

Placer County Water Agency (PCWA) Water Shortage Contingency Plan

8.1 Water Supply Reliability Analysis – Western Water System

Through its Western Water System, PCWA currently provides approximately 125,000 acre-feet of water annually, either directly or indirectly, to over 60,000 individual homes, businesses, and irrigation customers, serving a total population of over 150,000.

The area served by the Western Water System extends from the community of Alta on the east, down the interstate 80 corridor, to the Sutter and Sacramento county lines on the west and south. The service area includes treated water deliveries from PCWA water treatment plants to the communities of Alta, Monte Vista, Applegate, Colfax, Auburn, Loomis, Rocklin and Lincoln and much of the surrounding unincorporated communities and areas. In addition to treated water service, PCWA provides untreated water through its extensive canal system to individual customers. PCWA also delivers untreated wholesale water to the City of Roseville (Roseville), Sacramento Suburban Water District (SSWD), San Juan Water District (SJWD), and several other small water districts, the amounts and populations of which are not included in the totals summarized above.

The Western Water System has two primary sources of surface water that are currently in use: Pacific Gas and Electric (PG&E) contract supplies from the Yuba and Bear Rivers delivered through PG&E's Drum-Spaulding Hydroelectric Project (Drum-Spaulding) into a network of distribution canals at various locations that are owned and operated by PCWA and (2) PCWA's Middle Fork Hydroelectric Project (MFP) water rights that can be delivered through a pump station on the American River near Auburn into the Auburn Ravine Tunnel. In addition to these primary supplies, PCWA has a small amount of Pre-1914 water rights including one on Canyon Creek as well as a contract with the US Bureau of Reclamation for Central Valley Project water. PCWA also has access to groundwater, along with several emergency intertie connections with other purveyors.

PCWA's canal system is the backbone of its Western Water System, taking gravity water delivery from PG&E at various locations, and delivering water to PCWA water treatment plants, the treatment plants of several other public and private water purveyors, and delivering irrigation water to over 4,200 customers along the canal system and through Auburn Ravine to western Placer County.

The American River supply has only recently been developed as a reliable source; the American River Pump Station was constructed in 2007 to facilitate continued planned urban developments as PCWA reaches its maximum allowed delivery rate under its PG&E water supply contract. The design delivery rate from the American River is about 190 cubic feet per second (cfs), which is intended to provide about 35,500 acre-feet annually into the Western Water System.

In 2020 approximately 74 thousand acre-feet (TAF) (58%) was used for irrigation purposes serving approximately 4,200 customers and 53 TAF (42%) was delivered as treated water for municipal and industrial purposes.

Dry Year Supply Reliability

Upon review of historic PG&E delivery records, as well as modeling studies done on the Middle Fork Project, the following table summarizes PCWA's water supply. The criteria of unimpaired flow into Folsom Lake was used to determine single and multiple dry year scenarios.

PCWA Water Supply

Normal					
Supply Source	2025	2030	2035	2040	% Reduction
MFP	120,000	120,000	120,000	120,000	0%
CVP	0	35,000	35,000	35,000	0%
PG&E	110,400	110,400	110,400	110,400	0%
Pre 1914 Approp.	3,400	3,400	3,400	3,400	0%
Recycled Water	2,500	5,000	7,000	8,000	0%
Groundwater	0	0	0	0	0%
Total Supply	236,300	273,800	275,800	276,800	

Single Dry Year (1977)					
Supply Source	2025	2030	2035	2040	% Reduction
MFP	120,000	120,000	120,000	120,000	0%
CVP	0	17,500	17,500	17,500	50%
PG&E	55,200	55,200	55,200	55,200	50%
Pre 1914 Approp.	850	850	850	850	75%
Recycled Water	2,500	5,000	7,000	8,000	0%
Groundwater	2,000	4,000	4,000	5,000	0%
Total Supply	180,550	202,550	204,550	206,550	

Multiple Dry Years (DRA Years 1-5 would be same) 1988-1992					
Supply Source	2025	2030	2035	2040	% Reduction
MFP	120,000	120,000	120,000	120,000	0%
CVP	0	24,000	24,000	24,000	25%
PG&E	110,400	110,400	110,400	110,400	0%
Pre 1914 Approp.	1,700	1,700	1,700	1,700	50%
Recycled Water	2,500	5,000	7,000	8,000	0%
Groundwater	0	0	0	0	
Total Supply	234,600	261,100	263,100	264,100	

In most cases of reduced allocation from PG&E, the combination of these supplies can be distributed in a manner that all customers in the water system can be expected to conserve the same percentage relative to normal year deliveries. In extreme dry years, approaching 50% cutback from PG&E, customers on the canal system may need to conserve a greater percentage due to limitations in infrastructure delivering Middle Fork Project water into the canal system.

