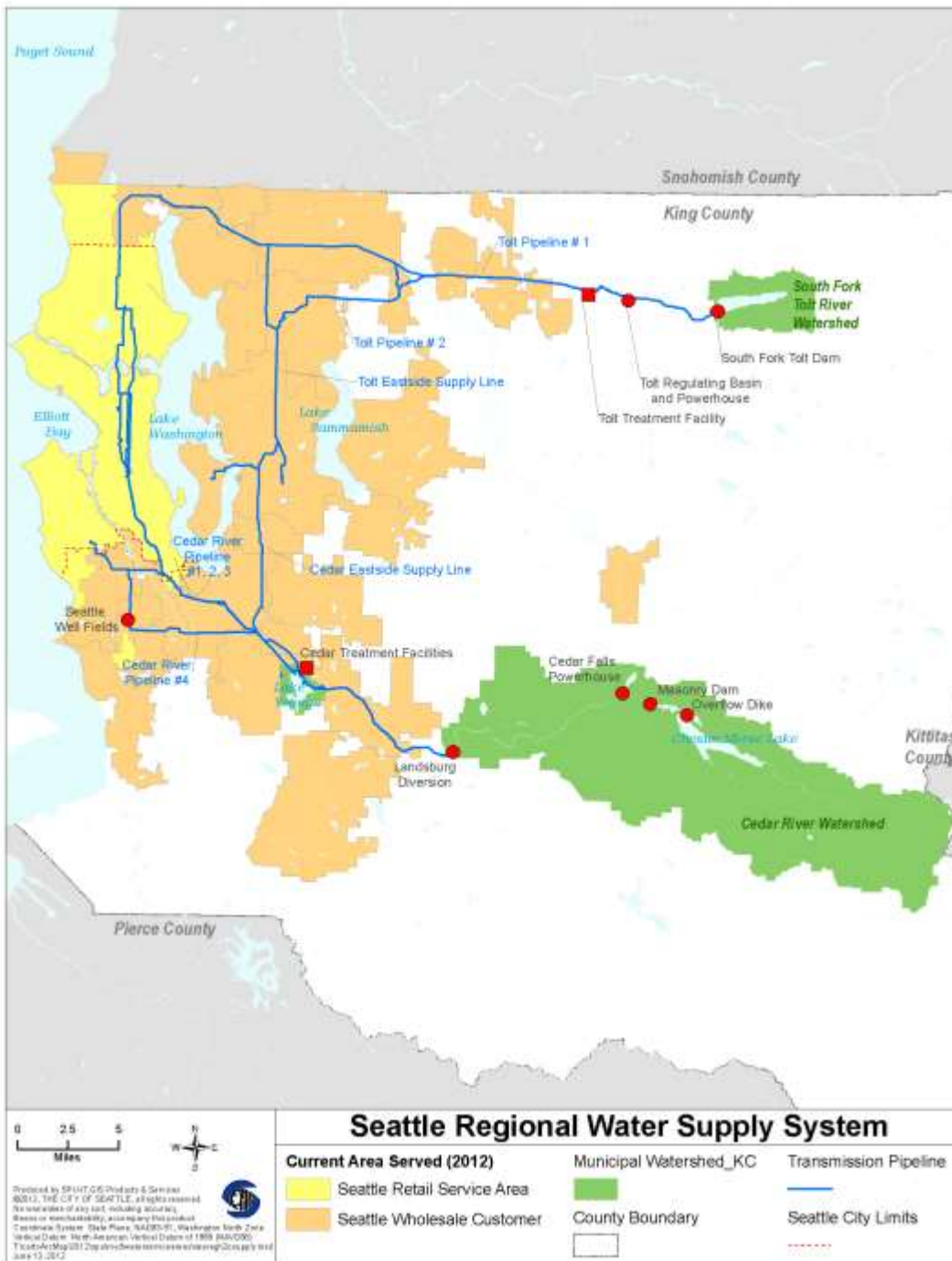
- SPU 101
- SPU's Water Conservation Program
- SPU's Curtailment Framework (Water Shortage Contingency Plan)
- 2015 Drought Timeline
- 2015 Leveraging of Conservation for Curtailment

SPU 101

SPU 101

- Dept. of City of Seattle
- Water, wastewater, drainage, solid waste
- Surface water source (2 mountain reservoirs)
- 3 wells: emergency & peaking
- Supply 1.4 million people; 125 mgd ADD
- Retail water in Seattle
- Wholesale to surrounding areas

