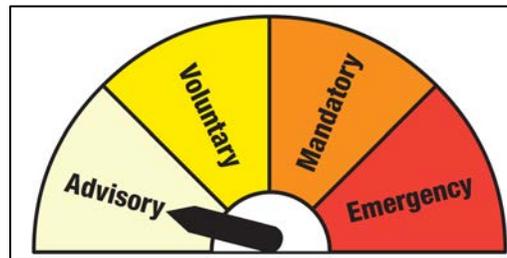


SEATTLE PUBLIC UTILITIES

WATER SHORTAGE CONTINGENCY PLAN

March 2018



SUPPLEMENT TO THE SEATTLE PUBLIC UTILITIES
2019 WATER SYSTEM PLAN

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Acronym List

DOH	Washington State Department of Health
Ecology	Washington State Department of Ecology
EJSE	Environmental Justice and Service Equity
GM/CEO	General Manager / Chief Executive Officer
HFAM	Hydrocomp Forecast and Analysis Model
ICS	Incident Command System
NRCS	Natural Resources Conservation Service
NOAA	National Oceanic and Atmospheric Administration
SPU	Seattle Public Utilities
SMC	Seattle Municipal Code
USGS	U.S. Geological Survey
WSAG	Water Shortage Advisory Group
WSCP	Water Shortage Contingency Plan

1. Introduction

1.1. Purpose

This Water Shortage Contingency Plan (WSCP) provides guidelines for Seattle Public Utilities (SPU) to manage water supply and demand in the event of a water shortage. The plan enables SPU to maintain essential public health and safety and minimize adverse impacts on economic activity, environmental resources and the region's water use preferences. Water shortages could result from forecasted, progressive events such as droughts, as well as immediate crises such as system failures like a major infrastructure break.

This document supplements SPU's 2019 Water System Plan, and updates SPU's 2006 Water Shortage Contingency Plan. The WSCP will be reviewed and revised as needed during the next water system plan update anticipated in 2028, or may be updated as appropriate.

1.2. Plan Organization

This plan is comprised of the following chapters:

1. **Introduction:** This chapter provides a general overview of the WSCP, including a description of the water shortage response stages and the WSCP implementation process.
2. **Implementation Considerations:** This chapter provides context for many of the elements in Chapters 3 and 4 and describes the background, details, and nuances of many aspects of the plan. The organization of this chapter largely mirrors that of Chapters 3 and 4.
3. **Implementation for a Progressive Event:** This chapter describes how the WSCP would be used in a progressive event, such as a drought, and is intended to be operational in nature. It describes what needs to be done in each water shortage response stage and assigns implementation responsibilities. A bullet format is used to aid in comprehension and navigation. For each stage, the following subjects are covered:
 - Triggers
 - Objectives
 - Stage Activation
 - Demand Reduction Goal
 - Key Public Messages
 - Coordination and Communication Actions

- Water Quality and Supply Management Actions
 - Retail Customer Demand Actions
 - Wholesale Customer Actions
4. **Implementation for an Immediate Crisis:** This chapter is similar to Chapter 3, however it focuses on implementing the WSCP when an event, such as a system failure, hinders SPU's ability to supply enough water to meet customer demands, and requires immediate action.

1.3. Overview of Water Shortage Response Stages

The WSCP has four water shortage response stages – Advisory, Voluntary, Mandatory, Emergency – which are typically implemented progressively depending on the magnitude of the water shortage. In the event of an immediate crisis, the plan may be activated at one of the more aggressive stages. Each stage contains a variety of strategies for managing aspects such as supply, utility operations, customer actions, and communications. The four stages of the WSCP are described below. The key aspects of each stage are provided in Table 1.

- **Advisory Stage** – The plan typically begins in the Advisory Stage when SPU recognizes there is a serious potential for a water shortage. At this stage, SPU implements supply management actions, as well as formal planning activities including formation of its internal Water Shortage Response Team and coordination with other City of Seattle departments, State agencies, and wholesale customers. No customer action is requested at this stage. However, customers and the media may start to inquire about the potential for a water shortage and SPU should be ready to answer questions. The authority to enter the Advisory Stage, which in most cases will activate the WSCP, lies with the SPU General Manager and Chief Executive Officer (GM/CEO).
- **Voluntary Stage** - If supply conditions worsen, the plan moves to the Voluntary Stage. This stage relies on the voluntary cooperation and support of customers to meet target reduction goals. During the Voluntary Stage, specific voluntary actions are suggested for residential and commercial customers. The suggested customer actions are a combination of standard conservation practices (e.g., avoid watering mid-day) and curtailments that require customers to reduce their water use, which may result in sacrifice (e.g., take a shorter shower). The level of that sacrifice will depend on the severity of the water shortage. The authority to enter the Voluntary Stage lies with the City of Seattle Mayor, based on the recommendation of the SPU GM/CEO.
- **Mandatory Stage** - If the Voluntary Stage does not produce needed water use reductions, or if supply conditions worsen, the Mandatory Stage would be implemented. This stage prohibits or limits certain actions, which may be accompanied by an enforcement plan, which could include fines for repeated

violation, as well as exemptions. The customer actions in this stage reflect a more aggressive approach that requires deeper levels of customer sacrifice (e.g., restricting irrigation). This stage may also include rate surcharges, although careful consideration would be required of the impacts of those charges compared to the balance in SPU's Revenue Stabilization Fund. The authority to enter the Mandatory Stage lies with the City of Seattle Mayor, based on the recommendation of the SPU GM/CEO.

- **Emergency Stage** - This stage addresses the most severe need for demand reduction and includes a combination of mandatory actions and rate surcharges. This would be the last stage used to address a progressive situation, such as a drought of increasing severity, or to respond to an immediate crisis, such as a major facility failure. The authority to enter the Emergency Stage lies with the City of Seattle Mayor, based on the recommendation of the SPU GM/CEO, unless there is an immediate emergency, in which the SPU GM/CEO may authorize these actions according to SMC 21.04.500 and 21.04.505.

1.4. Overview of Implementation Process

After determining that a serious potential for a water shortage exists, implementation of the WSCP begins with activation of the plan, which includes three steps. The first step is for the SPU GM/CEO to identify a SPU staff member to lead the water shortage response effort. The second step is to form the Water Shortage Response Team, which is a team of SPU staff whose role is to evaluate conditions, advise the GM/CEO on supply and demand actions, and make assignments to SPU staff as needed to respond to the shortage. The team should consist of representatives from a broad range of work groups that can provide insight and will be impacted including, but not necessarily limited to, supply, operations, demand management, communications, and finance. Suggested team roles to be filled are provided in Appendix A. The third step is for the GM/CEO to communicate the nature and scope of WSCP stage actions and strategies to the Mayor and the Seattle City Council (prior to activating the WSCP) and receive their input.

Once the WSCP is activated, the Water Shortage Advisory Group (WSAG) should be formed. The WSAG is a team of key customers and stakeholders whose role is to advise the Water Shortage Response Team on requests or actions made to customers regarding utility water shortage response actions and programs. The WSAG should consist of representatives from a broad range of perspectives that can provide insight and will be impacted including, but not necessarily limited to, wholesale water customers, residential customers, the landscape community, the business community, and environmental (instream) interests. Suggested membership is provided in Appendix B.

Once the WSCP is activated, a two-prong effort ensues. One prong is focused on implementing the initial stage (typically the Advisory Stage). The other prong is to begin planning for possible implementation of a subsequent stage. Typically, a minimum of two weeks is recommended before moving to a new stage, although four weeks may be more realistic to allow for carefully considered decision-making and appropriate planning time.

When considering moving from one stage to another, the decision inputs are the same as for initiating the WSCP and include consultation with the Water Shortage Advisory Group and evaluation of customer response.

A key aspect of implementing the WSCP is determining how and when to ramp down the stages and/or exit the plan. As soon as actual and forecasted supply conditions substantially improve, SPU will either inform the public of the return to normal use of water, or inform them that the utility is moving to a lesser stage of this plan. This latter process would occur until there was a return to normal operations. Stages could be skipped in this process as conditions and forecasts warrant.

Table 1 Summary of Water Shortage Contingency Plan¹

Component	Stage			
	Advisory	Voluntary	Mandatory	Emergency
Hallmark	<ul style="list-style-type: none"> • Formal planning internally & w/ key stakeholders • Supply mgmt. actions • <u>No</u> customer outreach 	<ul style="list-style-type: none"> • Voluntary customer demand reductions 	<ul style="list-style-type: none"> • Mandatory water use restrictions • Potential fines and/or rate surcharges 	<ul style="list-style-type: none"> • Mandatory water use restrictions • Potential fines and/or rate surcharges
Trigger	<ul style="list-style-type: none"> • Serious potential for water shortage 	<ul style="list-style-type: none"> • Supply conditions worsen 	<ul style="list-style-type: none"> • Supply conditions worsen 	<ul style="list-style-type: none"> • Supply conditions worsen
Objective	<ul style="list-style-type: none"> • Prepare for Voluntary • Stretch supply 	<ul style="list-style-type: none"> • Achieve demand reduction • Stretch supply • Prepare for Mandatory 	<ul style="list-style-type: none"> • Achieve demand reduction • Stretch supply • Prepare for Emergency 	<ul style="list-style-type: none"> • Achieve demand reduction • Stretch supply
Stage Activation	<ul style="list-style-type: none"> • SPU GM/CEO 	<ul style="list-style-type: none"> • Mayor 	<ul style="list-style-type: none"> • Mayor 	<ul style="list-style-type: none"> • Mayor, if progressive • SPU GM/CEO, if immediate
Demand Reduction Goal	<ul style="list-style-type: none"> • None (stage is internally focused) 	<ul style="list-style-type: none"> • Determined by Water Shortage Response Team 	<ul style="list-style-type: none"> • Determined by Water Shortage Response Team 	<ul style="list-style-type: none"> • Determined by Water Shortage Response Team
Key Public Messages	<ul style="list-style-type: none"> • Anticipate public and media inquiries and be ready to answer questions 	<ul style="list-style-type: none"> • Moving to Voluntary • Need customer assistance to meet demand reduction goal • Request suggested demand reduction actions 	<ul style="list-style-type: none"> • Moving to Mandatory • Mandatory water use restrictions & potential rate surcharge • Certain exemptions apply 	<ul style="list-style-type: none"> • Moving to Emergency • Increased water use restrictions & potential rate surcharge

Component	Stage			
	Advisory	Voluntary	Mandatory	Emergency
Coordination & Communication	<ul style="list-style-type: none"> • Form Water Shortage Response Team • Form Water Shortage Advisory Group • Develop communication/outreach plan 	<ul style="list-style-type: none"> • Implement communication/outreach plan • Implement coord. w/ key stakeholders 	<ul style="list-style-type: none"> • Implement communication/outreach plan • Implement coord. w/ key stakeholders 	<ul style="list-style-type: none"> • Implement communication/outreach plan • Implement coord. w/ key stakeholders
Water Quality & Supply Management	<ul style="list-style-type: none"> • Optimize supply • Ready emergency supplies 	<ul style="list-style-type: none"> • Ready or activate emergency supplies, as appropriate • Investigate interties 	<ul style="list-style-type: none"> • Activate emergency supplies and interties 	<ul style="list-style-type: none"> • Activate emergency supplies and interties
Retail Customer Demand Actions	<ul style="list-style-type: none"> • None for general public (stage is internally focused) • Seattle Parks activates their WSCP 	<ul style="list-style-type: none"> • Request voluntary demand reduction actions • Request demand reduction actions from City departments • Restrict new hydrant permits 	<ul style="list-style-type: none"> • Provide mandatory demand reduction actions (& exemptions) • Require demand reduction actions from City departments • Rescind hydrant permits • Potential rate surcharges 	<ul style="list-style-type: none"> • Provide mandatory demand reduction actions (& exemptions) • Require demand reduction actions from City departments • Potential rate surcharges
Wholesale Customer Actions	<ul style="list-style-type: none"> • Activate their WSCPs 	<ul style="list-style-type: none"> • Move to Voluntary in their WSCPs • Outreach to their retail customers • Activate alternative sources, if appropriate 	<ul style="list-style-type: none"> • Move to Mandatory in their WSCPs • Outreach to their retail customers, including enforcement as appropriate • Activate alternative sources, if not already done 	<ul style="list-style-type: none"> • Move to Emergency in their WSCPs • Outreach to their retail customers, including enforcement as appropriate • Activate alternative sources, if not already done

1. This table reflects how the WSCP would be implemented for a progressive event, such as a drought. As described in Chapter 4, the stages may be different for an immediate crisis.

2. Implementation Considerations

2.1. WSCP Principles

SPU has learned a great deal over the years about how best to operate the utility during water shortage events, while minimizing impacts to customers and instream resources. This knowledge is reflected in this WSCP, and articulated in the following principles:

- **Plan Should be Flexible:** Each water shortage situation has enough unique characteristics that a plan cannot specifically define all the scenarios and specific supply and demand management actions. The usefulness of a Water Shortage Contingency Plan lies in planning the range of supply and demand management actions in advance of the situation, and in defining the communication mechanisms by which decisions will be made during the event.
- **Shortage Should Be Shared:** A key assumption of this plan is that shortage and risk must be shared among all beneficiaries of the water resource. For example, instream flow levels below normal minimums at locations specified in the Tolt and Cedar agreements are resorted to only after human water consumption is curtailed. Additionally, all water utilities obtaining water from the Seattle regional water supply system should participate in management of the shortage. Similarly, all customer sectors should participate.
- **Conservation Versus Curtailment:** Given the highly-effective long-term regional conservation program operated by SPU, it is important to distinguish between the short-term curtailment actions necessitated by a water shortage event, and the conservation actions SPU regularly promotes to its customers. Conservation focuses on long-term efficiencies which do not adversely affect customers' accustomed use of water, whereas curtailment actions involve short-term water use reductions or restrictions that can create hardships.
- **Voluntary Preferred Over Mandatory:** Customers prefer the opportunity to meet targeted demand reduction levels through voluntary compliance actions. The decision to move to mandatory restrictions is more acceptable if the voluntary approach has been tried first, but has not resulted in sufficient demand reduction.
- **Safeguard Water Quality:** It is essential to closely monitor water quality during water shortages and particularly during a warm weather drought. This applies to water quality in rivers as well as to the drinking water provided to customers. Water quality issues must be considered for drinking water and instream uses when supply management decisions are made. The SPU water distribution system is designed to carry a large capacity of water during summer peak months and for potential fire fighting. If demand is significantly lowered, coupled with warmer temperatures, water quality can significantly degrade and should be monitored and managed more carefully than typical.

2.2. Types of Drought

Droughts are the most common reason this WSCP would be implemented. Droughts are naturally occurring, unpredictable weather events of varying frequency, duration and severity. The area served by the Seattle regional water supply system has experienced several short-term droughts. Available data indicate a very low probability of a multi-year drought.

To understand the impact of drought, it is important to understand how the mountain storage reservoirs in the Seattle regional water supply system are operated. Those reservoirs operate with an annual refill and drawdown cycle. During the winter, the reservoirs are kept low to provide a “flood pocket” to reduce downstream flooding and river scour. In the spring, they are refilled by melting snow and rain. During the summer, their levels decrease because water use outstrips replenishment from rain. During the fall, their levels increase as water use decreases and fall rains return. Drought affects this cycle and can cause water shortages.

The types of droughts that affect the Seattle regional water supply system range from poor snowpack accumulation in the winter, to dry hot summers, to delayed onset of rains in the fall. Details on these three types of droughts are provided below. Since the nature of these droughts varies, SPU’s response will also vary. Examples of past drought events that resulted in SPU activating its WSCP are provided in Appendix C.

2.2.1. Winter/Spring Drought (Low Snowpack)

Droughts in the winter and spring are characterized by low snowpack. While low snowpack may not lead to poor water supply conditions if ample spring rains occur, caution is used in managing the water supply in these situations because rainfall is inherently difficult to forecast. Low snowpack can occur when mountain temperatures are warm, when precipitation is below average, when intense rainfall events melt low to mid-elevation snow, or through a combination of these factors.

SPU attempts to manage for these types of droughts in several ways. Tracking El Niño events, which are typified in the Pacific Northwest by warmer and drier than average winter conditions, can alert water managers to the increased potential of a winter/spring drought. SPU’s use of the dynamic rule curve – varying reservoir storage targets based on real-time snowpack measurements and soil moisture estimates – in these types of droughts helps to ensure that our reservoirs are as close to full as possible at the start of the summer drawdown cycle.

When winter/spring drought conditions result in low water supply availability, implementation of the WSCP may be necessary because the potential for water use reductions by customers is greater in the spring and summer, there is much uncertainty about impending summer weather which is so influential on demand, and weather forecasts of when the fall rains will begin are not reliable. These conditions generate

uncertainty about whether water stored in the spring will be sufficient to meet demands until supplies are replenished in the fall. This can make implementation of the WSCP in the spring and summer necessary, despite the fact that in some of these years no water shortfall actually develops.

2.2.2. Summer/Fall Drought (Hot, Dry Temperatures)

Droughts in the summer and fall are characterized by drier conditions and hotter temperatures. This typically results in both decreased supply and increased demand. Supply is decreased because less rain results in less inflow into the reservoirs. Demand is increased because outdoor water use (mostly irrigation) is higher at this time of year.