SPU Service Area



SPU's Water Conservation Program

Conservation Definition

- Conservation
 - Eliminates waste
 - Maximizes efficient use of water
 - No loss of service or satisfaction by customer
 - Long-term
- Not Curtailment
 - Short-term shortage/emergency response
 - Drought
 - System disruption
 - Voluntary or mandatory
 - Impact to customers

Conservation vs conservation

- Conservation = everything that reduces water use
 - “Programmatic conservation” – utility-sponsored programs
 - Plumbing codes/standards
 - Rates / price impacts
 - System operation improvements (inc. non-revenue)
- conservation = just programmatic
 - Primary focus of today (although history will cover “C”)

Regional Conservation Program



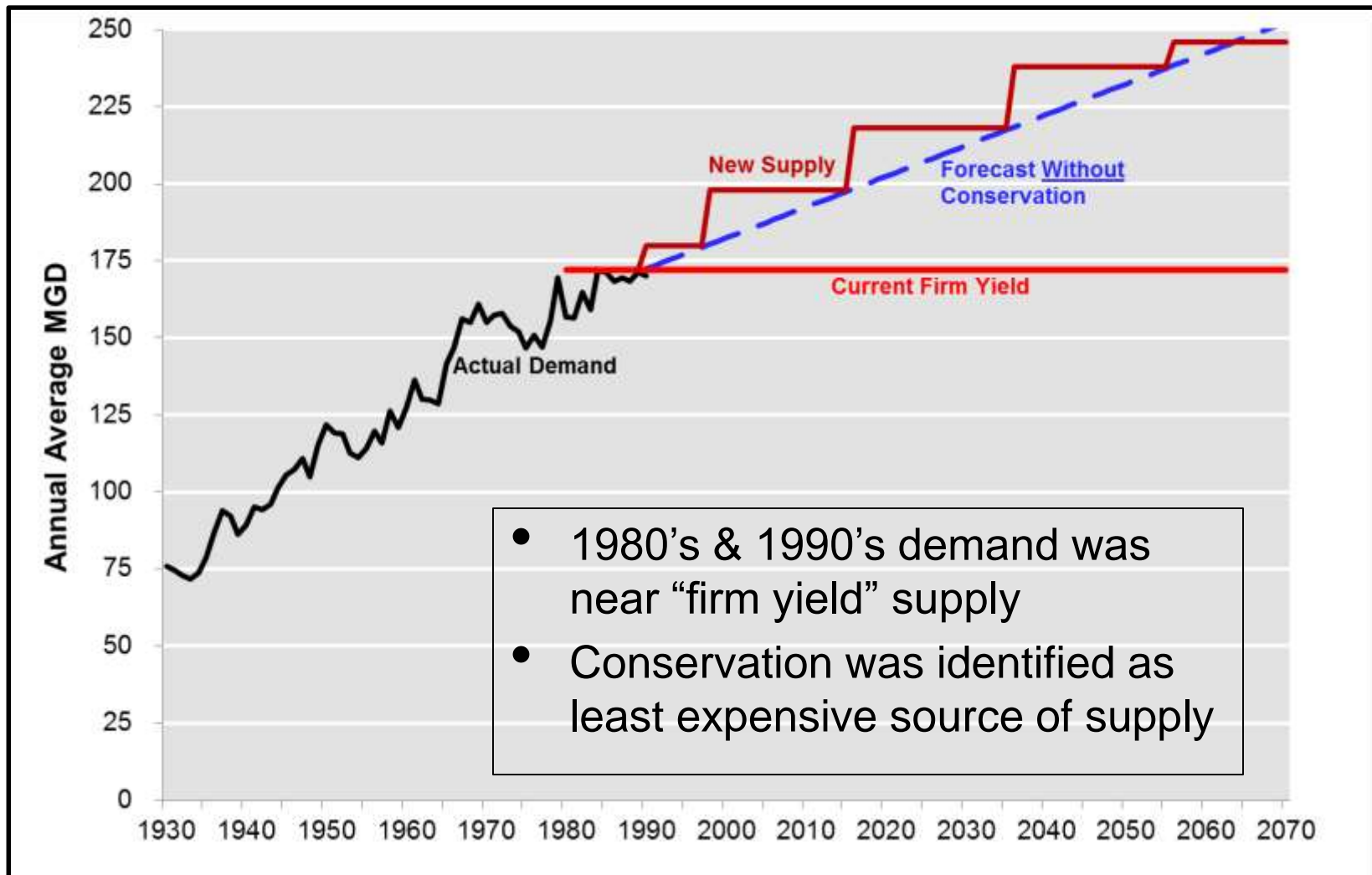
Saving Water Partnership

Seattle and Participating Local Water Utilities

www.savingwater.org

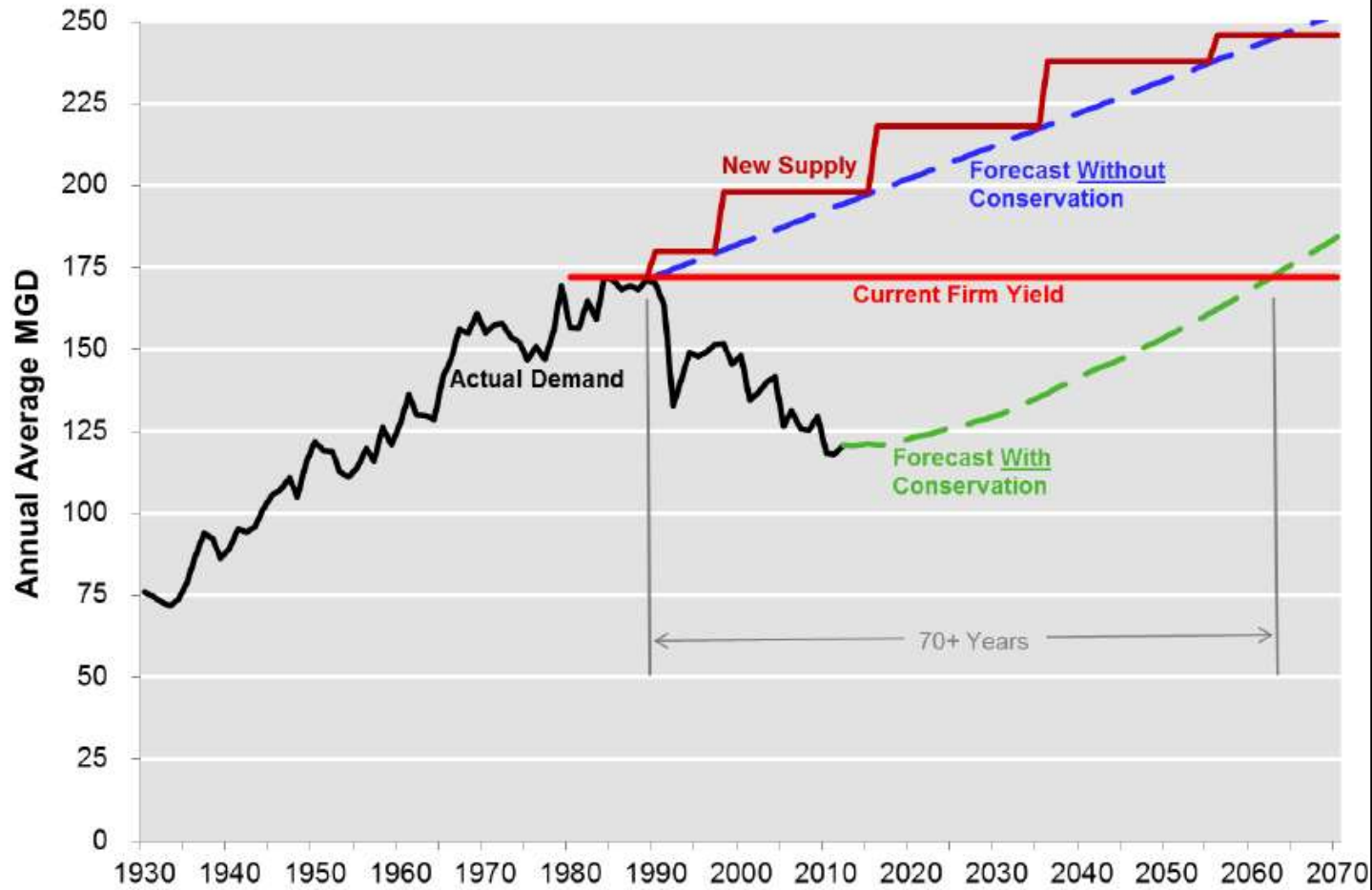
- Seattle and 18 (most) wholesale customers
- 3 prongs:
 - Education
 - Technical assistance
 - Financial incentives
- Improving efficiency of hardware & behavior

Original Driver for Conservation



Conservation Success

Seattle Water Demand With and Without Conservation, Current Firm Yield, and Avoided New Supply



“Current” Conservation Drivers

1. Maintain cushion between demand & supply
2. Ensure capacity for conservation, **as well as to leverage for curtailment**
3. Help customers manage their bills
4. Preserve conservation ethic
5. Good steward of important shared resource
6. Regulatory, contractual, and stakeholder requirements/expectations

Program Focus Areas

1. Communications
2. Youth Education & Community Outreach
3. Residential Indoor Efficient Equipment
4. Non-Residential Indoor Efficient Equipment
5. Landscape Education
6. Landscape Irrigation Efficient Equipment

#1 Communications

who we are

The Saving Water Partnership is a group of local water utilities in Seattle and King County working together to help customers save water and money.

The information on this website will help you save water at your home, in your yard and garden, and at your business or organization.

Saving water helps salmon

It's Salmon SEEson! Here's a great way to see why it's important to save water. View [sighting dates and locations](#).

gardening videos

- [Mulch](#)
- [Natural Lawn Care](#)
- [Use a soaker hose correctly](#)
- [Plant in Fall](#)

online tools

- [Sprinkler calculator](#)
- [Water budget calculator](#)
- [Compost calculator](#)

participating utilities

- [View Partner Map](#)
- [Cedar River Water and Sewer District](#)
- [City of Bothell](#)
- [City of Duval](#)
- [City of Mercer Island](#)
- [City of Renton](#)
- [Coal Creek Utility District](#)

Protect your spigot from freezing

Each winter, homes are damaged from water pipes that freeze, burst, and then leak. By taking a few simple precautions, you can avoid the mess, hassle and cost of repairing leaky pipes.

- Insulate pipes in your home's crawl space or basement.
- Know where your water shut-off valve is located.
- Outdoor hose bibs are susceptible to freezing. Learn how to insulate your hose bib by watching the [Protect outdoor spigots video](#).

Toilet rebates

A great way to save.

- \$100 rebates for single-family customers
- \$75 and \$200 rebates for multifamily customers

- Website
- Bill inserts
- Newsletters
- Social media

#2 Youth/Community Outreach



Saving Water Partnership
Seattle and Participating Local Water Utilities

Water Education for Schools

The Saving Water Partnership, a collaboration of local water utilities who provide water conservation programs in Seattle and King County, is partnering with Nature Vision to bring innovative programs to your students!

We are very excited to provide **FREE** programming to your students through this collaboration. These 45 minute to one hour programs support Next Generation Science Standards, WA State Science Standards, and STEM education.



Grade:	K	1	2	3	4	5	6	7	8	9	10	11	12
Program:													
Water Cycle – Terrariums													
Water Cycles Round!													
Waterwise Gardening													
Drip Irrigation													
Watershed Ecosystems													
Water Conservation													
Water Supply													
Salmon Cycle													
Water Use Exploration													
Fix That Leak!													
Leaky Faucets and Rates of Flow													
Watch the Flow, Above & Below													
Watershed Field Experience													
Aquatic Insects Dip Field Experience													
Healthy Water, Healthy Soil													
Healthy Water, Healthy Ecosystems													

- K-12 classroom programs
- Community events



#3 Residential Indoor



YOU COULD BE SITTING ON A GOLD MINE

Old, leaky toilets can use over 5 gallons per flush—that's a lot of water (and money) down the drain! By replacing them with new water-efficient fixtures, you'll save money on your utility bills and conserve water for the Puget Sound region. Saving Water Partnership customers who replace their old toilets with new Premium 1.06 gpf (or less) models are eligible for a \$100 rebate.

\$100 Rebate
for Premium 1.06 gpf (or less) toilets
Nov. 20, 2015—March 31, 2016

NEW, HIGHER REBATE!

Saving Water Partnership
Banks and Partnerships, Local Water Utilities

Go to www.savingwater.org
or call 206-615-1282

- SF toilet rebates
- MF toilet rebates



#4 Commercial Indoor



- Fixed rebates
 - Toilets / urinals
 - Coin op washers
 - Ice machines
 - Dishwashers
 - Food steamers
- Custom rebates
 - Anything else!