SPU attempts to manage for these types of droughts by carefully monitoring summer demands and water supply. Unfortunately, it is not possible to accurately predict in advance the timing and amount of the fall rains. A key management tool for this type of drought is helping customers to reduce irrigation use.

2.2.3. Fall/Early Winter Drought (Delayed Fall Rains)

Droughts in the fall and early winter are characterized by the fall rainy season developing later than normal. This can result in storage reservoirs being depleted to minimum levels.

Fall droughts are particularly challenging because that is when water demands for fish habitat needs are especially high and when the ability for people to reduce water use is limited since the irrigation season is ending.

SPU attempts to manage for these types of droughts using a number of water supply tools, including using emergency pumping plants at Chester Morse Lake to access water stored in the lake that cannot flow out by gravity.

2.3. Trigger Considerations

SPU continuously monitors water supply conditions to meet the operational objectives of providing water for municipal use, instream aquatic habitat (fisheries), flood management, and hydropower production. To deal with hydrologic uncertainty in real-time and in longer term planning horizons, SPU uses a number of informational and data gathering sources and forecasting tools.

SPU contracts with the U.S. Geological Survey (USGS) to provide continuous streamflow monitoring and data collection services. Strategic placement of USGS stream gauging stations provides real-time information for understanding the hydrologic state of the water supply and river systems. SPU also contracts with the Natural Resources Conservation Service (NRCS) to provide real-time snow monitoring and weather data collection services.

Through the National Oceanic and Atmospheric Administration (NOAA), SPU regularly monitors daily weather forecasts (National Weather Service Seattle Forecasting Office), mid-range weather forecasts (National Centers for Environmental Prediction), 30- and 90-day and multi-season climate outlooks (Climate Prediction Center), and daily hydrometeorological forecasts (Northwest River Forecast Center in Portland, Oregon). The internet provides access to vast amounts of additional useful information to assist SPU in forecasting. For example, NOAA's web information on El Niño/La Niña provides a wealth of timely information on current and forecasted El Niño and La Niña conditions with enough lead time for water resource managers to prepare for such events.

SPU also uses an in-house reservoir management and streamflow forecasts computer model known as the Hydrocomp Forecast and Analysis Model (HFAM). The HFAM model is regularly updated with hourly meteorological and hydrological data, and simulates the current state of the watershed (including snowpack, soil moisture, aquifer storage, and streamflows) and water supply system. The model is used to analyze and assess various future reservoir operating scenarios, both in real time and in near- and long-term operational planning, based on probabilistic analysis of nearly 90 years of historic weather.

SPU intensifies ongoing monitoring of water supply conditions during potential water shortage. This information is used to determine when to activate the WSCP and when to move between stages. The following factors may be considered in these decisions:

- Total supply availability, including groundwater, interties, and modified instream flow releases
- Rate of decline in total reservoir storage compared with typical rates
- Short- and long-term weather and hydrologic forecasts
- Computer modeling of streamflow and reservoir storage, for different weather and demand assumptions
- Trends and forecasts of the system's daily water demands
- Demand reduction goals
- Estimated margin of safety provided by the demand reduction, compared with the level of risk assumed if no action is taken
- Recommendations from the Cedar River Instream Flow Commission and the Tolt Fisheries Advisory Committee
- Increased operating costs of potential actions and the value of lost water sales revenue, compared with the increased margin of reliability

2.4. Goal Setting Considerations

Providing a demand reduction goal signals to the public the severity of the situation and provides a metric for which to measure success. The demand reduction goal should be set

so that it can reasonably be achieved with the demand reductions actions requested or required. Because the level of demand reductions and actions will vary for each event, the WSCP does not prescribe a metric or reduction level. Metrics and goals used in past water shortage events can be considered for future events. Factors to consider in selecting a metric and goal are:

- **Measurable:** Data need to be readily available to report out in a timely fashion on achievement towards the goal.
- **Understandable:** The metric and goal should be easy to explain to customers and the media, and performance should be easy to communicate via simple graphics. Customers should be able to understand how their actions will help achieve the goal.
- **Meaningful:** The goal should be set at a level matching the severity of the event, especially to demonstrate significant customer participation prior to any lowering of instream flows to below normal minimum.
- **Reasonableness:** The goal should reflect the reduction potential associated with the demand reduction actions and time of year. If there are key uncertainties, consider using a range instead of an absolute number.
- **Scalable:** If conditions worsen to the next stage, then the goal should be changed to reflect the need for greater demand reductions, given the time of year.
- **Consistency:** As appropriate, use a metric and goals that are consistent with neighboring utilities.

2.5. Coordination and Communication Considerations

2.5.1. Relationship to Wholesale Customers' WSCPs

There are more than 1.4 million people living in the areas served by SPU and our wholesale water customers. SPU provides water to utilities in much of King County and a small part of Snohomish County. SPU has contracts with 18 wholesale customers, plus the Cascade Water Alliance which wholesales water to five cities and two water districts in the region. Additionally, the City of North Bend receives mitigation water from SPU. Water shortages affect SPU's retail customers as well as SPU's wholesale customers and their respective retail customers.

SPU's water wholesale contracts include a provision that wholesale customers will assist and support actions required to manage demand during a shortage or an emergency. When SPU activates its WSCP, it will request that each wholesale customer also activate their WSCP. This plan has been developed by SPU, in consultation with its wholesale customers and other participants, based on the premise that an effective demand management strategy must be regionally consistent. This is based on several considerations:

- **Shortage Should Be Shared:** Shortage and risk must be shared among all beneficiaries of the water resource, including all water utilities obtaining water from the Seattle regional water supply system.
- **Unified Message:** A unified/regional message and approach is easier to understand and distribute through the media, which is key in communicating information to the public.
- **Consistency Aids Forecasting:** Consistency makes it easier for SPU to forecast demand reductions, which is essential to effectively manage the system during a water shortage.

2.5.2. Coordination With Key Resource Management Agencies

The Washington State Department of Ecology has authority regarding statewide drought declaration. Early and consistent communication with Ecology, which advises the Governor’s Office, is important to ensure that the actions and public messages take into account conditions of the Seattle regional water supply system. SPU should participate in the meetings of the State’s Water Supply Advisory Committee to better understand statewide drought conditions, coordinate on messages, and provide input on the status of the Seattle regional water supply system.

SPU’s Water Resources Management staff also works closely with members of other city, local, state, federal and tribal resource agencies, including Seattle City Light, King County, Washington State Department of Fish and Wildlife, Washington State Department of Ecology, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Services, Muckleshoot Indian Tribe, and Tulalip Tribes. This coordination typically occurs at the Cedar River Instream Flow Commission and the Tolt Fisheries Advisory Committee.

2.5.3. Coordination with Neighboring Jurisdictions

SPU will communicate and coordinate with neighboring jurisdictions – especially Tacoma and Everett – to ensure, to the extent practical, that the timing of plan activation and requests to customers are linked when appropriate and provide opportunities for regional messaging.

2.6. Water Quality and Supply Management Considerations

2.6.1. Managing Instream Flows

The management of stream flows downstream of SPU’s water storage and diversion facilities is a critical consideration in managing water resources during water shortages. In addition to meeting the needs of SPU’s retail and wholesale customers, the Cedar and South Fork Tolt rivers are managed to protect instream resources.

SPU has ongoing formal and informal agreements with state, federal and local resource agencies, Indian Tribes and the U.S. Army Corps of Engineers that help guide how it manages streamflows. Streamflow management in the South Fork Tolt is governed by the South Fork Tolt River Settlement Agreement. Cedar River flows are governed by the Cedar River Instream Flow Agreement, a component of the Cedar River Watershed Habitat Conservation Plan (HCP). These agreements provide guaranteed flow regimes, as well as adaptive features to ensure that water is released from SPU's storage reservoirs in a manner that provides beneficial conditions for salmon and other species downstream of the reservoirs. The protective provisions of the governing agreements are particularly important during droughts and associated periods of low stream flow.

Additionally, salmon and steelhead redd surveys are undertaken during seasonal fish spawning events that enable informed management decisions to be made that seek to ensure adequate flow levels are provided during fish incubation and emergence periods.

The Cedar River also provides approximately half of the inflow to Lake Washington on an annual average basis. The U.S. Army Corps of Engineers manages Lake Washington lake levels as part of its Lake Washington Ship Canal Project (Hiram Chittenden Locks in Ballard) which connects Lake Washington to the saltwater of Puget Sound. Their management objectives include providing water flows at the Locks for navigation, fish passage, and control of the salt water intrusion caused by operation of the Locks.

2.6.2. Reservoir Management

Operational flexibility of SPU's mountain reservoirs is key, with operating plans changing as conditions and forecasts change. SPU has developed "dynamic rule curves" to operate its mountain reservoirs in the winter season. The dynamic rule curves are used to adjust operations to actual watershed conditions and to help manage risk and uncertainty. These rules set target reservoir surface water levels that vary with watershed snowpack and soil moisture conditions. At times when there is little snowpack and low soil moisture, the reservoir surface water level target will be set higher than normal flood management levels, and vice versa.

2.6.3. Alternative Water Supplies

Depending on the nature and timing of a water shortage, alternative or emergency water supplies may be useful to supplement existing supplies. SPU has several options available:

- **Chester Morse Extra Storage:** SPU's primary storage reservoir has a natural, gravity fed outlet. When the reservoir is low, its water surface elevation can fall below the natural outlet, but still contain a substantial amount of high-quality water. As of 2016, a new Morse Lake Pump Plant was installed to replace two existing floating pump plants, and one of the existing floating pump plants was refurbished as a backup plant. These plants can be used to pump the lower elevation water over

the natural outlet and into the river, thereby augmenting both instream flows and water availability for customer use.

- **Interties:** Since water supply problems may not affect all water suppliers in the region to the same extent, it is sometimes feasible for SPU and its wholesale customers to obtain water from other providers through interties.
- **Reclaimed Water:** Reclaimed water is highly-treated effluent that may be used instead of potable water for irrigation, street washing, construction purposes, etc., in order to reduce demand for potable water and lessen the impact of shortages on the community. Since 2013, King County's Brightwater Treatment Plant has been providing Class A reclaimed water for off-site irrigation, street cleaning, and sewer flushing.

2.7. Demand Reduction Considerations

2.7.1. Demand Reduction Actions

A key strategy to managing a water shortage event is having customers reduce their water use. The WSCP does not pre-identify specific demand reduction actions for each stage. Rather a comprehensive list of potential actions customers can take to reduce water use is provided in Appendix E. The actual actions requested or required for each stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed.

There are several criteria for deciding which demand reduction actions are appropriate during a water shortage:

- **Magnitude of Savings:** Will the action result in enough savings to make a meaningful difference?
- **Timing:** Can the action produce results in the necessary timeframe?
- **Duration of Event:** What is the anticipated duration of the event (e.g., customers may tolerate certain mandatory curtailments if the event is expected to last a few weeks rather than months)?
- **Season:** Is the action relevant to the time of year (e.g., banning lawn watering during summer irrigation season vs. during non-irrigation season)?
- **Costs:** How severe are the cost implications of the action to the customer relative to the need for action?
- **Enforcement:** For mandatory curtailment actions, is it desirable and practical to enforce the action?
- **Equity:** Do the suite of actions cover all customer sectors and types of uses?

2.7.2. Exemptions

Appendix G provides background and a framework for developing and implementing exemptions to customer water use restrictions that are part of the Mandatory and Emergency stages of the WSCP.

2.8. Financial Considerations

Reducing water demand as needed to address a water shortage event can reduce revenues at a time when there is an increased need for these funds to cover costs associated with implementing the WSCP. This can be exacerbated by other factors such as reductions in block contract allocations. Accordingly, the following issues should be considered.

- **Reprioritize Current Revenue:** This consists of reducing revenue contributions to the capital program and lowering the year end operating cash target. These are the most flexible resources to offset revenue and expenditure problems.
- **Reprioritize Expenses:** Reducing planned operations and maintenance expenditures can ease the demand on revenues or free up money to meet unexpected needs.
- **Revenue Stabilization Subfund:** The City of Seattle has established a Revenue Stabilization Subfund for the water fund. The target balance is \$9 million, which can serve as a source of revenue during moderate droughts. Withdrawals from the Subfund require City Council approval.
- **Rate Surcharge:** In the mandatory and emergency stage, rate surcharges can be used to send a strong signal to customers to reduce water use. Rate surcharges can also help to make-up revenues lost due to decreased demand.
- **Block Contract Credits:** The block wholesale water contracts that SPU has with Northshore Utility District and Cascade Water Alliance have provisions that reduce their block allocations in proportion with all other wholesale customers, thereby reducing their required payments to SPU.
- **State Drought Relief Funds:** In a Washington State emergency drought declaration, funds in the form of grants or loans may be available to SPU to mitigate the impacts of a water shortage.

3. Implementation for a Progressive Event

For each stage, the following information is provided. Note that if a particular stage is not entered into progressively, actions listed in the previous stage(s) may be appropriate as well.

1. **Triggers** – Describes the general, qualitative conditions that would trigger the stage. Note there are no pre-determined, quantitative conditions that trigger stages.
2. **Objectives** – Describes the overall objective of the stage.
3. **Stage Activation** – Describes who has the authority to enter the stage (either the SPU GM/CEO or the Mayor).
4. **Demand Reduction Goal** – Discusses the general, qualitative nature of the goal for the stage. Note there are no pre-determined, quantitative demand reduction goals for each stage.
5. **Key Public Messages** – Describes the key public messages for the stage. The messaging work is led by the Communications Lead.
6. **Coordination and Communication Actions** – Describes a variety of work necessary to coordinate and communicate with key stakeholders such as WSAG, wholesale customers, Ecology, Department of Health, natural resource agencies, tribes, City employees, the general public, etc. The overall work is led by the Water Shortage Response Team Lead, who makes assignments as appropriate.
7. **Water Quality and Supply Management Actions** – Describes work necessary to safeguard water quality and to maximize supply. This work is led by the Supply Management Lead.
8. **Retail Customer Demand Actions** – Describes work necessary to reduce customer demand. This work is led by the Demand Management Lead.
9. **Wholesale Customer Actions** - Describes actions required by each wholesale customer. Communication and monitoring of these actions is done by the Wholesale Customers Lead.

3.1. Advisory Stage

3.1.1. Triggers

- Supply conditions and supply forecasts raise significant concerns about the utility's ability to meet demand later in the year.

3.1.2. Objectives

- Prepare the Department, City, and relevant agencies for a potential water shortage thereby allowing all parties adequate planning and coordination time in the event there is a need to move to the Voluntary Stage.
- Stretch available supply through supply management actions.

3.1.3. Stage Activation

- The authority to enter the Advisory Stage, which in most cases is effectively activating the WSCP, lies with the SPU GM/CEO.

3.1.4. Demand Reduction Goal

- None, as described earlier, the Advisory Stage is an internally focused stage that does not include outreach to customers.

3.1.5. Key Public Messages

Although the Advisory Stage is not intended to be a public stage, SPU should be prepared to answer inquiries from the public and media as follows:

- **Planning:** Due to the potential for a water shortage, SPU has entered the planning phase of the WSCP to coordinate actions in the event we need to move to the Voluntary Stage.
- **Supply Conditions:** Report on supply conditions and forecasts.
- **No Customer Action:** At this time, customers are not being asked to take special action. (If pressed: SPU has an ongoing conservation program and always encourages customers to use water wisely. See www.savingwater.org for ways to use water wisely, indoors as well as outdoors during the summer irrigation season.)
- **Future Customer Action May Be Needed:** Customers may be asked to reduce their water use if conditions worsen and we move to the next stage (Voluntary Stage).

3.1.6. Coordination and Communication Actions

- **Water Shortage Response Lead & Team:** Identify the lead and team members for the Water Shortage Response Team. Consider using an Incident Command System to organize the response.
- **Wholesale Customers:** Inform wholesale customers about current water supply conditions, that the Advisory Stage has been triggered, and that planning is underway in the event that elevation to the Voluntary Stage is needed. Request their cooperation, as identified under the Wholesale Customer Actions section. Request a wholesale customer representative for the WSAG.
- **WSAG:** Form the Water Shortage Advisory Group (WSAG), as described earlier. Early meetings will focus on explaining the role of WSAG and educating the WSAG about the water system, particularly the relationship of weather patterns to supply and demand, and the customer base. For this stage, the role of the WSAG is to provide input on WSAG membership, potential customer demand reduction strategies, and on outreach strategy and materials.
- **Ecology:** Participate on Ecology’s Water Supply Advisory Committee to keep informed about the State drought response and to provide Ecology with updates on forecasts for the Seattle regional water supply system.
- **DOH:** Update the DOH on the shortage response and the likelihood of moving to the Voluntary Stage.
- **Public Agencies:** Coordinate with other City departments and public agencies (e.g., county, state and federal resource agencies, tribes, and other regional water suppliers, including Cascade Water Alliance and the Cities of Everett and Tacoma) about water supply conditions, projections, and potential actions.
- **Outreach:** Develop the initial communication and outreach plan, focusing primarily on the Voluntary Stage. As described in the Communication and Outreach Framework in Appendix D, the plan should include the overall purpose, goals, audiences, and tools (e.g., FAQs, press releases, tips flyers).

3.1.7. Water Quality and Supply Management Actions

- **Data Collection:** Increase data collection actions (e.g., streamflows, snowpack conditions) and monitoring weather forecasts.
- **Modeling:** Increase SPU’s computer modeling runs of projected supply, storage, demand and revenue scenarios.
- **Water Quality:** Assess water quality in reservoirs and in the distribution system to identify areas that may experience degradation with reduced consumption. Increase monitoring if appropriate. Additionally, assess current water main flushing and reservoir cleaning activities to determine whether they should be

accelerated to be completed prior to the peak season or reduced to conserve supply.

- **Instream Flows:** In coordination with state and federal resource agencies and tribes, review supply and fisheries conditions to determine appropriate instream flow levels, including whether to provide supplemental flows or reduce to flows below normal minimum. (See Cedar Instream Flow agreement and Tolt settlement agreement.)
- **Optimize Supplies:** Identify and implement supply side management techniques to optimize existing sources (e.g., reducing Masonry Pool seepage, Tolt/Cedar split, etc.).
- **Emergency Supplies:** Ready emergency supplies, such as the wellfields and Morse Lake Pump Plants, for use and activate if appropriate.

3.1.8. Retail Customer Demand Actions

- **General Customer Actions:**
 - No demand reduction actions will be requested of general customers for the Advisory Stage. Some proactive outreach to customers may occur reminding them to use water wisely.
 - Determine the list of customer demand reduction actions that would be requested if the WSCP advances to the Voluntary Stage. A list of potential actions customers can take to reduce water use is provided in Appendix E. The actual actions selected for use in the Voluntary Stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed.
- **City Departments:** Request that the Parks and Recreation Department activate their Water Shortage Response Plan.

3.1.9. Wholesale Customer Actions

- **Activate Plans:** Activate their own WSCPs, in a manner consistent with SPU.
- **Plan for Voluntary:** Work with SPU to plan for the potential to move to the Voluntary Stage. Additionally, plan for their internal process needed to enter the Voluntary Stage.
- **Alternative Sources:** Determine feasibility of activating independent or emergency supply sources, as appropriate.
- **Flushing:** Assess current water main flushing and reservoir cleaning activities to determine whether they should be accelerated to be completed prior to the peak season or reduced to conserve supply.

3.2. Voluntary Stage

3.2.1. Triggers

- The Voluntary Stage will be implemented when: 1) supply conditions have not improved or have worsened, and/or 2) demand levels need to be reduced.

3.2.2. Objectives

- Achieve the demand reduction goals by voluntary customer action, as well as by utility actions.
- Stretch available supply through supply management actions.
- Prepare for potentially moving to the Mandatory Stage.

3.2.3. Stage Activation

- The authority to enter the Voluntary Stage lies with the Mayor, based on the recommendation of the SPU GM/CEO. This is the case whether entering the Voluntary Stage is done as the initial activation of the WSCP or as a progressive step if the WSCP is activated at a lower stage.

3.2.4. Demand Reduction Goal

- Set demand reduction goal based on supply conditions and demand reduction potential and, if appropriate, consistent with neighboring utilities. The metric for the goal will be determined by the Water Shortage Response Team.

3.2.5. Key Public Messages

- **Moving to Voluntary:** We are moving to the second stage of our WSCP, the Voluntary Stage, because our supply conditions have worsened.
- **Meet Demand Reduction Goal:** We are asking customers to voluntarily reduce their water use to meet the demand reduction goal.
- **Customers Choose Methods:** How customers achieve that reduction is up to them. A full list of options is on our website www.savingwater.org.
- **Top Suggestions:** Top suggestions include the following: *(to be determined in the previous stage; e.g., let your lawn go dormant and limit plant watering to twice a week, assuming shortage is during irrigation season).*
- **Cooperation Lessens Possibility of Mandatory Restrictions:** If everyone cooperates, we may avoid moving to the Mandatory Stage where specific water use restrictions are mandated.

3.2.6. Coordination and Communication Actions

- **Wholesale Customers:** Update wholesale customers about current water supply conditions and that the Voluntary Stage has been formally triggered. Note that in the Advisory Stage, wholesale customers would have been involved in planning for the potential of moving to the Voluntary Stage. SPU will give wholesale customers advanced notice of the intent to formally move to the Voluntary Stage, so wholesale customers can do final preparations (e.g., get their website ready). The advanced notice will likely be short in order to reduce the risk of unintended leaks to the press, which would complicate the process. Request continued cooperation, as identified under the Wholesale Customer Actions section.
- **WSAG:** SPU will provide updates on the water supply status and customer demand. For this stage, the role of the WSAG is to provide input on implementation of customer demand reduction aspects of the Voluntary Stage, as well as input on planning for the customer demand reduction aspects of the Mandatory Stage.
- **Ecology:** Continue participation on Ecology’s Water Supply Advisory Committee to keep informed about the State drought response and to provide Ecology with updates on forecasts for the Seattle regional water supply system. Petition the State to include the Seattle regional water supply system service area in a State declaration of drought, if not already included.
- **DOH:** Update the DOH on the shortage response and the likelihood of moving to the Mandatory Stage.
- **Public Agencies:** Continue and intensify coordination with other City departments and public agencies (e.g., state and federal resource agencies, tribes, and other regional water suppliers, including Cascade Water Alliance and the Cities of Everett and Tacoma) about water supply conditions, projections, and potential actions.
- **Outreach:** Implement the communication and outreach plan elements developed for the Voluntary Stage. Also, develop the elements (including any exemptions and enforcement) for the Mandatory Stage. See the Communication and Outreach Framework in Appendix D.
- **SPU Employees:** Establish a regular communication mechanism to keep Department employees up to date on goals, conditions, and actions.
- **Customer Inquiries:** Establish a systematic way to respond to and track customer inquiries in a timely way. Note that customer inquiries could show up in various ways, including social media, which may require a different strategic communication approach.

- **Revenue:** Assess revenue implications and potential remedies, including reprioritizing expenses and potential withdrawals from the revenue stabilization fund.
- **Block Contracts:** Initiate block contract credit process.
- **City Legislation:** Request Council to adopt legislation on water use restrictions, enforcement and any surcharges, if anticipate needing for the Mandatory Stage and not already in place.

3.2.7. Water Quality and Supply Management Actions

- **Data Collection:** Continue increased data collection actions (e.g., streamflows, snowpack conditions) and monitoring weather forecasts.
- **Modeling:** Continue increased SPU's computer modeling runs of projected supply, storage, demand and revenue scenarios.
- **Instream Flows:** Continue coordination with state and federal resource agencies and tribes, to review supply and fisheries conditions to determine appropriate instream flow levels, including whether to provide supplemental flows or flows below normal minimum. (See Cedar Instream Flow agreement and Tolt settlement agreement.)
- **Flushing:** If necessary, implement flushing to maintain water quality. Include flushing information in public communication and outreach so the public understands it is essential for drinking water quality.
- **Emergency Supplies:** Ready emergency supplies, such as the wellfields and Morse Lake Pump Plants, for use and activate if appropriate.
- **Interties:** Investigate using existing interties to increase supply availability and activate if appropriate.

3.2.8. Retail Customer Demand Actions

- **General Customer Actions:**
 - Implement the Voluntary Stage customer demand reduction actions (that were determined in the Advisory Stage).
 - Determine the list of customer demand reduction actions that would be requested if the WSCP advances to the Mandatory Stage. A list of potential actions customers can take to reduce water use is provided in Appendix E. The actual actions selected for the Mandatory Stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed. Additionally, establish appropriate exemptions for the Mandatory Stage. Appendix G includes possible exemptions to water use restrictions for SPU to consider in creating

actual exemptions at the time of the event. Finally, determine appropriate enforcement strategies.

- **City Departments:** Request that City departments reduce their water use. The specific actions requested for this stage will be determined during implementation of the WSCP, however likely actions include the following:
 - **All Departments:**
 - Let lawns go dormant and limit plant watering to twice a week. Avoid mid-day watering. Post explanatory signage if these recommendations cannot be implemented. (Certain exemptions will apply.)
 - Wash fleet vehicles only if using facilities that recycle the water
 - Do not wash plazas, foyers, sidewalks, etc. with a hose. Use a broom instead. (Certain exemptions will apply where necessary for health and safety.)
 - Any applicable actions requested of general retail customers
 - **Finance and Administrative Services:**
 - Turn off decorative fountains
 - Post signage throughout buildings to encourage City employees (and the public where applicable) to reduce their water use.
 - **SPU:**
 - Suspend meter testing
 - Accelerate schedule to fix distribution system leaks
 - **Parks:** Move to the Voluntary Stage of their WSCP and implement the associated demand reduction actions
 - **Transportation:** Suspend street washing
 - **Fire Department:** Limit training exercises that use water
- **Hydrant Permits:** Restrict new hydrant permits for temporary water service to essential purposes.

3.2.9. Wholesale Customer Actions

- **Move to Next Stage:** Implement the Voluntary Stage of their WSCPs, in a manner consistent with SPU.
- **Plan for Mandatory:** Work with SPU to plan for the potential to move to the Mandatory Stage. Additionally, plan for their internal process needed to enter the Mandatory Stage.
- **Outreach to Retail Customers:** Outreach to their retail customers, as documented in Appendix F.

- **Flushing:** Assess current water main flushing and reservoir cleaning activities to determine whether they should be accelerated to be completed prior to the peak season or reduced to conserve supply.
- **Alternative Sources:** Activate alternative supply sources, if appropriate.

3.3. Mandatory Stage

3.3.1. Triggers

- The Mandatory Stage will be implemented when: 1) supply conditions have not improved, or have worsened, and/or 2) demand levels need to be further reduced.

3.3.2. Objectives

- Achieve the demand reduction goals by restricting specific water uses.
- Further stretch available supply through additional supply management actions.
- Prepare for potentially moving to the Emergency Stage.

3.3.3. Stage Activation

- The authority to enter the Mandatory Stage lies with the Mayor, based on the recommendation of the SPU GM/CEO. This is the case whether entering the Mandatory Stage is done at the initial activation of the WSCP or as a progressive step if the WSCP is activated at a lower stage.

3.3.4. Demand Reduction Goal

- Set demand reduction goal based on supply conditions and demand reduction potential consistent with water use restrictions and, if appropriate, adjust with neighboring utilities. The metric for the goal will be determined by the Water Shortage Response Team.

3.3.5. Key Public Messages

- **Moving to Mandatory:** We are moving to the third stage of our WSCP, the Mandatory Stage, because our supply situation has worsened and/or the voluntary approach in the previous stage has not resulted in the necessary demand reduction.
- **Mandatory Water Restrictions:** It is necessary to impose mandatory restrictions on certain water uses. Those restrictions are as follows: *(to be determined in the previous stage)*. There are exemptions for the following: *(to be determined in the previous stage)*.
- **Rate Surcharge:** If applicable, the rate surcharge is as follows: *(to be determined in the previous stage)*.

3.3.6. Coordination and Communication Actions

- **Wholesale Customers:** Update wholesale customers about current water supply conditions and that the Mandatory Stage has been formally triggered. Note that in the Voluntary Stage, wholesale customers would have been involved in planning for the potential of moving to the Mandatory Stage. SPU will give wholesale customers advanced notice of the intent to formally move to the Mandatory Stage, so wholesale customers can do final preparations (e.g., get their website ready). The advanced notice will likely be short in order to reduce the risk of unintended leaks to the press, which would complicate the process. Request continued cooperation, as identified under the Wholesale Customer Actions section.
- **WSAG:** SPU will provide updates on the water supply status and customer demand. For this stage, the role of the WSAG is to provide input on implementation of customer demand reduction aspects of the Mandatory Stage, as well as provide input on planning for the customer demand reduction aspects for the Emergency Stage, if likely needed.
- **Outreach:** Implement the communication and outreach plan elements developed for the Mandatory Stage. Also, develop the elements for the Emergency Stage, if likely needed. See the Communication and Outreach Framework in Appendix D.
- **Ecology:** Continue participation on Ecology's Water Supply Advisory Committee to keep informed about the State drought response and to provide Ecology with updates on forecasts for the Seattle regional water supply system.
- **DOH:** Update the DOH on the shortage response and the likelihood of moving to the Emergency Stage.
- **Public Agencies:** Continue and intensify coordination with other City departments and public agencies (e.g., state and federal resource agencies, tribes, and other regional water suppliers, including Cascade Water Alliance and the Cities of Everett and Tacoma) about water supply conditions, projections, and potential actions.
- **SPU Employees:** Continue regular communication with Department employees to keep them up to date on goals, conditions, and actions.
- **Customer Inquiries:** Continue responding to customer inquiries, using the strategy established in the Voluntary Stage. Note that customer inquiries could show up in various ways, including social media, which may require a different strategic communication approach.
- **Revenue:** Continue assessing revenue implications and potential remedies, including reprioritizing expenses and potential withdrawals from the revenue stabilization fund.
- **Block Contracts:** Ensure block contract credits are initiated.

- **City Legislation:** Request Council to adopt legislation on water use restrictions, enforcement and any surcharges, if anticipate needing for the Emergency Stage and not already in place.

3.3.7. Water Quality and Supply Management Actions

- **Data Collection:** Continue increased data collection actions (e.g., streamflows, snowpack conditions) and monitoring weather forecasts.
- **Modeling:** Continue increased SPU’s computer modeling runs of projected supply, storage, demand and revenue scenarios.
- **Instream Flows:** Continue coordination with state and federal resource agencies and tribes, to review supply and fisheries conditions to determine appropriate instream flow levels. (See Cedar Instream Flow agreement and Tolt settlement agreement.)
- **Emergency Supplies:** Activate emergency supplies, such as the wellfields and Morse Lake Pump Plants, as appropriate.
- **Interties:** Activate interties, if not already implemented.
- **Reclaimed Water:** Promote reclaimed water availability to tanker trucks for street cleaning, construction projects, landscape irrigation, dust control, etc.

3.3.8. Retail Customer Demand Actions

- **General Customer Actions:**
 - Implement the Mandatory Stage customer demand reduction actions (that were determined in the Voluntary Stage).
 - Determine the list of customer demand reduction actions that would be requested if the WSCP advances to the Emergency Stage. A list of potential actions customers can take to reduce water use is provided in Appendix E. The actual actions selected for the Emergency Stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed.
- **City Departments:** Require that City departments reduce their water use. The specific actions requested for this stage will be determined during implementation of the WSCP, however likely actions include the following (if not already implemented under the Voluntary Stage):
 - **All Departments:**
 - Let lawns go dormant and limit plant watering to twice a week. Avoid mid-day watering. Post explanatory signage if these recommendations cannot be implemented. (Certain exemptions will apply.)

- Wash fleet vehicles only if using facilities that recycle the water
 - Do not wash plazas, foyers, sidewalks, etc. with a hose. Use a broom instead. (Certain exemptions will apply where necessary for health and safety.)
 - Any applicable actions required of general retail customers
 - **Finance and Administrative Services:**
 - Turn off decorative fountains
 - Post signage throughout buildings to encourage City employees (and the public where applicable) to reduce their water use.
 - **SPU:**
 - Suspend meter testing
 - Accelerate schedule to fix distribution system leaks
 - **Parks:** Move to the Mandatory Stage of their WSCP and implement the associated demand reduction actions
 - **Transportation:** Suspend street washing
 - **Fire Department:** Limit training exercises that use water
- **Hydrant Permits:** Rescind hydrant permits for temporary water service, unless necessary for public health.
- **Exemptions from Water Use Restrictions:** Implement the exemptions for the Mandatory Stage water use restrictions. Determine appropriate exemptions for the Emergency Stage water use restrictions. Appendix G includes possible exemptions to water use restrictions for SPU to consider in creating actual exemptions at the time of the event.
- **Rate Surcharges:** Consider implementing rate surcharges to accelerate customer compliance with the restrictions and/or recover lost revenue.

3.3.9. Wholesale Customer Actions

- **Move to Next Stage:** Implement the Mandatory Stage of their WSCPs, in a manner consistent with SPU.
- **Plan for Emergency:** Work with SPU to plan for the potential to move to the Emergency Stage. Additionally, plan for their internal process needed to enter the Emergency Stage.
- **Outreach to Retail Customers:** Outreach to their retail customers, as documented in Appendix F.
- **Enforcement:** Enforce water use restrictions within their own service areas.

- **Flushing:** Assess current water main flushing and reservoir cleaning activities to determine whether they should be accelerated to be completed prior to the peak season or reduced to conserve supply.
- **Alternative Sources:** Activate alternative supply sources, if appropriate.

3.4. Emergency Stage

At this stage, SPU recognizes that a critical water situation exists and that, without additional significant curtailment actions, a shortage of water for public health and safety is imminent. This type of situation has never occurred in the SPU water system's history.

This stage is characterized by two basic approaches. First, increasingly stringent water use restrictions are established. Secondly, significant rate surcharges are used to increase customer compliance. A surcharge is a key component to the success of this stage.

3.4.1. Triggers

- The Emergency Stage will be implemented when: 1) supply conditions have worsened, 2) demand levels need to be further reduced, and/or 3) the prospects of a water shortage are imminent if immediate action is not taken.

3.4.2. Objectives

- Achieve the demand reduction goals by additional restrictions on water use, recognizing that for this stage customers' lives and businesses may be significantly impacted.
- Stretch available supply through supply management actions.

3.4.3. Stage Activation

- The authority to enter the Emergency Stage lies with the Mayor, based on the recommendation of the SPU GM/CEO, unless there is an immediate emergency, in which the SPU GM/CEO has the authority to enter this stage according to SMC 21.04.500 and 21.04.505.