#5 Landscape Education



- Brochures
- How-to-videos
- Classes for residents
- Training for landscape professionals
- Garden Hotline website & hotline



#6 Landscape Irrigation



- Fixed rebates
- Custom rebates
- On-site assessments



SPU's Curtailment Framework

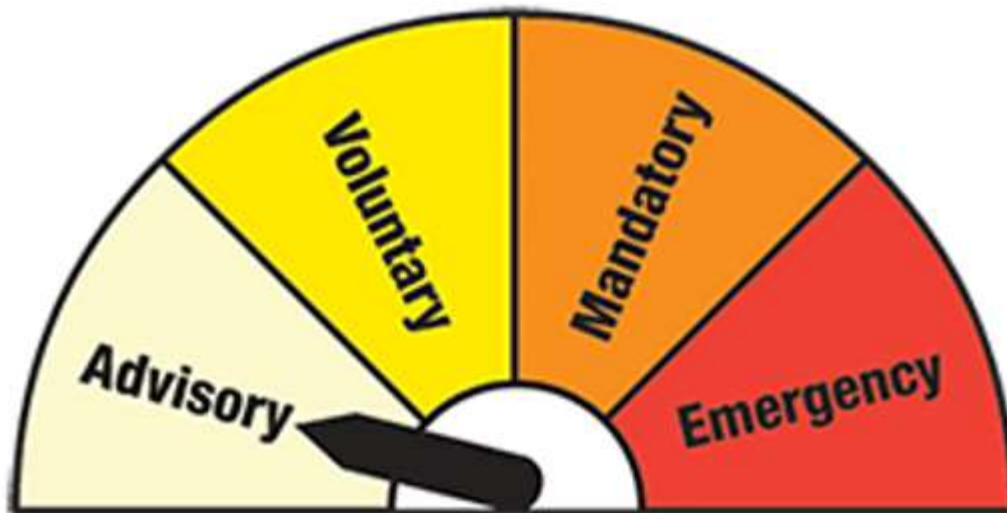
(Water Shortage Contingency Plan)

WSCP - Purpose

- Help manage supply/demand during shortages
- Minimize impacts: economy, environ., quality of life
- Not conservation (it's curtailment)

WSCP - Stages

- **Advisory:** Internal planning stage (proposed change)
- **Voluntary:** There is a shortage; ask for vol. reduction
- **Mandatory:** Shortage more intense; require reduction
- **Emergency:** Severe drought or immediate crisis; mandatory measures + rate surcharge



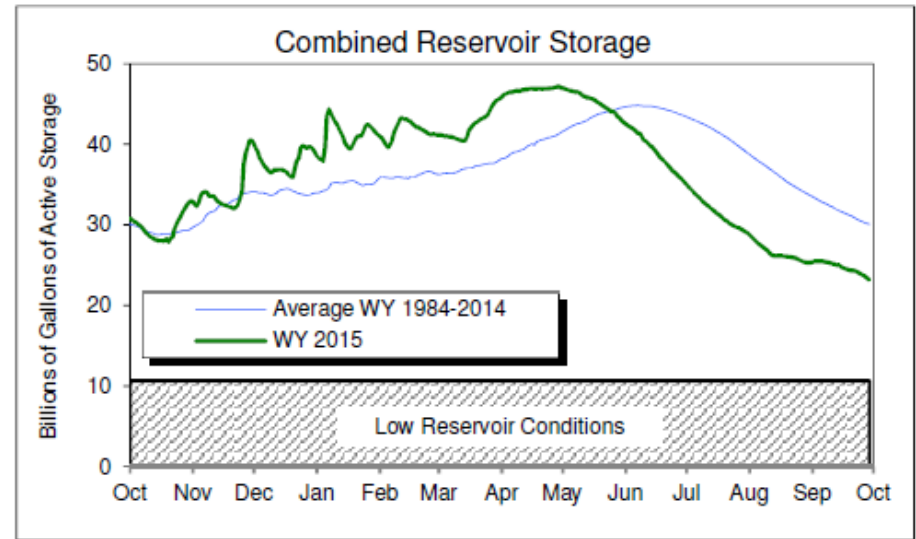
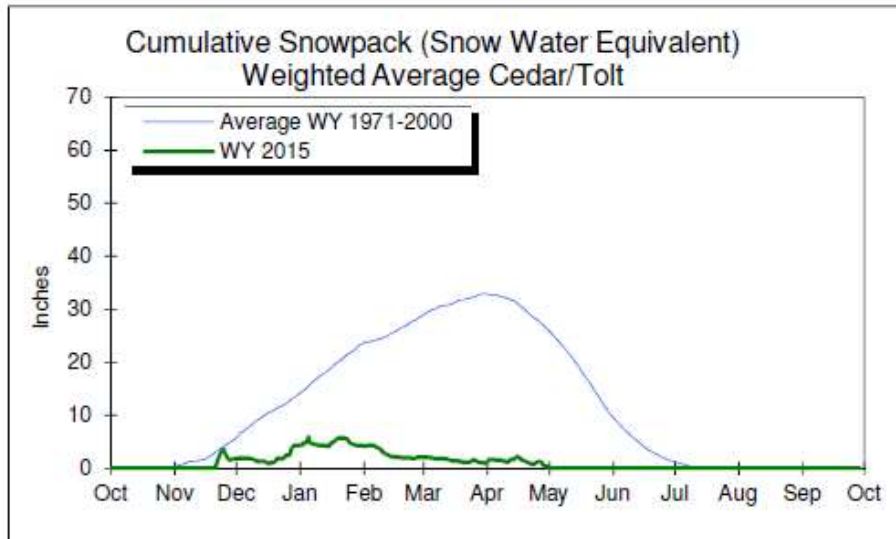
WSCP - Addressed at Each Stage