3.4.4. Demand Reduction Goal

- Set demand reduction goal based on supply conditions and demand reduction potential consistent with water use restrictions and, if appropriate, adjust with neighboring utilities. The metric for the goal will be determined by the Water Shortage Response Team.

3.4.5. Key Public Messages

- **Moving to Emergency:** We are moving to the fourth (and final) stage of our WSCP, the Emergency Stage, because our supply situation has worsened and/or the approach in the previous stage has not resulted in the necessary demand reduction.

- **Additional Water Restrictions:** There are additional water restrictions as follows: *(to be determined in the previous stage)*. There are exemptions for the following: *(to be determined in the previous stage)*.
- **Rate Surcharge:** If applicable, the rate surcharge is as follows: *(to be determined in the previous stage)*.
- **Taste & Odor:** If applicable, taste and odor water quality problems may occur with system-wide reduced water consumption.
- **Pressure Reduction:** If applicable, pressure reduction problems may occur with system-wide reduced water consumption.

3.4.6. Coordination and Communication Actions

- **Formal Declaration of Emergency:** SPU GM/CEO declares a water supply emergency including instituting formal procedures for declaration.
- **Wholesale Customers:** Update wholesale customers about current water supply conditions and that the Emergency Stage has been formally triggered. Note that in the Mandatory Stage, wholesale customers would have been involved in planning for the potential of moving to the Emergency Stage. SPU will give wholesale customers advanced notice of the intent to formally move to the Emergency Stage, so wholesale customers can do final preparations (e.g., get their website ready). The advanced notice will likely be short in order to reduce the risk of unintended leaks to the press, which would complicate the process. Request continued cooperation, as identified under the Wholesale Customer Actions section.
- **WSAG:** SPU will provide updates on the water supply status and customer demand. For this stage, the role of the WSAG is to provide input on the implementation of the Emergency Stage.
- **Outreach:** Implement the communication and outreach plan elements developed for the Emergency Stage.
- **Ecology:** Continue participation on Ecology's Water Supply Advisory Committee to keep informed about State drought response and to provide Ecology with updates on forecasts for the Seattle regional water supply system.
- **DOH:** Update DOH on the shortage response and the need to be in the Emergency Stage.
- **Public Agencies:** Continue and intensify coordination with other City departments and public agencies (e.g., state and federal resource agencies, tribes, and other regional water suppliers, including Cascade Water Alliance and the Cities of Everett and Tacoma) about water supply conditions, projections, and potential actions.

- **SPU Employees:** Continue regular communication with Department employees to keep them up to date on goals, conditions, and actions.
- **Customer Inquiries:** Continue responding to customer inquiries, using the strategy established in the Voluntary Stage. Note that customer inquiries could show up in various ways, including social media, which may require a different strategic communication approach.
- **Revenue:** Continue assessing revenue implications and potential remedies, including reprioritizing expenses and potential withdrawals from the revenue stabilization fund.
- **Block Contracts:** Ensure block contract credits are initiated.
- **Police & Fire Enforcement:** Coordinate with police and fire departments requesting their assistance in promoting and enforcing emergency water restrictions.

3.4.7. Water Quality and Supply Management Actions

- **Data Collection:** Continue increased data collection actions (e.g., streamflows, snowpack conditions) and monitoring weather forecasts.
- **Modeling:** Continue increased SPU's computer modeling runs of projected supply, storage, demand and revenue scenarios.
- **Instream Flows:** Continue coordination with state and federal resource agencies and tribes, to review supply and fisheries conditions to determine appropriate instream flow levels. (See Cedar Instream Flow agreement and Tolt settlement agreement.)
- **Emergency Supplies:** Activate emergency supplies, such as the wellfields and Morse Lake Pump Plants, as appropriate. Consider drawing down Lake Youngs to meet supply needs.
- **Interties:** Activate interties, if not already implemented.
- **Reclaimed Water:** Continue promoting reclaimed water availability to tanker trucks for street cleaning, construction projects, landscape irrigation, dust control, etc.

3.4.8. Retail Customer Demand Actions

- **General Customer Actions:**
 - Implement the Emergency Stage customer demand reduction actions (that were determined in the Mandatory Stage).
- **City Departments:** Require that City departments reduce their water use including, but not limited to:

- **All Departments:**
 - Continue letting lawns go dormant and limiting plant watering to twice a week. Continue avoiding mid-day watering. Post explanatory signage if these recommendations cannot be implemented. (Certain exemptions will apply.)
 - Suspend all washing of fleet vehicles.
 - Continue not washing plazas, foyers, sidewalks, etc. with a hose. Use a broom instead. (Certain exemptions will apply where necessary for health and safety.)
 - Any applicable actions required of general retail customers
- **Finance and Administrative Services:**
 - Continue keeping decorative fountains off.
 - Continue using signage throughout buildings to encourage City employees (and the public where applicable) to reduce their water use.
- **SPU:**
 - Continue to suspend meter testing.
 - Continue to accelerate schedule to fix distribution system leaks.
- **Parks:** Move to the Emergency Stage of their WSCP and implement the associated demand reduction actions.
- **Transportation:** Continue suspension of street washing.
- **Fire Department:** Suspend training exercises that use water.
- **Exemptions from Water Use Restrictions:** Implement the exemptions for the Emergency Stage water use restrictions.
- **Rate Surcharges:** Consider implementing rate surcharges to accelerate customer compliance with the restrictions and/or recover lost revenue.

3.4.9. Wholesale Customer Actions

- **Move to Next Stage:** Implement the Emergency Stage of their WSCPs, in a manner consistent with SPU.
- **Outreach to Retail Customers:** Outreach to their retail customers, as documented in Appendix F.
- **Enforcement:** Continue to enforce water use restrictions within their own service areas.

- **Flushing:** Assess current water main flushing and reservoir cleaning activities to determine whether they should be accelerated to be completed prior to the peak season or reduced to conserve supply.
- **Alternative Sources:** Activate alternative supply sources, if appropriate.

4. Implementation for an Immediate Crisis

4.1. Background

This chapter focuses on implementing the WSCP when an event, such as a system failure, hinders SPU's ability to supply enough water to meet customer demands, and requires immediate action. Implementing the WSCP under these circumstances has both differences and similarities from implementation for a progressive event such as a drought.

Implementation of the WSCP for an immediate crisis is different in the following ways:

- **Lack of Preparation Time:** In a typical progressive event, SPU has weeks or months to prepare for action. In an immediate crisis, there is typically little to no preparation time and SPU takes actions within minutes, hours, and/or days.
- **Initial Stage:** In a typical progressive event, the WSCP is activated at the Advisory Stage and progresses sequentially through stages as necessary. In an immediate crisis, the WSCP is activated at one of the more aggressive stages, likely either the mandatory or emergency stage.
- **Larger Volume:** The volume of the water shortage for an immediate crisis could be more significant, thereby requiring larger-scale demand reductions.
- **Localized:** The immediate crisis could be very localized, thereby requiring demand reduction for only a limited geographic area.
- **Heightened Public Health & Safety:** The need to protect water quality and availability to support public health and safety are heightened, including issues such as minimizing any outages and having sufficient water and pressure for fire fighting.
- **SPU/City Emergency Response Plans:** Implementation of the WSCP would likely dovetail with implementation of other higher-level and/or more specific SPU and/or City of Seattle emergency response plans. Both SPU and the City have broader, all-hazards plans, such as SPU's Emergency Operations Plan and the City's Comprehensive Emergency Management Plan, that describe how their emergency management system is organized and managed in order to prepare for, prevent, mitigate, respond to, and recover from emergencies. SPU has numerous hazard-specific (e.g., earthquake) and site-specific (dams) emergency response plans that might be applicable.
- **Incident Command System:** The response would most likely be implemented under an Incident Command System (ICS), which is a nationally-sanctioned, standardized approach to the command, control, and coordination of emergency response. ICS is integral to the SPU and City emergency response plans mentioned above.

Implementation of the WSCP for an immediate crisis is similar to that of a progressive event in many of the considerations and principles discussed in Chapter 2 such as the need for flexibility, sharing the burden of the shortage, and the importance of addressing financial implications.

There are numerous crisis situations that could necessitate implementing the WSCP. Several examples are described below. Note that each of these situations has in fact occurred, yet they did not trigger formal activation of the WSCP due to mitigating circumstances. The need to activate the WSCP would depend on the amount of the supply impacted, the amount of time needed to restore the system to normal functions, how easily water could be re-routed to customers in the affected area, and the amount of water being used by customers given the season.

- **Major Transmission Pipeline Break:** A major transmission pipeline break from either the Tolt or the Cedar River supplies could require activation of the WSCP in an immediate crisis mode. Two major pipeline failures have occurred since 1987; however, they had minor impacts on customers due to system redundancy.
- **Temporary Treatment Plant Shut Down:** A temporary unplanned shut down of either the Cedar or the Tolt water treatment plants could require activation of the WSCP in an immediate crisis mode. In 2003, the Tolt Treatment Facility was shut down for approximately one week when a raw water inlet valve malfunctioned causing flooding of the plant. Because this occurred during the winter when demands were low, all retail and most wholesale customers were provided water from the Cedar system without disruption; a few wholesale customers were supplied from water stored at the plant's clearwell.
- **Major River Flooding Leading to High Turbidity:** Substantial flooding on the Cedar or Tolt Rivers could lead to high turbidity which might cause SPU to temporarily stop using that supply. This is particularly the case for the Cedar if major flooding occurred at the same time Lake Youngs was at or below normal minimum operating levels. In 1990, such an event occurred on the Cedar, when flooding exceeded the 100-year event. With the addition of filtration on the Tolt supply and the change in intake location on the Cedar supply, SPU's supply sources are much less vulnerable to impacts of turbidity than in the past.

4.2. Components

The following nine components are discussed below. (The definitions are repeated here so this chapter functions as a stand-alone chapter, which may be important in a crisis.) These are the same components as Chapter 3 (a progressive event) and the content is a hybrid of content from all four stages in Chapter 3. Therefore, while a stage is declared when implementing the WSCP for an immediate crisis, that stage may look slightly different than under a progressive event.

1. **Triggers** – Describes the general qualitative conditions that would trigger the stage. Note there are no pre-determined, quantitative conditions that trigger stages.
2. **Objectives** – Describes the overall objective of the stage.
3. **Stage Activation** – Describes who has the authority to enter the stage (either the SPU GM/CEO or the Mayor).
4. **Demand Reduction Goal** – Discusses the general, qualitative nature of the goal for the stage. Note there are no pre-determined, quantitative demand reduction goals for each stage.
5. **Key Public Messages** – Describes the key public messages for the stage. The messaging work is led by the Communications Lead.
6. **Coordination and Communication Actions** – Describes a variety of work necessary to coordinate and communicate with key stakeholders such as , wholesale customers, Ecology, Department of Health, natural resource agencies, tribes, City employees, the general public, etc. The overall work is led by the ICS Incident Commander, who makes assignments as appropriate.
7. **Water Quality and Supply Management Actions** – Describes work necessary to safeguard water quality and to maximize supply. This work is led by the Supply Management Lead.
8. **Retail Customer Demand Actions** – Describes work necessary to reduce customer demand. This work is led by the Demand Management Lead.
9. **Wholesale Customer Actions** - Describes actions required by each wholesale customer. Communication and monitoring of these actions is done by the Wholesale Customers Lead.

4.2.1. Triggers

- The appropriate stage (Voluntary, Mandatory, or Emergency) will be implemented when an event occurs that would prevent SPU from supplying enough water to meet customer demands and requires immediate action. (The selection of the appropriate stage will be based on the severity of the shortage.)

4.2.2. Objectives

- Maximize the amount of water delivered to customers and restore full supply capabilities as soon as possible.
- Achieve the demand reduction goals by voluntary or mandatory customer action. If activated at the Emergency Stage, restrictions may significantly impact customers' lives and businesses.
- Prepare for potentially moving to the next aggressive stage, if not already in the Emergency Stage.

4.2.3. Stage Activation

- The authority to declare a water supply emergency and activate the WSCP for an immediate crisis lies with the SPU GM/CEO according to SMC 21.04.500. However, the underlying event may warrant a proclamation of civil emergency, which would be declared by the Mayor per SMC 10.02.

4.2.4. Demand Reduction Goal

- Set demand reduction goal based on supply conditions and demand reduction potential consistent with any water use restrictions.

4.2.5. Key Public Messages

- **Activated WSCP:** We have activated the WSCP due to an immediate crisis. The details of the crisis are as follows (*to be developed at the time of the crisis*).
- **Meet Demand Reduction Goal:** We are asking customers to reduce their water use to meet the demand reduction goal.
- **Mandatory Water Restrictions (If Activating at the Mandatory or Emergency Stage):** It is necessary to impose mandatory restrictions on certain water uses. Those restrictions are as follows: (*to be determined at the time of the crisis*). There are exemptions for the following: (*to be determined at the time of the crisis*).
- **Rate Surcharge:** If applicable, the rate surcharge is as follows: (*to be determined at the time of the crisis*).
- **Water Quality:** If applicable, customers may find taste, odor or discolored water issues with their water due to changes in water supply operations (*be more specific if appropriate*). While the water may not be pleasing, it is safe to drink.
- **Pressure Reduction:** If applicable, customers may experience a loss of pressure due to system operations. Customers with no water should call SPU at (*TBD*).

4.2.6. Coordination and Communication Actions

- **Formal Declaration of Water Supply Emergency and/or Civil Emergency:** Depending on the event, the GM/CEO and/or Mayor make formal declarations of emergencies and activation of the WSCP.
- **Incident Commander & Team:** Identify the incident commander and the team members. An Incident Command System organizational chart is provided in Appendix A. Note that the functions of the Water Shortage Response Team used during a progressive application of the WSCP are incorporated into the Incident Command System.

- **Wholesale Customers:** Inform wholesale customers about the crisis and that the WSCP has been activated. Request their cooperation, as identified under the Wholesale Customer Actions section.
- **WSAG:** Formation of WSAG is not appropriate unless the event is anticipated to be of long duration. If formed, the role of the WSAG is to provide feedback on implementation of customer demand reduction actions. Early meetings will focus on explaining the crisis, the role of the WSAG, and educating the WSAG about the water system and the customer base.
- **DOH:** Inform the DOH about the crisis and the activation of the WSCP.
- **Public Agencies:** Coordinate with other City departments and public agencies (e.g., county, state and federal resource agencies, tribes, and other regional water suppliers, including Cascade Water Alliance and the Cities of Everett and Tacoma) as appropriate.
- **Outreach:** Develop and implement the initial communication and outreach plan. As described in the Communication and Outreach Framework in Appendix D, the plan should include the overall purpose, goals, audiences, and tools (e.g., FAQs, press releases, tips flyers). Additional outreach tools such as highway message boards, social media, or dial out phone systems might be used in an immediate crisis.
- **SPU Employees:** Establish a regular communication mechanism to keep Department employees up to date on goals, conditions, and actions.
- **Customer Inquiries:** Establish one point of contact for responding to customer inquiries.
- **Revenue:** Assess revenue implications and potential remedies, including reprioritizing expenses and potential withdrawals from the revenue stabilization fund.
- **Block Contracts:** Ensure block contract credits are initiated.
- **City Legislation:** Request Council to adopt legislation on water use restrictions, enforcement and any surcharges, if anticipate needing and not already in place.
- **Police & Fire Enforcement:** Coordinate with police and fire departments requesting their assistance in promoting and enforcing any water restrictions, if entering the Emergency Stage.

4.2.7. Water Quality and Supply Management Actions

- **Maximize Supplies:** Make system operational changes as needed to maximize the amount of water delivered to customers and restore system to normal operations.
- **Wells:** Begin to ready wellfields for use and activate, if appropriate.

- **Morse Lake Pump Plants:** Ready the pumping plants on Chester Morse Lake and commence pumping when gravity flow is no longer sufficient, if appropriate.
- **Interties:** Investigate using existing interties to increase supply availability and activate if appropriate.
- **Reclaimed Water:** Promote reclaimed water availability to tanker trucks for street cleaning, construction projects, landscape irrigation, dust control, etc.
- **Water Quality:** Assess water quality in reservoirs and in the distribution system to identify areas that may experience degradation with reduced consumption or changes to system operations. Increase monitoring if appropriate.
- **Instream Flows:** If reductions in instream flows would mitigate the impact of the event or are necessary, coordinate with state and federal resource agencies and tribes, to review supply and fisheries conditions and determine appropriate instream flow levels, including whether to provide supplemental flows or reduce to below normal minimum flows. (See Cedar Instream Flow agreement and Tolt settlement agreement.)

4.2.8. Retail Customer Demand Actions

- **General Customer Actions:**
 - Determine and implement the list of customer demand reduction actions requested/required. A list of potential actions customers can take to reduce water use is provided in Appendix E. The actual actions selected will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed. Additionally, establish and implement appropriate exemptions. Appendix G includes possible exemptions to water use restrictions for SPU to consider. Finally, determine appropriate enforcement strategies, if appropriate.
- **City Departments:** Request that City departments reduce their water use in affected areas. The specific actions requested will be determined during implementation of the WSCP, however likely actions include the following:
 - **All Departments:**
 - Let lawns go dormant and limit plant watering to twice a week. Avoid mid-day watering. Post explanatory signage if these recommendations cannot be implemented. (Certain exemptions will apply.)
 - Either wash fleet vehicles only if using facilities that recycle the water or suspend all washing of fleet vehicles, depending on the severity of the crisis.
 - Do not wash plazas, foyers, sidewalks, etc. with a hose. Use a broom instead. (Certain exemptions will apply where necessary for health and safety.)

- Any applicable actions requested of general retail customers
- **Finance and Administrative Services:**
 - Turn off decorative fountains
 - Post signage throughout buildings to encourage City employees (and the public where applicable) to reduce their water use.
- **SPU:**
 - Suspend water main flushing and reservoir cleaning unless needed to support restoration to normal operations
 - Suspend meter testing
 - Accelerate schedule to fix distribution system leaks
- **Parks:** Request that the Parks and Recreation Department activate their Water Shortage Response Plan.
- **Transportation:** Suspend street washing
- **Fire Department:** Either limit or suspend training exercises that use water, depending on the severity of the crisis.
- **Hydrant Permits:** New hydrant permits for temporary water service will be either restricted to essential services or rescinded (unless necessary for public health), depending on the severity of the crisis.
- **Rate Surcharges:** Consider implementing rate surcharges to accelerate customer compliance with the restrictions and/or recover lost revenue.

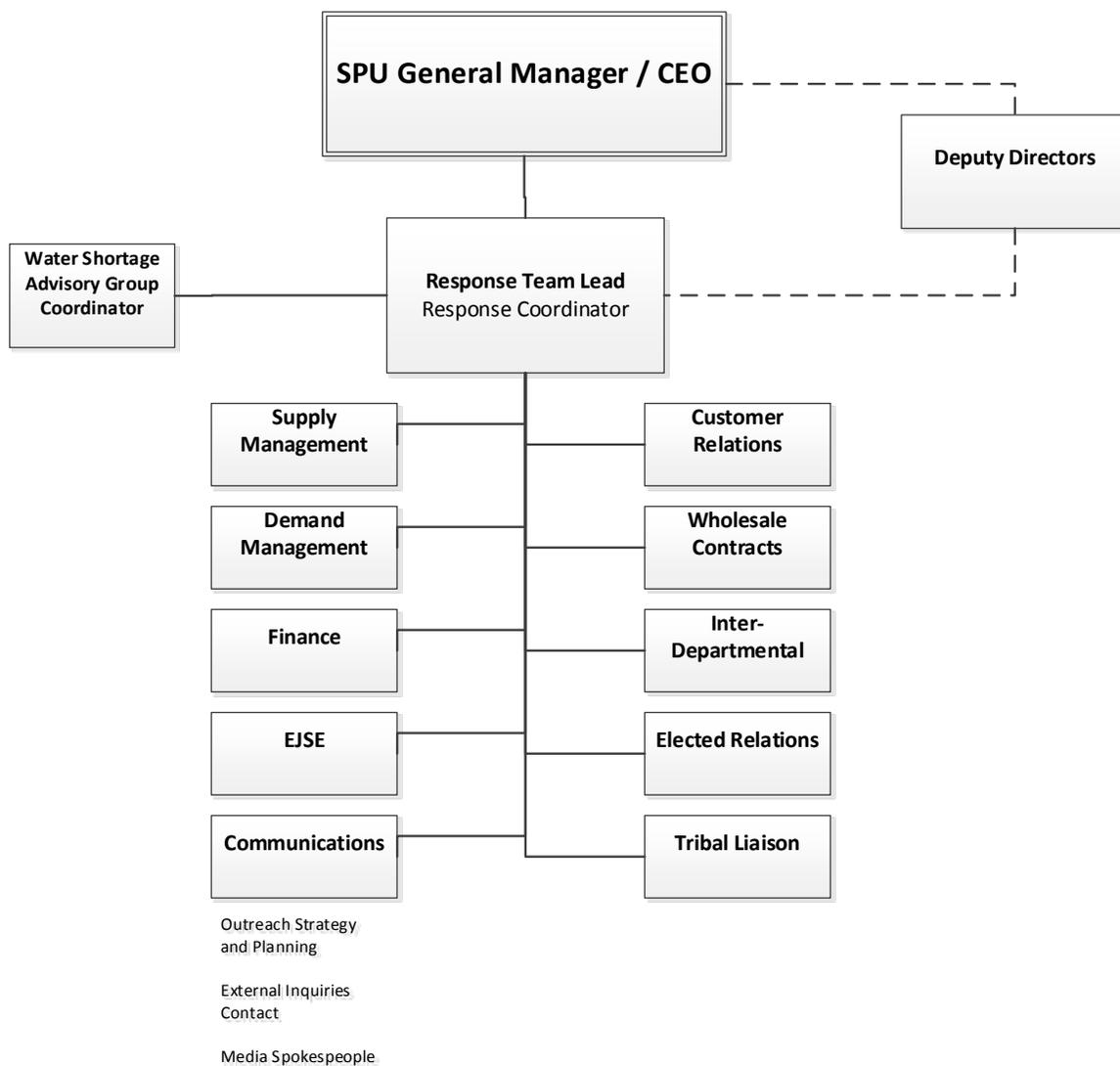
4.2.9. Wholesale Customer Actions

- **Activate Plans:** Activate their own WSCPs, in a manner consistent with SPU, if in affected area.
- **Alternative Sources:** Activate alternative supply sources, if appropriate and necessary.
- **Flushing:** Assess current water main flushing and reservoir cleaning activities to determine whether they should be suspended.
- **Outreach to Retail Customers:** Outreach to their retail customers, as documented in Appendix F.
- **Enforcement:** Enforce any water use restrictions within their own service areas.

Appendix A – Water Shortage Response Team Membership and Roles

Water Shortage Response Team

The Water Shortage Response Team is SPU’s internal team whose role is to evaluate conditions, advise the SPU General Manager/CEO on supply and demand actions, coordinate with other parties, and make assignments to SPU staff as needed to respond to the shortage. The Team is appointed by the SPU GM/CEO. An organizational chart and an explanation of the roles is provided below.

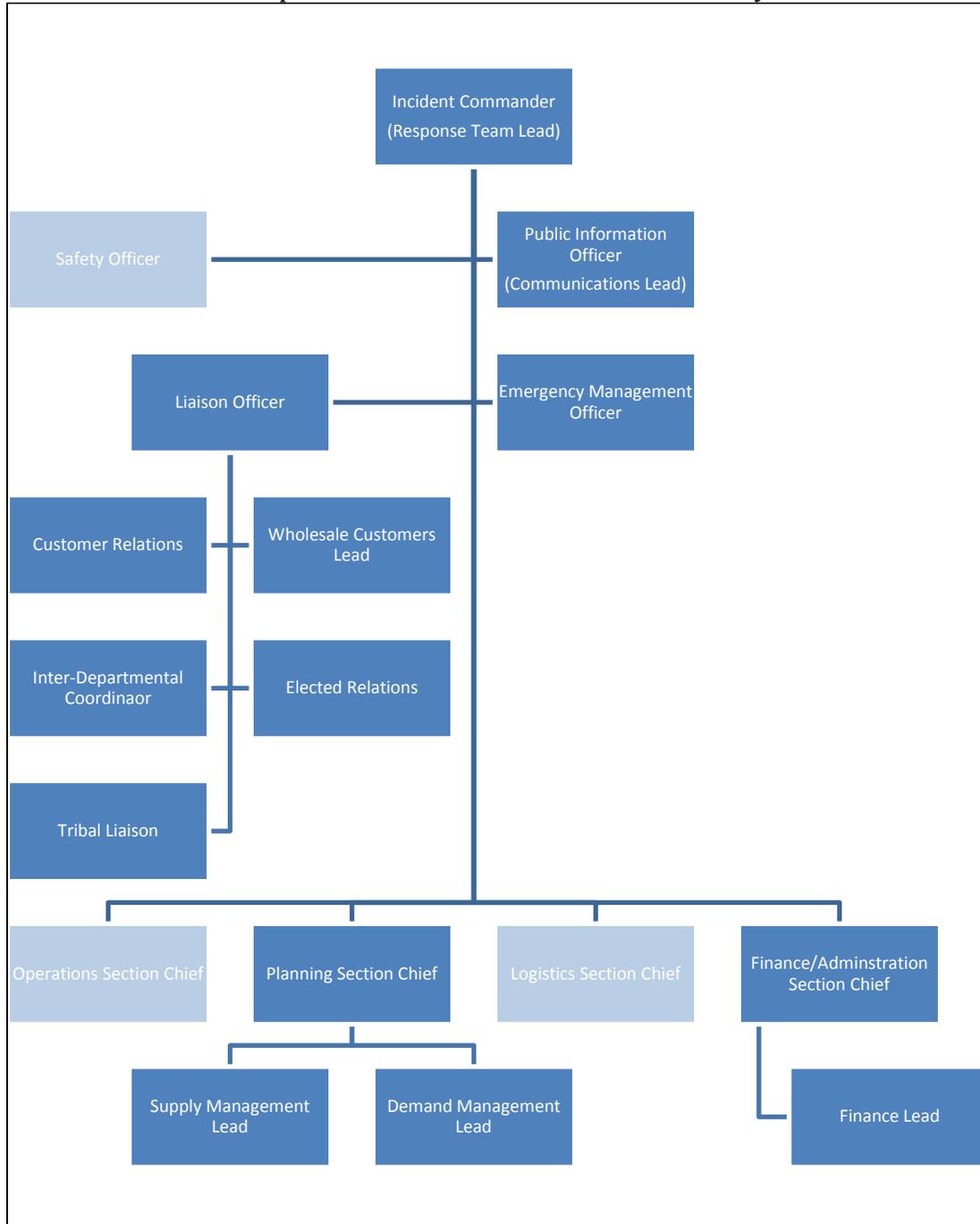


- **SPU GM/CEO** – Overall direction on the response. Weighs in on Team recommendations for moving through response stages, demand management actions, and key messages.
- **Deputy Directors (Executive Team)** – Input to SPU GM/CEO for response. May include Chief Administrative Executive and Water Line of Business Executive.
- **Response Team Lead** – Lead the overall water shortage response effort including issue coordination, information gathering and dissemination, key support staff assignments, role clarification, and communication with broad array of interested parties.
- **Water Shortage Advisory Group Coordinator** – Purpose and membership of the Water Shortage Advisory Group (WSAG) is described in Appendix B. The WSAG Coordinator works with SPU GM/CEO to identify and invite members, and facilitates meetings and communications with WSAG.
- **Supply Management Lead** – Overall guidance on supply management, drinking water quality and operations, status of non-revenue water use in operations, and issues related to potential alternative supplies/interties. Provide guidance regarding watershed activities that may impact water supply. Provide water supply condition reports, forecasts, production reports, operational needs, and modeling identification and oversight. Provide guidance regarding instream flows/fisheries, river analyses, river biological assessments, and coordinate with Cedar River Instream Flow Commission and Tolt Fisheries Advisory Committee. Prepare for use of and report on issues related to the Morse Lake Pump Plants.
- **Demand Management Lead** – Customer water use reduction actions management and messaging, estimates of water use savings, implementation cost estimates, and communication with landscapers, nurseries and large water users (commercial and residential). Provides water consumption tracking, reporting and forecasting.
- **Finance Lead** – Expected lost revenue estimates, budgets and charge number set-up for shortage-related activities, and process necessary to access revenue stabilization fund, if needed.
- **Environment Justice and Service Equity Lead** – Ensure EJSE objectives are addressed in WSAG, demand management, customer relations and communication activities.
- **Communications Lead** – Messaging, employee communication, media relations, press releases, marketing, advertising, social media, key contact for interagency Public Information Officers (PIOs), and coordination on messaging with Cascade Water Alliance and the Cities of Everett and Tacoma.
 - **Outreach Strategy and Planning Lead** – Responsible for defining outreach goals, objectives and strategies early in event.
 - **Media Spokespeople** – Small group of subject matter experts (e.g., supply management, demand management) for media interviews.
 - **External Inquiries Contact** – Point person for all customer inquiries, responsible for timely and consistent response.

- **Customer Relations Lead** – Communicate with and assist with message development for the call center and key accounts.
- **Wholesale Contracts Lead** - Provide coordination with wholesale customers. Work with Finance on block contract billing adjustments.
- **Inter-Department Coordinator** -- Point person for inter-city department coordination, separate from customer relations, to work with one-city perspective and coordination with Council and Mayor's Office.
- **Elected Relations** – Coordinate briefings with City Councilmembers and Mayor, and any legislation needed.
- **Tribal Liaison** – Coordinates with key Tribes.

Water Shortage Response Team Integrated in Incident Command System

During an immediate crisis, the underlying event would most likely trigger an incident command response by SPU. In this instance, the functions of the Water Shortage Response Team can be integrated into the Incident Command System as shown below by the darker shaded boxes. The Response Team Lead role would be filled by the Incident Commander.



Appendix B – Water Shortage Advisory Group Membership

The Water Shortage Advisory Group (WSAG) is a team of key customers and stakeholders whose role is to advise the Water Shortage Response Team on requests or actions made to customers regarding utility water shortage response actions and programs. Membership should represent diverse perspectives. Potential members are shown in the table below. The total number should be no more than 20 organizations.

Category	Potential Member
Wholesale Customers	<ul style="list-style-type: none"> • Water Supply Operating Board representative • Cascade Water Alliance
State and County Agencies	<ul style="list-style-type: none"> • Department of Health, NW Regional Office • Department of Ecology • Washington Department of Fish and Wildlife • King County Department of Natural Resources
Federal Agencies	<ul style="list-style-type: none"> • US Army Corps of Engineers • National Marine Fisheries Service
Landscape and Nursery Industry	<ul style="list-style-type: none"> • Washington State Nursery and Landscape Association • Washington Association of Landscape Professionals • Larger Nurseries (e.g., Molbaks, Sky, Swansons)
Business Community	<ul style="list-style-type: none"> • Seattle Chamber of Commerce • Port of Seattle or Seattle/Tacoma Port Alliance • Manufacturing Industrial Council of Seattle
Environmental	<ul style="list-style-type: none"> • Cedar River Council or Friends of the Cedar • Washington Environmental Council • Environmental Coalition of South Seattle
Tribal	<ul style="list-style-type: none"> • Muckleshoot Indian Tribe • Tulalip Tribes
General Public	<ul style="list-style-type: none"> • Water System Advisory Committee Chair
City Departments	<ul style="list-style-type: none"> • Facilities and Administrative Services • Seattle Parks and Recreation • Seattle City Light • Transportation
Franchisees	<ul style="list-style-type: none"> • City of Shoreline
Regional Water Suppliers	<ul style="list-style-type: none"> • Tacoma Water • City of Everett
SPU Staff	<ul style="list-style-type: none"> • Water Shortage Response Team Lead • Demand Management Lead • Communications Lead • ESJE Lead

Appendix C – Previous WSCP Implementations

SPU has implemented its Water Shortage Contingency Plan (WSCP) six times. Each implementation was due to drought, however each of those implementations was different due to the unique characteristics of each drought. SPU has modified both the WSCP and system operations during drought based on lessons learned from these previous implementations.

The table below highlights a few key aspects of each implementation. More detailed summaries are provided below.

Year	Furthest Stage	Type of Drought	Duration	Statewide Drought
2015	2. Voluntary	Winter/Spring (low snowpack) and Summer (hot/dry temperature)	Late-July to late-Nov	Yes
2005	1. Advisory	Winter/Spring (low snowpack)	Mid-Mar to early-July	Yes
2002	2. Voluntary	Fall/Early Winter (late fall rains)	Late-Oct 2002 to January 2003	No
2001	2. Voluntary	Winter/Spring (low snowpack)	Mid-March to early-Sept	Yes
1992	3. Mandatory	Winter/Spring (low snowpack)	Mid-May to mid-Oct	No
1987	3. Mandatory	Summer/Fall (hot/dry temperature) and Fall/Early Winter (late fall rains)	Early August 1987 to February 1988	N/A

2015 Drought

Very low snowpack levels caused statewide concerns about drought. To account for the lack of snow, the Tolt and Chester Morse Reservoirs were operated to store more rainfall than typical during the late winter and early spring, reaching refill targets earlier than normal. By mid-May, the Governor had declared a statewide drought emergency, but noted that the large municipal water suppliers in the Puget Sound region, such as Seattle, Tacoma and Everett, had adequate reservoir storage to meet their customers' needs and did not anticipate water shortages. Subsequently, the region experienced historical hot and dry conditions causing rapid drawdown of storage at the reservoirs. SPU, in close coordination with Everett and Tacoma, activated the Advisory Stage of their water shortage contingency plans in late July. In August, the three utilities entered the Voluntary Stage of their plans and requested customers to reduce their water use by 10 percent, which was achieved. By late October, water levels in the Chester Morse Reservoir were at lower than typical levels, and SPU used its new pumping plant on Morse Lake to access water stored there. Pumping lasted for five days, when significant rains occurred. During the drought SPU was able to maintain stream flows above the normal guaranteed levels at all times except for 7 days between October 24th and October 30th. During this 7-day period, with the approval of the Cedar River Instream Flow Commission, stream flows were managed to provide flow volumes that were below low normal flows and above critical flows. In November, the three utilities moved back into the Advisory Stage of their water shortage contingency

plans, and then deactivated their plans, when regional water supply conditions returned to normal.