1. Triggers
2. Objectives
3. Stage activation
4. Demand reduction goal
5. Key public messages
6. Coordination & communication actions
7. Water quality & supply mgmt. actions
- 8. Retail customer demand actions**
9. Wholesale customer actions

2015 Drought Timeline

2015 Timeline

- **Winter:** Very low snowpack
- **Mar/Apr/May:** Gov. declares 3 diff. drought levels



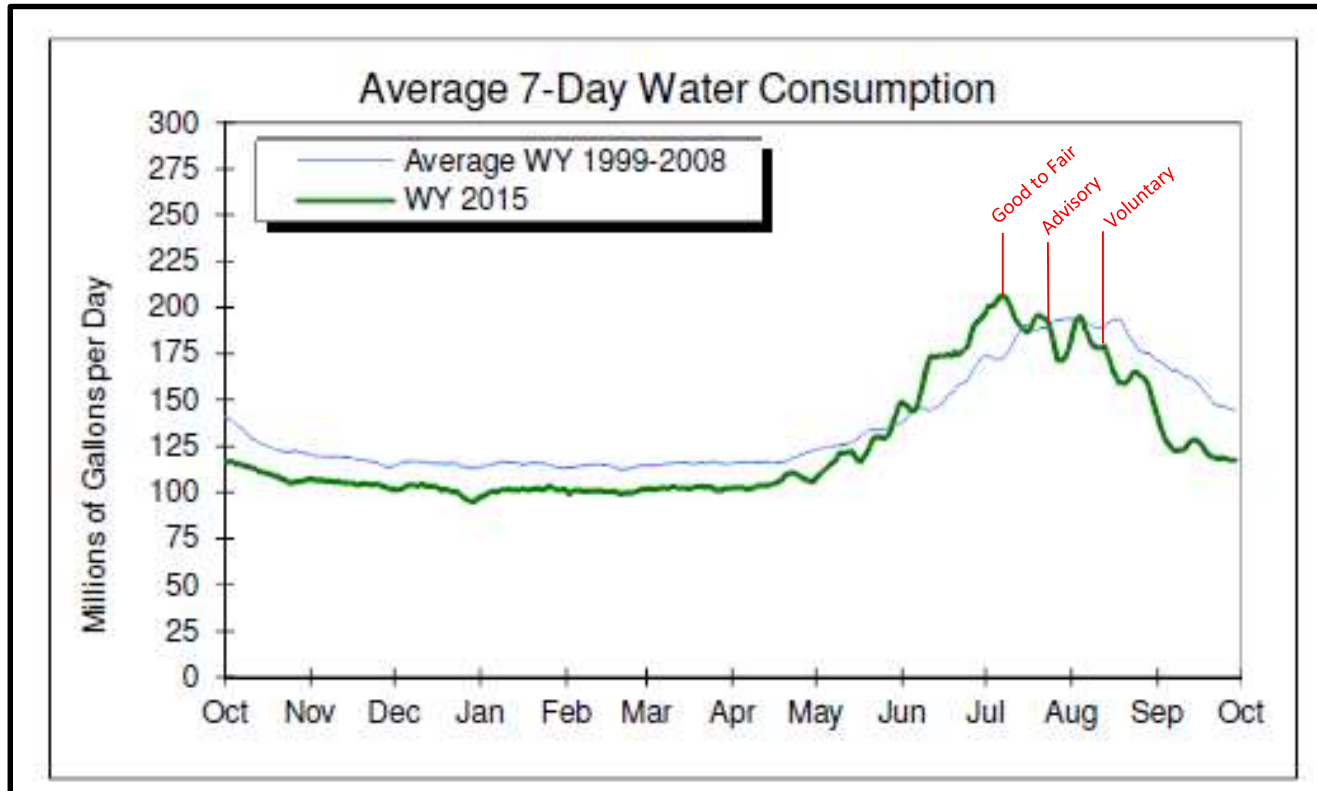
2015 Timeline (cont.)