2005 Drought

SPU watersheds experienced the lowest snowpack in 60 years, one of the driest winters on record, and warmer than normal winter temperatures. Water managers responded by activating the Advisory Stage of the WSCP, reducing system water use and maximizing the amount of water held in storage using the dynamic rule curve. In effort to help better position supply for meeting instream resource needs during the summer and fall, the Cedar River Instream Flow Commission agreed to forgo allocation of non-firm supplemental stream flows during the spring. As a result of this active management and nearly average rainfall in the spring, SPU was able to return to normal operations by summer that year.

2002 Drought

The fall rains failed to materialize at the usual time and SPU began mobilizing the pumps on Morse Lake. The Voluntary Stage of the water shortage contingency plan was activated, the public was made aware that supplies were low, and there was the possibility of water restrictions if dry weather continued.

2001 Drought

Snowpack appeared to be very similar to that of 1992, and water supply forecasts made through the end of the year looked dire in early March. Snowpack ended up peaking at 65% of normal, and reservoirs were full or nearly full by June. Nonetheless, with a statewide drought emergency in effect, Seattle asked customers starting in early April, to voluntarily reduce water use by 10 percent. This was rescinded in early August.

1992 Drought

The winter was unusually warm, and snowpack and flows into the storage reservoirs were at record low levels. In late February, it was evident that there was insufficient snowpack to fill the storage reservoirs, and that the likelihood of recovery by June 1 due to rainfall was low. A number of measures were taken to maximize available supply (e.g., reducing system flushing, adjusting stream flow levels, etc.) and to reduce demand. In May, a number of mandatory curtailment actions were implemented, including a ban on lawn watering. This resulted in an average consumption reduction of 25 to 30 percent below normal throughout the summer. Tribes, state resource agencies and the Army Corps of Engineers played a significant role in cooperating to maximize available water supply. In addition, other measures were taken to increase available supply including initiating an intertie with Renton and accelerating the construction of a second pump plant for use of “dead storage” at Chester Morse Lake. The mandatory restrictions were rescinded in September as supply levels returned to normal with the onset of fall rains.

1987 Drought

Storage reservoirs were at normal levels on June 1, but the summer weather was unusually warm and dry. Higher than normal outdoor water use accelerated the drawdown of the storage reservoirs. To reduce demand, in early August lawn watering was restricted to no

more than once every three days and customers were urged to voluntarily curtail other water uses. These actions reduced demand by approximately 10 percent. In early fall, an emergency pumping station was installed at the Chester Morse Lake reservoir to pump "dead storage" in case the reservoir level fell below the lake's natural outlet.

Throughout the fall, precipitation continued to be below normal. The water supply system was managed and adjusted to obtain the maximum supply available (e.g., relying on Lake Youngs more than normal). In November 1987 and January 1988, the Chester Morse Reservoir was low enough to require pumping, and it was not until February 1988 that rainfall began refilling the storage reservoirs.

Appendix D – Communication and Outreach Framework

This document is intended to provide a framework for communication and outreach efforts during implementation of the Water Shortage Contingency Plan. The actual communication and outreach plan will be developed during implementation of the WSCP. The initial plan will be developed in the Advisory Stage, during which SPU plans for the potential of moving into the Voluntary Stage. The communication and outreach plan will be modified as implementation of the WSCP continues, especially if SPU moves into the Mandatory and/or Emergency Stage.

The communication and outreach plan should include the following elements: overall purpose, goals, audience, and tools. More information on each of these elements is provided further below. Selected examples of tools used during the 2015 WSCP implementation are also included.

The following steps should be used to develop the communication and outreach plan:

1. Confirm/modify the overall purpose
2. Confirm/modify the goals
3. Identify which audiences to target and/or to prioritize
4. Identify which tools to develop
5. Match the audiences and the tools
6. Identify staff responsible for developing the tools
7. Identify staff responsible for implementing the communication/outreach
8. Track the implementation
9. Modify as necessary

Overall Purpose

The overall purpose of the communication and outreach effort is to make sure everyone is aware of the "drought/shortage message", which consists of the following components:

1. We are experiencing a drought/shortage
2. We are asking everyone to help by.....(*to be determined for appropriate WSCP stage*)
3. We have suggestions/requirements on how to reduce water use
4. Also see the "key public messages" under each WSCP stage

Goals

There are three goals of the communication and outreach effort, as follows:

1. Build awareness
2. Create a community presence
3. Targeted messaging

Audiences

There are a variety of audiences for the communication and outreach efforts. Some audiences are broad in nature, while others are very specific. The seven main audiences, including locations/organizations/other subcategories, are as follows:

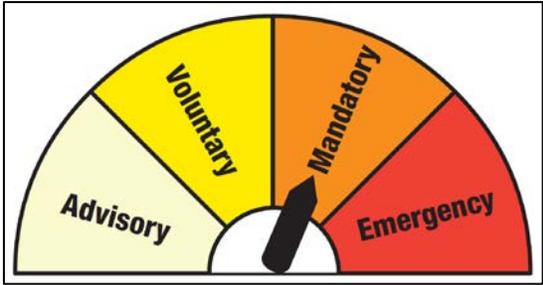
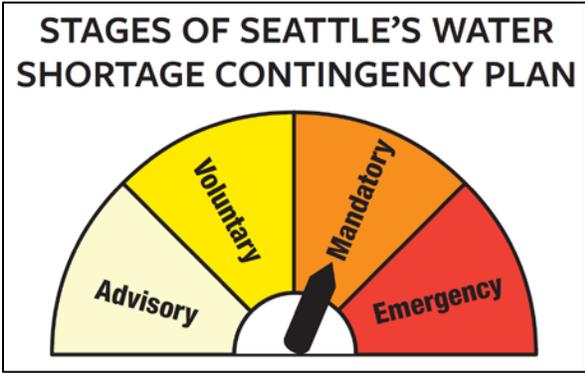
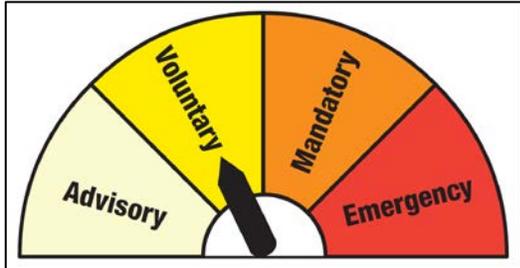
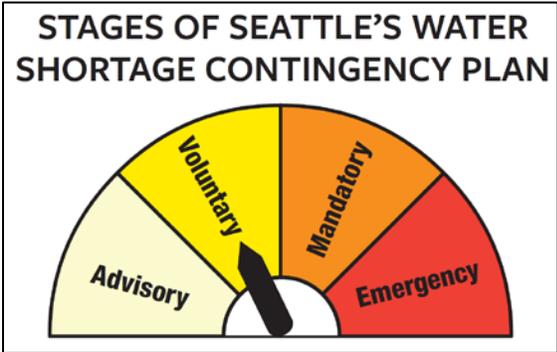
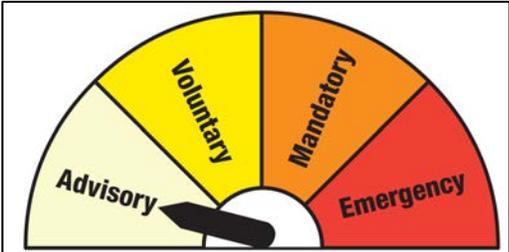
1. General Public
 - City of Seattle community centers
 - City of Seattle libraries
 - City of Seattle neighborhood service centers
 - City of Seattle Department of Neighborhoods
 - SPU community advisory committee
 - Community events
 - Farmers markets
 - Multifamily property management associations
 - Churches
2. Irrigation Community
 - Area parks and recreation departments
 - Schools (if shortage occurs during the school year when irrigation of ballfields is most likely)
 - Prominent nurseries
 - Professional landscape/nursery organizations
 - Garden Hotline
 - 3rd billing tier customers (assumed to be high irrigation users)
3. Large Users (other than irrigation community)
 - SPU key services account representatives
4. Business Community
 - Chambers of commerce
 - Business improvement districts
 - Commercial building operator associations
 - Hotel and restaurant association(s)
 - City of Seattle Office of Economic Development
5. Environmental Community
6. Non-English Speakers
 - Ethnic organizations
 - SPU affinity groups
7. City of Seattle Employees

Tools

There are a variety of tools that can be used for the communication and outreach efforts. Tools used, or considered, for previous WSCP implementations are show below. The list includes both paid and “earned” media. Note that tools may change over time, expecially as changes occur in technology and customers’ preferences.

1. 4-Stages graphic
2. Utility website
3. Tips/restrictions flyer
4. Regular utility publication (bills, bill inserts, newsletters, etc)
5. Press release
6. FAQ
7. Print ad
8. Television ad
9. Radio ad
10. Web ad
11. Social media posting (Facebook, Twitter, Nextdoor, blogs, etc)
12. Signage (building, vehicle, park, etc)
13. Email
14. Letter/postcard
15. Phone call
16. Presentation at meeting
17. Industry newsletter
18. Drought message in email signature line
19. Recording for on-hold callers to utility customer service phone number

4-Stages Graphic (Branded for Seattle and unbranded for others)



Website

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 coloring in your toilet tank, after 10 minutes if you have color in the toilet bowl, you have a flapper leak.
- **Wash Vehicles Wisely** - Wash your vehicle(s) at locations that recycle the water.
- **Use a Broom, Not a Hose** - Use a broom, rather than a hose, to clean sidewalks, driveways and patios.
- **Wash Full Loads** - Wait until your clothes washer and dishwasher are full before starting.

Toilet Rebates - A Great Way to Save

- \$75 [rebates](#) for single-family customers
- \$75 and \$150 [rebates](#) for multifamily customers

gardening videos

- [Mulch](#)
- [Use a soaker hose correctly](#)
- [Go natural with your lawn](#)
- [Plant in Fall](#)

online tools

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

Water Young Trees Efficiently

[Water young trees efficiently](#) using a water bag. Trees planted 5 or fewer years ago need 15-20 gallons of water twice a week to survive.

Let Us Know What You Think!

[Take our water conservation survey](#) and enter to win a free home water and energy-saving kit!

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](#)
- [Highline Water District](#)
- [North City Water District](#)
- [Northshore Utility District](#)
- [Olympic View Water & Sewer District](#)
- [Seattle Public Utilities](#)
- [Soos Creek Water and Sewer District](#)
- [Water District 20](#)
- [Water District 45](#)
- [Water District 49](#)
- [Water District 90](#)
- [Water District 119](#)
- [Water District 125](#)
- [Woodinville Water District](#)
- [Partner contact information](#)

Tips Flyer (Voluntary Stage; co-branded for SPU, Everett & Tacoma)

VOLUNTARY STAGE TOP TIPS



Seattle
Public
Utilities

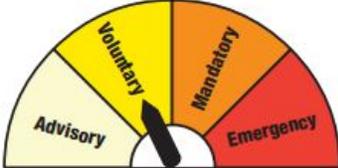


EVERETT



TACOMA WATER
TACOMA PUBLIC UTILITIES

STAGES OF WATER SHORTAGE
CONTINGENCY PLAN



Seattle, Everett and Tacoma are asking customers to voluntarily reduce water use by 10 percent. We are working together to help manage water supplies for people and fish during this unprecedented hot and dry weather and higher-than-normal water use. Here are some great tips to help you achieve that 10% reduction. For more information visit www.savingwater.org.

Please consider doing the following:

<p>Outdoors Tips</p> 	<ul style="list-style-type: none"> • Let your lawn go dormant and limit plant watering to twice a week. • Water plants before 8am (best) or after 7pm. • Wash your vehicle(s) at locations that recycle the water. • Do only essential pressure washing. • Minimize refilling swimming pools and hot tubs. • Turn off water features. • Fall is the best time for planting. <p><i>More Outdoor Tips click below</i> www.savingwater.org/LawnGarden/index.htm</p>	 <p style="background-color: black; color: white; padding: 2px; text-align: center;">Limit plant watering to twice a week.</p>  <p style="background-color: black; color: white; padding: 2px; text-align: center;">Water plants before 8am (best) or after 7pm.</p>
<p>Indoors Residential Tips</p> 	<ul style="list-style-type: none"> • Reduce your showering time. • Check for and fix leaks. • Wash only full loads of laundry and dishes. • Turn off the tap while brushing your teeth or shaving. • Don't pre-rinse dishes. • If purchasing fixtures/equipment, choose water-efficient models. <p><i>More Indoor Residential Tips click below</i> www.savingwater.org/Indoors/index.htm</p>	 <p style="background-color: black; color: white; padding: 2px; text-align: center;">Reduce your showering time.</p>  <p style="background-color: black; color: white; padding: 2px; text-align: center;">Wash only full loads of laundry and dishes.</p>
<p>Indoors Businesses Tips</p> 	<ul style="list-style-type: none"> • Encourage reduced showering times at your facilities. • Serve water only on request. • Check for and fix leaks. • Wash only full loads of laundry and dishes. • Provide new towels only on request. • Check cooling towers for overflow and excessive blowdown. • If purchasing fixtures/equipment, choose water-efficient models. <p><i>More Indoor Business Tips click below</i> www.savingwater.org/Businesses/index.htm</p>	 <p style="background-color: black; color: white; padding: 2px; text-align: center;">Serve water only on request.</p>

8/10/15

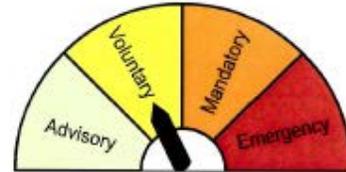
Tips Flyer (Voluntary Stage; branded by wholesale customer)

Voluntary Stage Top Tips



Woodinville Water District
 17238 NE Woodinville-Duvall Rd
 P O Box 1390
 Woodinville WA 98072
 (425) 487-4100

STAGES OF WATER SHORTAGE CONTINGENCY PLAN



Seattle, Everett and Tacoma are asking customers to voluntarily reduce water use by 10 percent. We are working together to help manage water supplies for people and fish during this unprecedented hot and dry weather and higher-than-normal water use. Here are some great tips to help you achieve that 10% reduction. For more information visit www.savingwater.org.

Please consider doing the following:

Outdoors Tips



- Let your lawn go dormant and limit plant watering to twice a week.
- Water plants before 8am (best) or after 7pm.
- Wash your vehicle(s) at locations that recycle the water.
- Do only essential pressure washing.
- Minimize refilling swimming pools and hot tubs.
- Turn off water features.
- Fall is the best time for planting.

More Outdoor Tips click below
www.savingwater.org/LawnGarden/index.htm



Limit plant watering to twice a week.



Water plants before 8am (best) or after 7pm.

Indoors Residential Tips



- Reduce your showering time.
- Check for and fix leaks.
- Wash only full loads of laundry and dishes.
- Turn off the tap while brushing your teeth or shaving.
- Don't pre-rinse dishes.
- If purchasing fixtures/equipment, choose water-efficient models.

More Indoor Residential Tips click below
www.savingwater.org/Indoors/index.htm



reduce your showering time.

Indoors Businesses Tips



- Encourage reduced showering times at your facilities.
- Serve water only on request.
- Check for and fix leaks.
- Wash only full loads of laundry and dishes.
- Provide new towels only on request.
- Check cooling towers for overflow and excessive blowdown.
- If purchasing fixtures/equipment, choose water-efficient models.

More Indoor Business Tips click below
www.savingwater.org/Businesses/index.htm



Wash only full loads of laundry and dishes.



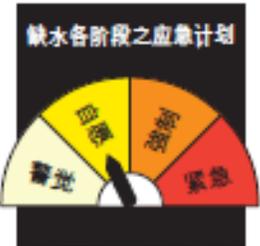
Serve water only on request.

8/10/15

Tips Flyer (Voluntary Stage; translated; co-branded for SPU, Everett & Tacoma)

VOLUNTARY STAGE TOP TIPS 自願性階段省水妙招

Seattle, Everett and Tacoma are asking customers to voluntarily reduce water use by 10 percent. We are working together to help manage water supplies for people and fish during this unprecedented hot and dry weather and higher-than-normal water use. Here are some great tips to help you achieve that 10% reduction. For more information visit www.savingwater.org.



西雅图, 埃弗雷特市 (Everett) 和塔科马市 (Tacoma) 请求各用户自愿性地减少 10% 的用水。我们正面临史无前例的干热天气, 以及比平常更高的用水需求, 我们需要合作管理, 以满足居民和鱼类的需要。以下为您列出一些能达到省水 10% 的妙招。欲进一步了解, 请参考以下网站: www.savingwater.org.

Please consider doing the following:

Outdoors Tips

- Let your lawn go dormant and limit plant watering to twice a week.
- Water plants before 8am (best) or after 7pm.
- Wash your vehicle(s) at locations that recycle the water.
- Do only essential pressure washing.
- Minimize refilling swimming pools and hot tubs.
- Turn off water features.
- Fall is the best time for planting.

More Outdoor Tips click below
www.savingwater.org/LawnGarden/index.htm

每周浇水限于两次。

早上 8 点前 (最佳时机) 或晚上 7 点后再浇水。

请参考以下建议:

户外妙招

- 让您的草坪休眠, 每周浇水限于两次。
- 早上 8 点前 (最佳时机) 或晚上 7 点后再浇水。
- 到能回收水的洗车站洗车。
- 不到必要时不用高压冲洗。
- 将游泳池和热水池换水的频率降到最低。
- 将景观水关掉。
- 秋天是种植的最佳时机。

更多户外省水妙招, 请参考以下网站:
www.savingwater.org/LawnGarden/index.htm

Indoors Residential Tips

- Reduce your showering time.
- Check for and fix leaks.
- Wash only full loads of laundry and dishes.
- Turn off the tap while brushing your teeth or shaving.
- Don't pre-rinse dishes.
- If purchasing fixtures/equipment, choose water-efficient models.

More Indoor Residential Tips click below
www.savingwater.org/Indoors/index.htm

减少淋浴时间。

洗衣机和洗碗机满了才洗。

室内居家妙招

- 减少淋浴时间。
- 检查和修理漏水的地方。
- 洗衣机和洗碗机都等到满了再开启。
- 刷牙和刮胡子时请把水关掉。
- 洗碗前不要预冲。
- 购买家具或家电时, 选择有省水设计的产品。

更多室内居家省水妙招, 请参考以下网站:
www.savingwater.org/Indoors/index.htm

Indoors Businesses Tips

- Encourage reduced showering times at your facilities.
- Serve water only on request.
- Check for and fix leaks.
- Wash only full loads of laundry and dishes.
- Provide new towels only on request.
- Check cooling towers for overflow and excessive blowdown.
- If purchasing fixtures/equipment, choose water-efficient models.

More Indoor Business Tips click below
www.savingwater.org/Businesses/index.htm

客人提出请求时才送水。

室内商家妙招

- 鼓励客人在您的设施内减少淋浴时间。
- 客人提出请求时才送水。
- 检查和修理漏水的地方。
- 洗衣机和洗碗机都等到满了再开启。
- 客人提出请求时才提供新毛巾。
- 检查冷却水塔是否有溢出或过多的蒸气排放。
- 购买家具或家电时, 选择有省水设计的产品。

更多室内商家省水妙招, 请参考以下网站:
www.savingwater.org/Businesses/index.htm



Free interpretation available. (206) 684-3000
若需免费口译之服务, 请拨打 (206) 684-3000

Simplified Chinese 5/15/15

Regular Utility Publication (SPU “@ Your Service” utility bill insert Sept-Oct)



September - October

@ Your

SERVICE

Information about your water, drainage, wastewater and solid waste utility services.

Water Supply



The record breaking hot summer has left many Seattle residents looking forward to fall and winter rains. Until those steady rains return, Seattle Public Utilities asks that you manage your water use thoughtfully by doing the following:

- Put two inches of mulch on planting beds and around trees.
- If you are still watering outdoors, do so before 8 a.m. or after 7 p.m.
- Wash only full loads of laundry and dishes.
- Wash vehicles only at a location that recycles water.
- Use a broom – not a hose to clean decks, patios, driveways and sidewalks.
- Turn off the tap while brushing your teeth or shaving.
- Fix leaking toilets and dripping sinks.

For more tips on using water wisely, visit www.savingwater.org.

Using Water Carefully Benefits Salmon

What do salmon and saving water have to do with each other? Conserving water in the summer and fall helps leave water in the rivers for salmon and wildlife. Your actions can help save money on your water bill and protect salmon and their freshwater habitat. You can see your efforts pay off when salmon make their annual migration home to our local streams. Find out when and where salmon are returning by visiting www.kingcounty.gov/salmon and clicking on “Salmon SEEson.”





See Salmon at Carkeek Park

See the hundreds of chin salmon return to Piper’s Creek in Carkeek Park. Join volunteers from the Salmon Stewards program Saturdays and Sundays, November 7 – December 6, from 11 a.m. to 2 p.m and learn how you can help keep salmon habitat healthy. There will be children’s activities, food, hot drinks, and music at the Piper’s Creek Salmon Celebration, Friday, November 27, from 11 a.m. to 1 p.m.

Visit www.seattle.gov/protectourwaters to learn more.

Questions? Email Bill Malatinsky at bill.malatinsky@seattle.gov or call 206-684-5999 or visit <http://bit.ly/SalmonStewards>

Fall Garden and Landscaping Water Conservation Tips

Fall is an ideal time to prepare your landscape and garden for next year.

- Add 2 to 3 inches of mulch (fall leaves, woodchips or compost) to the surface of bare soils. Mulch helps protect plant roots during freezing weather.
- Turn off your automatic sprinkler system. Watering your plants in the fall can delay them from preparing for dormancy, making them more susceptible to early freezes.
- Plant new trees, shrubs or perennials! Cooler air and warm soil help plants develop strong roots ahead of our dry summers.

Gardening questions?

Contact the Garden Hotline at (206) 633-0224 or email from www.gardenhotline.org.

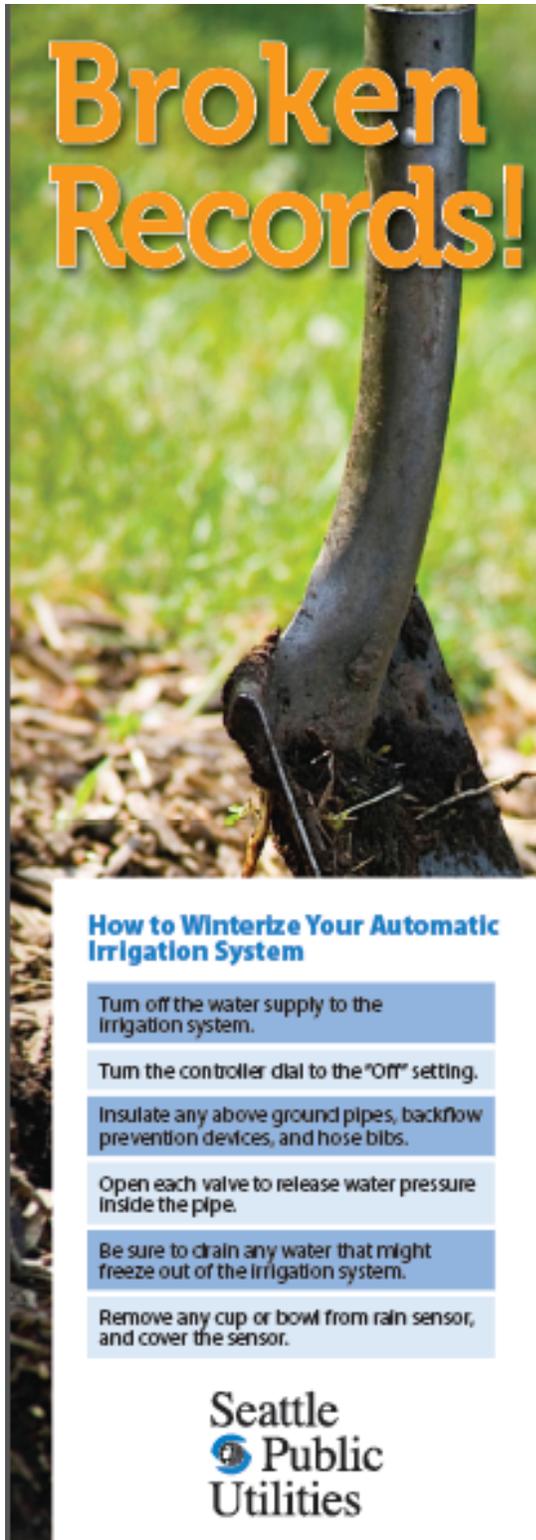
Go to www.savingwater.org for a compost calculator, fall planting video and much more.



Green Seattle Day

Join us for the 10th Annual Green Seattle Day on Saturday, November 7 to plant the future forest of Seattle in your favorite park! This will be a celebration of Seattle’s urban forest and everyone can help! Help us to plant trees and other plants in parks throughout the City, to keep Seattle healthy and green into the future. For more information and to sign up, visit us at www.greenseattle.org, or call (206) 905-6943.

Regular Utility Publication (SPU “Curb Waste & Conserve” newsletter Fall)



Broken Records!

Have you broken anything lately? Seattle has: heat records! Seattle has been hotter and drier than normal, and more warm days may be coming. With warm weather comes the need to conserve water. Not just for drinking, but for healthy fish habitat too! Now is the time of year when salmon return and need higher river and stream flows to successfully spawn. Here are some tips to help you use water wisely on your landscape:

STOP WATERING. As temperatures become cooler and the days shorter, plants enter the initial phase of dormancy when no water is needed. Turn off your automatic irrigation controller. Fix leaky sprinkler heads and broken nozzles. Prepare your irrigation system for winter.

WEED AND MULCH. After your fall clean-up and weeding, add a 2–3 inch layer of mulch to the soil surface. Arborist wood chips work best around woody plants and trees, while fall leaves or compost should go around perennials. Mulch helps protect plant roots during freezing weather. Mulch also helps reduce water evaporation, blocks weeds, prevents erosion by winter rains and feeds the soil.

WATER YOUNG TREES EFFICIENTLY. If the rains haven't returned yet, water young trees efficiently using a water bag. Trees planted 5 or less years ago need 15-20 gallons of water twice a week to survive.

QUESTIONS? Contact the Garden Hotline for free answers to your gardening questions! (206) 633-0224 or www.gardenhotline.org. Visit www.savingwater.org for more watering tips and lots of information about environmentally friendly lawn and garden care.

How to Winterize Your Automatic Irrigation System

- Turn off the water supply to the irrigation system.
- Turn the controller dial to the “Off” setting.
- Insulate any above ground pipes, backflow prevention devices, and hose bibs.
- Open each valve to release water pressure inside the pipe.
- Be sure to drain any water that might freeze out of the irrigation system.
- Remove any cup or bowl from rain sensor, and cover the sensor.

Seattle Public Utilities

Print Ads (Seattle Times)



Seattle
Public
Utilities

Our drinking water
isn't just for us.

Please keep doing your part
to reduce water use.

Savingwater.org

Seattle's water gives life to salmon habitat
in the Tolt and Cedar Rivers

The advertisement features a vertical layout with a light blue background. At the top left is the Seattle Public Utilities logo. The main text is centered and reads 'Our drinking water isn't just for us.' followed by 'Please keep doing your part to reduce water use.' and the website 'Savingwater.org'. The bottom portion of the ad shows a photograph of two vibrant red salmon swimming in a river with white water rapids. A small caption at the bottom left of the photo reads 'Seattle's water gives life to salmon habitat in the Tolt and Cedar Rivers'.

Signage (Kitchens in many City of Seattle buildings)



REMINDER TO CITY EMPLOYEES

- AS OF AUGUST 11, WE ARE IN THE VOLUNTARY STAGE OF OUR WATER SHORTAGE CONTINGENCY PLAN.
- EVERYONE IS ASKED TO VOLUNTARILY REDUCE WATER USE BY 10%.
- PLEASE BE MINDFUL OF YOUR WATER USE. FOR EXAMPLE, DON'T LEAVE WATER RUNNING IN THE KITCHEN OR BATHROOM.
- GO TO WWW.SAVINGWATER.ORG FOR WATER-SAVING TIPS.

Our customers are stepping up to the plate.....let's do our part!



Signage (Doors of many City of Seattle buildings)



PLEASE SAVE WATER

- AS OF AUGUST 11, WE ARE IN THE VOLUNTARY STAGE OF OUR WATER SHORTAGE CONTINGENCY PLAN.
- EVERYONE IS ASKED TO VOLUNTARILY REDUCE WATER USE BY 10%.
- ▲ PLEASE BE MINDFUL OF YOUR WATER USE. FOR EXAMPLE, DON'T LEAVE WATER RUNNING IN THE KITCHEN OR BATHROOM.
- GO TO WWW.SAVINGWATER.ORG FOR WATER-SAVING TIPS.

Let's do our part!



Signage (Lobbies of many City of Seattle buildings)



Signage (City Hall and Municipal Court fountains)



Signage (Wholesale customer building)



Appendix E – Potential Customer Demand Reduction Actions

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
1	Clothes Washing	Behavior	N/A - Conservation	Indoor	Year Round	NR	Towels On Request: Provide new towels only on request.	No	
2	Clothes Washing	Hardware	N/A - Conservation	Indoor	Year Round	SF & MF	Efficient Clotheswashers: If buying a new clotheswasher, select a water-efficient model. Clotheswashers are the second largest water users in homes.	No	
3	Clothes Washing & Dish Washing	Behavior	N/A - Conservation	Indoor	Year Round	All	Wash Full Loads: Wash only full loads of laundry and dishes.	No	
4	Cooling Towers	Behavior	N/A - Conservation	Indoor	Year Round	NR	Check Cooling Towers: Check cooling towers for overflow and excessive blowdown.	No	
5	Dish Washing	Behavior	N/A - Conservation	Indoor	Year Round	SF & MF	Don't Pre-Rinse Dishes: Don't pre-rinse dishes unless heavily soiled. Most new dishwashers don't require pre-rinsing.	No	
6	Faucets	Behavior	N/A - Conservation	Indoor	Year Round	SF & MF	Turn Off Tap: Turn off the tap while brushing your teeth or shaving.	No	
7	Faucets	Behavior	N/A - Conservation	Indoor	Year Round	All	Minimize Garbage Disposal: Put food waste in your compost bin, rather than using your garbage disposal.	No	
8	Faucets	Behavior	N/A - Conservation	Indoor	Year Round	NR	Thaw in Fridge: Thaw frozen food in the refrigerator, rather than under running water.	No	

Potential Customer Demand Reduction Actions¹

(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
9	Faucets	Hardware	N/A - Conservation	Indoor	Year Round	SF & MF	Efficient Faucets: Replace older bathroom faucet aerators with WaterSense models, which use far less water. <i>(Note: There are different flow rates for residential vs non-residential. This is the residential version.)</i>	No	
10	Faucets	Hardware	N/A - Conservation	Indoor	Year Round	NR	Efficient Faucets: Replace older bathroom faucet aerators with newer, more-efficient models that use 0.5/1.0 gallon per minute or less. <i>(Note: There are different flow rates for residential vs non-residential. This is the non-residential version.)</i>	No	
11	Faucets	Behavior	Voluntary	Indoor	Year Round	NR	Water On Request: Serve water only on request, and then ask before refilling.	No	
12	Fire Lines	Behavior	Mandatory	Indoor	Year Round	NR	No Fire Line Testing: Fire line testing within buildings is prohibited. <i>(Note: Confirm w/ Fire Department this is reasonable.)</i>	No	Yes
13	Hose	Behavior	N/A - Conservation	Outdoor	Year Round	All	Use a Broom Not Hose: Use a broom, rather than a hose, to clean sidewalks, driveways, and patios.	No	
14	Hose	Behavior	N/A - Conservation	Outdoor	Year Round	All	Hose Shut-Offs: Never leave a hose running; always use a shut-off nozzle.	No	
15	Hose	Behavior	Mandatory	Outdoor	Year Round	All	No Hose Washing: Using a hose to clean sidewalks, driveways, and patios is prohibited. Use a broom instead.	Yes	Yes

Potential Customer Demand Reduction Actions¹

(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
16	Irrigation - Frequency	Behavior	N/A - Conservation	Outdoor	Summer	All	Water Deeply, But Infrequently: It's better to have one or two deep waterings, rather than several shallow waterings.	No	
17	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	Eliminate One Watering Day: Cut one day from your typical weekly watering schedule (except for young trees as noted elsewhere). (Note: The similar "Water X Times A Week Maximum" series might be preferred wording, but this is included as an option.)	No	
18	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	Eliminate Two Watering Days: Cut two days from your typical weekly watering schedule (except for young trees as noted elsewhere). (Note: The similar "Water X Times A Week Maximum" series might be preferred wording, but this is included as an option.)	No	
19	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	Eliminate Three Watering Days: Cut three days from your typical weekly watering schedule (except for young trees as noted elsewhere). (Note: The similar "Water X Times A Week Maximum" series might be preferred wording, but this is included as an option.)	No	
20	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	Water Twice A Week Maximum: Limit plant watering to twice a week.	No	

Potential Customer Demand Reduction Actions¹

(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
21	Irrigation - Frequency	Behavior	Voluntary	Outdoor	Summer	All	Water Once A Week Maximum: Limit plant watering to once a week (except for young trees as noted elsewhere).	No	
22	Irrigation - Frequency	Behavior	Mandatory	Outdoor	Summer	All	Water Twice A Week Maximum: Plant watering is only allowed twice a week, in accordance with the published schedule by address.	Yes	
23	Irrigation - Frequency	Behavior	Mandatory	Outdoor	Summer	All	Water Once A Week Maximum: Plant watering is only allowed once a week, in accordance with the published schedule by address.	Yes	
24	Irrigation - Method	Behavior	N/A - Conservation	Outdoor	Summer	All	Tune Up Automatic Systems: Do an efficiency tune up of your automatic irrigation system such as fixing overspray onto sidewalks and ensuring sprinkler heads reach adjacent sprinkler heads.	No	
25	Irrigation - Method	Behavior	N/A - Conservation	Outdoor	Summer	All	Get Water to the Roots: Use soaker hoses, drip irrigation, or watering wands to deliver water where it's needed.	No	
26	Irrigation - Method	Behavior	N/A - Conservation	Outdoor	Summer	All	Water Young Trees Efficiently: Water young trees efficiently using a water bag. Trees planted 5 or fewer years ago need 15-20 gallons of water twice a week to thrive.	No	