- **May/June/July:** Weather deteriorates & sets records
 - Driest May 1 to July 31
 - Hottest June & July
 - Hottest overall month (July)
 - Most number of 80 & 90 degree days in a year

The screenshot shows the KING 5 news website. The header includes the KING 5 logo and the text 'WESTERN WASHINGTON'S HOME TEAM A TEGNA Company'. The navigation bar has tabs for HOME, WEATHER 53°, LOCAL, NATION NOW, TRAFFIC, SPORTS, FEATURES, ABOUT, PHOTOS, VIDEO, and SHARE IT. The main article is titled 'Seattle shatters record for 90 degree days' by Travis Pittman, KING 5 News, dated 2:21 p.m. PDT July 30, 2015. A graphic shows a thermometer with two bars: one for 1958 with '9 days' and one for 2015 with '10 days'. The article text states: 'SEATTLE – Puget Sound has officially shattered the 57-year-old heat record. Seattle now has 10 days at 90 degrees or higher this year after hitting 91 Thursday afternoon. That breaks the record set in 1958.' The latest forecast from KING 5 Meteorologist Rich Marriott is also visible at the bottom.

2015 Timeline (cont.)

- **July 8:** Changed supply **Good to Fair**
- **July 27:** Activated WSCP at **Advisory**
- **Aug 11:** Moved to **Voluntary** (“voluntarily reduce water use by 10%”)
- **Nov 10:** Scaled back to **Advisory**
- **Nov 23:** **Deactivated** WSCP



2015 Leveraging of Conservation for Curtailment

Strategies & Resources

- **Strategies** (what we did)
 - Ramped up outreach & activity levels
 - Added new actions
- **Resources** (why it worked)
 - Had knowledgeable staff
 - Versed in customer demand mgmt actions
 - Had existing “industry” relationships
 - Had existing outreach tools

Ramp Up Outreach & Activity Levels

Saving Water Partnership
Seattle and participating water utilities

Home Lawn & Garden Indoors Businesses

who we are
The Saving Water Partnership is a group of local water utilities in Seattle and King County working together to help customers save water and money.

Advisory Stage Activated
The Seattle regional water system is in the Advisory Stage of its [Water Shortage Contingency Plan](#). Read a weekly report on [water supply conditions](#) for Seattle.

Stages of Seattle's water shortage contingency plan.

Advisory Stage Top Tips

- [View full list of advisory stage tips](#) (pdf).
- **Water Early or Late** - Water before 8 a.m. or after 7 p.m., which reduces evaporation.
- **Water Deeply, But Infrequently** - It's better to have one or two deep waterings, rather than several shallow waterings.
- **Fix Leaks** - Fix obvious indoor and outdoor leaks such as at faucets, hose bibs, and sprinkler spray heads. Check for less obvious leaks such as silent toilet leaks. Put several drops of food

Toilet Rebates - Save

- \$75 [rebates](#) for customers.
- \$75 and \$150 [rebates](#) for multifamily cu

Water Young Tre

[Water young trees](#) with a water bag. Trees years ago need 1" water twice a wee

Let Us Know Wh

[Take our water conservation survey](#) and enter

- Outreach on steroids
 - Regularly updated website
 - More frequent bill inserts / newsletters
 - More frequent outreach to industry orgs
- Considered increasing budget for rebates
 - But did not need to
 - Customers need lead time; drought was too short

Add New Actions



- Press releases & interviews
- Newspaper ads
- Partnership w/ tv weather reports
- Signs in public buildings
- Flyers in public locations

SPU Staff for Saving Water Partnership

Need something? Have a question/suggestion? Contact us! *(More details on back.)*

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Knowledgeable Staff

- Cover the gamut
 - Residential
 - Commercial
 - Landscape
 - Outreach

Customer Demand Mgmt Actions

- Conservation actions can be amped up for curtailment

Potential Customer Demand Reduction Actions ¹									
(See the footnotes to understand how to use this list)									
#	End Use ²	Behavior vs Hardware ³	WSCP Stage ⁴	Indoor vs Outdoor ⁵	Season ⁶	Sector ⁷	Demand Reduction Action ⁸	Enforce ⁹	Potential Exemption ¹⁰
56	Vehicle Washing	Behavior	N/A - Conservation	Outdoor	Year Round	All	Wash Vehicles Wisely: Wash your vehicle(s) at locations that recycle the water.	No	
57	Vehicle Washing	Behavior	Voluntary	Outdoor	Year Round	All	Minimize Vehicle Washing: Reduce the frequency of, or eliminate, washing vehicles.	No	
58	Vehicle Washing	Behavior	Mandatory	Outdoor	Year Round	All	No Vehicle Washing: Washing of vehicles is prohibited, unless at a location that recycles the water.	Yes	Yes
59	Water Feature	Behavior	Voluntary	Outdoor	Year Round	All	Turn Off Water Features (a): Turn off non-recirculating water features such as fountains.	No	
60	Water Feature	Behavior	Voluntary	Outdoor	Year Round	All	Turn Off Water Features (b): Turn off all water features such as fountains. <i>(Note: This was the "turn off water features" action that was promoted during the 2015 WSCP implementation.)</i>	No	
61	Water Feature	Behavior	Mandatory	Outdoor	Year Round	All	No Water Features (a): Use of non-recirculating decorative water features such as fountains is prohibited.	Yes	
62	Water Feature	Behavior	Mandatory	Outdoor	Year Round	All	No Water Features (b): Use of decorative water features such as fountains is prohibited.	Yes	

“Industry” Relationships

- Landscape groups
 - WA Association of Landscape Professionals
 - WA State Nursery and Landscape Assoc.
 - Garden Hotline
- Business groups
 - Chambers of Commerce
 - WA State Lodging Assoc.
 - Puget Sound Hotel Engineers Assoc.
 - Building Operators and Managers Association (BOMA)
- School districts (not used in 2015, but would have if worse)

Outreach Tools

- Website
 - Became primary information source
 - Easy for media (earned & paid) to send customers to one site

The screenshot shows the 'Saving Water Partnership' website for Seattle and participating water utilities. The navigation bar includes Home, Lawn & Garden, Indoors, Businesses, Resources, Students & Teachers, and Rebates. The main content area is divided into several sections:

- Water Saving Tips:** Features logos for Seattle Public Utilities, Tacoma Water, and Everett. It highlights a 'Voluntary Water Use Reduction' of 10% and lists 'Top Tips' such as letting lawns go dormant, watering early or late, reducing showering time, and fixing leaks.
- Stages of Water Shortage Contingency Plan:** A circular diagram with four stages: Advisory, Voluntary, Mandatory, and Emergency.
- Best ways to save water:** A list of links in various languages including English, Arabic, Chinese (Traditional and Simplified), Korean, Russian, Somali, Spanish, and Vietnamese.
- gardening videos:** Links to videos on mulch, soaker hoses, lawn care, and fall planting.
- online tools:** Links to calculators for sprinklers, water budgets, and compost.
- participating utilities:** A list of partner utility districts including Cedar River, City of Bothell, City of Duvall, City of Mercer Island, City of Renton, Coal Creek, Highline, North City, and Northshore.

In Summary....

Conservation is Good For.....

- Conservation
- Being a springboard for curtailment
 - **Strategies** (what we did)
 - Ramped up outreach & activity levels
 - Added new actions
 - **Resources** (why it worked)
 - Had knowledgeable staff
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Questions?

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