Potential Customer Demand Reduction Actions¹

(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
27	Irrigation - Method	Behavior	Voluntary	Outdoor	Summer	All	Water Young Trees Efficiently: Water young trees efficiently using a water bag. Trees planted 5 or fewer years ago need 15-20 gallons of water once a week to survive. <i>(Note: This is only appropriate if the maximum temperatures are in the low 70s w/ occasional showers and not peak daylight hours.)</i>	No	
28	Irrigation - Method	Hardware	N/A - Conservation	Outdoor	Summer	All	Upgrade Automatic Systems: Consider efficiency upgrades to your automatic irrigation system such as weather-based or soil-based controllers.	No	
29	Irrigation - Method	Behavior	Mandatory	Outdoor	Summer	All	No Automatic Irrigation: Use of automatic irrigation systems is prohibited. Watering by hand, soaker hose, and/or drip irrigation is allowed.	Yes	Yes
30	Irrigation - Other	Hardware	N/A - Conservation	Outdoor	Summer	All	2 Inches of Mulch: Put 2 inches of mulch on planting beds and around trees, which reduces evaporation. Keep the mulch a hands-width away from the trunk.	No	
31	Irrigation - Other	Behavior	Mandatory	Outdoor	Summer	All	No Irrigation: Irrigation is prohibited.	Yes	Yes
32	Irrigation - Plant Material	Behavior	N/A - Conservation	Outdoor	Summer	All	Mow High: Set your lawn mower blade to cut grass 2 inches high, which reduces evaporation.	No	

Potential Customer Demand Reduction Actions¹

(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
33	Irrigation - Plant Material	Behavior	Voluntary	Outdoor	Summer	SF & MF	Let Lawn Go Dormant: If your lawn isn't already dormant (brown), let it go dormant until the fall rains return. Just water deeply once each month to keep roots alive.	No	
34	Irrigation - Plant Material	Hardware	Voluntary	Outdoor	Summer	All	Plant in Fall: Consider delaying new plantings. Fall is the best time for planting new trees, shrubs and perennials, since rain provides natural irrigation.	No	
35	Irrigation - Plant Material	Behavior	Mandatory	Outdoor	Summer	All	No Lawn Watering: Watering of lawns is prohibited.	Yes	Yes
36	Irrigation - Timing	Behavior	N/A - Conservation	Outdoor	Summer	All	Water Early or Late: Water before 8am or after 7pm, which reduces evaporation.	No	
37	Irrigation - Timing	Behavior	Mandatory	Outdoor	Summer	All	Water Early or Late: Watering between 8am and 7pm is prohibited, due to high evaporation.	Yes	
38	Kitchen	Hardware	N/A - Conservation	Indoor	Year Round	NR	Commercial Kitchen Equipment: If buying new food steamers, dishwashers, or ice machines, select water-efficient models.	No	
39	Leaks	Behavior	N/A - Conservation	Outdoor	Summer	All	Fix Leaks: Check for and fix outdoor leaks, such as at hose bibs, spray heads, valves, and broken pipes.	No	

Potential Customer Demand Reduction Actions¹

(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
40	Leaks	Behavior	N/A - Conservation	Indoor	Year Round	SF & MF	Fix Leaks: Check for and fix indoor leaks, such as at faucets. Also, check your toilets for silent leaks. Put several drops of food coloring in your toilet tank. After 10 minutes, if you have color in the toilet bowl, you have a flapper leak. <i>(Note: For the non-residential sector, specify for "tank" toilets for the toilet check.)</i>	No	
41	Other	Behavior	N/A - Conservation	Indoor	Year Round	NR	Equipment Not in Use: Turn off water-using equipment when not in use, including dishwashers, garbage disposals, and food troughs.	No	
42	Other	Behavior	N/A - Conservation	Both	Year Round	NR	Employee Awareness: Increase employee awareness about using water wisely and encourage their suggestions.	No	
43	Other	Hardware	N/A - Conservation	Indoor	Year Round	NR	Other Water-Using Equipment: Consider upgrading any other water-using equipment to models that are more efficient.	No	
44	Pools & Hot Tubs	Behavior	N/A - Conservation	Outdoor	Year Round	All	Pool & Hot Tub Covers: Use covers on swimming pools and hot tubs when not in use to reduce evaporation.	No	
45	Pools & Hot Tubs	Behavior	Voluntary	Outdoor	Year Round	All	Minimize Filling Pools & Hot Tubs: Minimize refilling swimming pools and hot tubs.	No	
46	Pools & Hot Tubs	Behavior	Mandatory	Outdoor	Year Round	All	No Pools & Hot Tubs: Filling swimming pools and hot tubs is prohibited. <i>(Note: Add a statement about safety around empty pools/tubs.)</i>	Yes	Yes

Potential Customer Demand Reduction Actions¹

(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
47	Pressure Washing	Behavior	Voluntary	Outdoor	Year Round	All	Minimize Pressure Washing: Do only essential pressure washing.	No	
48	Pressure Washing	Behavior	Mandatory	Outdoor	Year Round	All	No Pressure Washing: Pressure washing is prohibited.	Yes	Yes
49	Showers	Hardware	N/A - Conservation	Indoor	Year Round	All	Efficient Showerheads: Replace older showerheads with WaterSense models, which use far less water.	No	
50	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	Shorter Showers (a): Reduce your showering time. <i>(Note: This was the "shorter showers" action that was promoted during the 2015 WSCP implementation.)</i>	No	
51	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	Shorter Showers (b): Reduce your showering time by one minute.	No	
52	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	Shorter Showers (c): Reduce your showering time, by two minutes.	No	
53	Showers	Behavior	Voluntary	Indoor	Year Round	SF & MF	Shorter Showers (d): Limit showers to five minutes or less.	No	
54	Toilets	Hardware	N/A - Conservation	Indoor	Year Round	All	Efficient Toilets: If buying a new toilet, look for a WaterSense or Premium WaterSense model, which use far less water than older models. Toilets are the largest water users in homes. <i>(Note: For the non-residential sector, add urinals.)</i>	No	
55	Toilets	Behavior	Mandatory	Indoor	Year Round	SF & MF	Less Toilet Flushing: Flush your toilet less often. As the saying goes, "If it's yellow, let it mellow." Toilet flushing is the largest water use inside the home.	No	

Potential Customer Demand Reduction Actions¹

(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	

1. This is a list of potential actions that customers can take to reduce their water use. The actual actions requested/required for each stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed. The list is in Excel, to allow for sorting and filtering, which should help develop the actual list of actions to be implemented. The list is sorted by 1) end use, 2) behavior vs hardware, 3) WSCP stage.

2. The end use is how the water is being used and is typically a type of water-using fixture/equipment (e.g., showers).

3. The requested/required list of actions should include both hardware and behavior actions in order to: 1) increase the demand reduction potential, 2) ensure every customer type has actions they can do, and 3) minimize the cost to participate. For example, since some customers do not have control

Potential Customer Demand Reduction Actions¹

(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
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over their water-using hardware, it is important to make sure they have behavior actions. Similarly, since behavior actions are typically free, it is important to include many of them.

4. The stage designation is a suggestion, but may be appropriate to change due to circumstances of a particular shortage. Note the following about the stage designations:
 - **N/A - Conservation:** None of the actions are designated as Advisory since that stage is internally focused and is not intended to include outreach to customers. However, some actions are identified as Conservation for two reasons. First, if the public/press become aware that SPU has activated the WSCP (at the Advisory Stage level), SPU may be asked to provide suggested customer actions. In that case, the Conservation actions (things SPU recommends continually and do not involve customer sacrifice) would be appropriate. Second, many of the Conservation actions can be promoted in the higher stages since some customers may choose not to follow these recommendations and, thus, while technically conservation actions, can be used as curtailment actions.
 - **Voluntary/Mandatory:** The Voluntary and Mandatory actions are true curtailment.
 - **Emergency:** No Emergency actions are identified, however they would likely be the Mandatory actions, without most exemptions.
5. The requested/required list of actions should include both indoor and outdoor actions in order to: 1) increase the demand reduction potential, and 2) ensure every customer type has actions they can do. For example, since apartment dwellers won't be able to implement most outdoor actions, it is important to make sure there is a sufficient number of indoor actions for them.
6. The seasonality of the action is important to consider in regards to the timing of the shortage. For example, if the shortage does not occur during the summer, it is unlikely that the Summer actions (mostly irrigation-related) would be useful.
7. SF = single family; MF = multifamily; NR = non-residential (commercial, industrial, institutional). The requested/required list of actions should include options for all sectors in order to: 1) increase the demand reduction potential, and 2) ensure every customer type has actions they can do.
8. The specific language for each measure has been carefully crafted, based on previous implementations of the WSCP. However, the language is still just a suggestion and can be edited for many reasons including length. Note that some end uses have several, similar sounding actions. In some cases, it is to provide options for the team to consider (e.g., the number of days to restrict irrigation to). In other cases, it is to provide actions for several stages (e.g., minimize vehicle washing for voluntary and prohibit vehicle washing in mandatory.)
9. The column indicates whether SPU would likely enforce the action. Enforcement is only applicable to the Mandatory (and the eventual Emergency) actions. Outdoor actions are typically stronger candidates for enforcement, compared to indoor actions, since SPU staff can more readily see outdoor water uses (e.g., irrigation, hose use, car washing, etc.).
10. Some Mandatory (and the eventual Emergency) actions will have exemptions associated with them, such as for irrigation restrictions. This column indicates a potential exemption. See a separate appendix for more details regarding exemptions.

Appendix F – Utility Customer Outreach Checklist

This checklist is intended to be used by every utility that is part of the Seattle Water Supply System (wholesale customers of SPU) during implementation of the Water Shortage Contingency Plan. The checklist differentiates between actions that SPU will perform on behalf of its wholesale customers and actions that each individual utility is responsible for.

Utility Name: _____

Check Box	Customer Outreach Action
SPU Does For the Region	
	Statewide Actions and Messaging: Coordinate with Ecology, Health, and Governor’s Office.
	Tri-County Actions and Messaging: Coordinate with Tacoma and Everett, as needed.
	Seattle Water Supply System Actions and Messaging: Lead coordination of the Operating Board and the Conservation Technical Forum.
	Regional Press Release: Issue regional press releases to major media outlets (& conduct subsequent media interviews).
	Regional Traditional Media: Purchase regional traditional media ads such as tv, radio, print, as appropriate.
	Regional Drought Website: Host a website to serve as the main drought website. This would likely be www.savingwater.org , with a link to the SPU Water Supply page.
	Tips Flyer - Create: Create a flyer that helps customers: 1) understand there is a shortage situation and 2) understand ways to reduce their water use.
	Landscaping Community: Outreach to key landscaping community contacts including nurseries (e.g., Molbaks, Sky, Swansons), industry organizations (WALP, WSNLA), the Garden Hotline, and parks/recreation departments. For contacts that are in wholesale customers’ service areas, SPU will coordinate the outreach with the appropriate wholesale customer.
Expected By Each Utility	
	Utility Websites: Post drought information prominently on the utility's homepage and link to the regional drought website.
	Tips Flyer - Utilize: Make the tips flyer readily available (e.g., on utility website, in utility lobby, distribute in public areas such as community centers, libraries, etc.).
	Utility Bill / Insert / Newsletter: Include drought messages in existing utility "publications" such as bills, bill inserts, newsletters, etc.
	Social Media: Include drought messages in any social media vehicles used by the utility such as Facebook, twitter, Next Door, etc.

	Signage: Post signage in appropriate locations (e.g., at utility buildings, on utility vehicles, in key locations in service area).
	Brief Staff: Brief utility staff regarding the drought, using the SPU-produced FAQ as one tool.
	Events: Highlight the drought message at any community events the utility is participating in.
Suggested For Each Utility	
	Key Customers: Contact key customers directly (e.g., large water users, significant irrigators, highest billing tier, etc.).
	Local Press Release: Issue press releases to local media outlets (& conduct subsequent media interviews).
	On-Hold Message: Put a drought message to the telephone "on hold" messages for customers.
	Email Signature Line: Add a drought message in the email signature for utility staff.

Appendix G – Potential Exemptions for Water Use Restrictions

This document provides a framework for developing and implementing exemptions to customer water use restrictions that are part of the Mandatory and Emergency stages of the WSCP.

Background

Water use restrictions are key components of the Mandatory and Emergency Stages of the WSCP. For some water use restrictions, exemptions for continued water use may be appropriate. Exemptions can be useful in balancing the need to reduce overall water demand with minimizing hardships imposed on customers and certain industries, as well as protecting health and safety. For example, in the Mandatory stage, SPU may prohibit irrigation for established plants, while allowing irrigation for newly planted landscapes because of their need for water to survive their establishment period.

The importance of exemptions, and effective implementation of them, was learned from the 1992 implementation of the WSCP, which advanced to the Mandatory Stage. Lawn watering was banned and initially there were no clear exemptions. Prohibiting lawn watering is a sensitive issue, and doing so without clear exemptions made the situation even more difficult. Both individual customers and the professional landscaping industry were extremely frustrated. SPU's long-term relationship with the landscape industry, which is important to advancing SPU's water, drainage, and solid waste goals, suffered as a result. One lesson learned from the 1992 drought was to minimize exemptions and to advertise them up front.

As described previously, the WSCP does not pre-identify specific demand reduction actions for each stage. Rather a comprehensive list of potential actions customers can take to reduce water use is provided in Appendix E. The actual actions requested or required for each stage will depend on the severity, likely duration, and timing of the shortage, as well as the demand reduction needed.

Similarly, the exact exemptions for the water use restrictions eventually selected for implementation in the Mandatory and Emergency Stages are not pre-identified. Rather this document provides a framework to be used during each implementation of the WSCP for how to develop and implement the restrictions.

Potential Exemptions

Potential exemptions that should be considered include, but are not limited to, the following:

- **Irrigation (Lines 29, 31 and 35 in Appendix E)**
 - Newly planted landscapes (Will need to define “new” which could be within 12 months, within the calendar year, or something else. For lawns, likely clarify that “new” does not include overseeding. Need to be clear that plantings done after restrictions are announced are not eligible unless done as part of a capital project and necessary for a function purpose such as slope stabilization rather than for aesthetics.)
 - Sports fields (because they contribute to physical and psychological benefits of children and adults, and can be dangerous if not kept watered)
 - Golf course tees and greens (restrictions would apply to the fairways)
 - High traffic turf in parks
 - Trees (because they cannot be quickly or inexpensively replaced)
 - Plant nurseries and garden centers watering plant inventory
 - Food crops
 - Disabled gardeners who cannot hand water (applicable to prohibition of automatic systems; likely do not publicize)
- **Vehicle Washing (Line 58 in Appendix E)**
 - Vehicle washing at a commercial car washing facility. (The default potential restriction for vehicle washing is “washing of vehicles is prohibited, unless at a location that recycles the water”.) This potential exemption is essentially changing that restriction to be “washing of vehicles is prohibited, unless at a commercial facility” and is a recognition that the former might have a significant negative financial impact on car washes that do not recycle the water.
- **Pressure Washing (Line 48 in Appendix E)**
 - Pressure washing necessary to protect public health and safety (not for aesthetic purposes), such as washing downtown parks/sidewalks to clear trash, food, and human waste.
 - Pressure washing that is part of scheduled building rehabilitation, such as preparing a surface for painting.

- **Hose Washing (Line 15 in Appendix E)**
 - Hose washing necessary to protect public health and safety (not for aesthetic purposes), such as washing downtown parks/sidewalks to clear trash, food, and human waste.
- **Swimming Pools and Hot Tubs (Line 46 in Appendix E)**
 - Health care facilities such as hospital physical therapy pools
 - Commercial businesses where swimming pools or hot tubs are central to their business and shutting them down would have a significant negative financial impact.
 - Public swimming and wading pools, since they serve a large number of people and can offset the use of private, personal pools that serve a small number of people.
- **Fire Line Testing (Line 12 in Appendix E)**
 - Testing necessary to protect public health and safety.
- **Private Wells / Reclaimed Water**
 - Any use of water that is not from the public water system but is from private wells or reclaimed water. SPU does not have the authority to restrict use of these sources. SPU could encourage users to post signs to indicate that alternative sources of water are being used.

Development Process

The recommended process to develop and implement the exemptions is as follows:

- Once the water use restrictions have been determined, develop any associated exemptions. The development of the exemptions should include input from the impacted parties. This can be done through the Water Shortage Advisory Group and/or outreach to specific industries such as landscaping, car washing, and building management.
- Decide whether each exemption will require pre-approval by SPU.
- Develop the process and systems necessary for processing exemption requests.
 - Customer contacts SPU
 - Need to determine SPU contact
 - Need to determine submission method (e.g., email, phone, website)

- Need to determine submission contents (e.g., name, address of water use, water account number, description of how they fit the exemption, any required proof)
 - Enter request into tracking system
 - Need to develop tracking system (e.g., Excel spreadsheet)
 - Determine whether request qualifies or not
 - Need to set criteria to be considered for qualifying exemptions, with some discretion on behalf of SPU (e.g., undue financial hardship, public health and safety, etc.).
 - Need to determine who can authorize exemptions (the primary contact or higher level?)
 - Notify customer of result
 - Need to determine notification method (e.g., email, phone, website)
 - Need to determine whether customer will be required to post notice of exemption from SPU.
- Publicize the exemptions and the process to request an exemption when the restrictions are announced, including noting that exemptions may be revoked if the water supply situation worsens.