8.2 Annual Water Supply and Demand Assessment Procedures

OVERVIEW

By July 1 of each year, each water purveyor with 3,000 or more service connections, or delivering 3,000 acre-feet or more of treated water, is required to complete and submit an Annual Water Supply and Demand Assessment to the California Department of Water Resources as required in AB 1414, Section 10632.1, that assesses the current year's water supply and demands, and the expected water supply and demand as if the following year will be categorized as dry. This assessment will be used to determine if a supply shortage exists and if actions need to be implemented to reduce demands.

Backup documentation for the annual submission will include details of each PCWA water supply source and projected total water demands. The assessment presented to the PCWA Board of Directors for information and/or action (if necessary) and the annual submittal to the State will be a high-level summary of the analysis.

Typically, two reports will be given to the PCWA Board by, or on behalf of, the Director of Resource Management prior to the annual submittal. Following the March 1 snow survey, a Water Supply Conditions Update will be given to the PCWA Board to provide current precipitation, snowpack, and storage conditions for the Middle Fork and Drum-Spaulding Projects. A second and similar report may be given following the April 1 survey. Early April has historically been the period of peak snowpack accumulation with a majority of the year's precipitation having already occurred. Water supply conditions for the remainder of the year are well known around this time.

PG&E contracted water supply allocations are determined and reported to PCWA in early May. PCWA's retail and wholesale water demand projections are updated in early May and the information is used to determine if there is an excess or shortage of water supply available for the summer and fall demands. By June 1 of each year, PCWA will prepare the Annual Water Supply and Demand Assessment that details the current year's water supply availability based on the water supply information described above and the demands described in the Urban Water Management Plan. The assessment will be presented to the Board in late May or early June.

Also, by June 1 of each year, PCWA will prepare an annual Water Shortage Assessment Report summarizing the water supply and demands estimates from the assessment, including information on any anticipated shortages, and if necessary, the shortage response actions, compliance and enforcement actions, and communication actions to be implemented consistent with this Water Shortage Contingency Plan.

Supply and Demand Assessment Timeline

Start Date	Finish Date	Activity	Responsible Party	Key Evaluation Criteria
Jan 1	May 1	Assess current year unconstrained wholesale and retail demand from PCWA system	Engineering	UWMP forecast data, major changes in development and/or unanticipated demand changes from UWMP forecast
Jan 1	April 15	Obtain Zone 5 Agricultural Demands and determine preliminary availability	Customer Services/Resource Management	Zone 5 Untreated Demand
Jan 1	May 1	Assess current year unconstrained wholesale demand of MFP supply	Resource Management	Wholesale requests (Roseville, SJWD, SSWD)
Jan 1	May 1	Identify planned MFP outages	Power/Drinking Water Operations	PG&E Outages, Maintenance/Ops outages
Jan 1	May 1	Identify planned outages (PG&E canals, ARPS, ORPS)	Field/ Drinking Water Operations /Engineering	Dates and durations of outages
Jan 1	May 1	Identify any infrastructure limitations	Engineering/Operations /Power	Affected assets, dates, and duration of outage
Jan 1	May 1	Determine annual allocations of PG&E and MFP supplies	Resource Management	Snowpack, surface water allocation, reservoir levels
Jan 1	Mid May	Conduct initial supply and demand assessment; identify shortages	Resource Management	Supply and demand amounts identified above
Mid May	Late May	If shortage exists determine recommend response level from WSCP	Engineering/Customer Services	WSCP Action levels
Mid May	Late May	Prepare final assessment and presentation	Resource Management	None
First Board Meeting in June	First Board Meeting in June	Receive presentation on and Supply and Demand Assessment and take action (if necessary)	Board	None
Mid-June	TBD	Implement WSCP actions, communications, and protocols	PCWA Staff	None
Mid-June	Late June	Finalize Supply and Demand Assessment and submit	Resource Management	None

Data Sources

There are many sources of data used to monitor hydrologic and water supply conditions and to estimate potential water supply availability to meet PCWA annual demands.

Customer Demands

- Historical treatment plant production
- Customer billing data
- Historical wholesale deliveries

Water Supply Conditions

- Precipitation
 - California Data Exchange Center (CDEC)
 - California Nevada River Forecast Center (CNRFC)
- Snowpack
 - DWR California Cooperative Snow Surveys
 - Snow Sensors (CDEC, American River Hydrologic Observatory)
 - Remote sensing and models (CNRFC, SNODAS)
- Reservoir Storage
 - PCWA, PG&E, and NID monitored reservoirs
 - CDEC
- Runoff Projections
 - PCWA Proprietary Runoff Forecasting Model
 - CNRFC
 - DWR B120

Weather Forecasts

- Energy Marketing Staff
- National Weather Service

PCWA Water System Capabilities and Constraints

Canal System

The PCWA untreated water conveyance system consists of 170 miles of earthen and lined canals, with flumes and pipelines where needed, beginning in the community of Alta, flowing southwest, generally following Interstate 80, and ending near the western edge of Placer County in Roseville.

The canal system is contractually separated by water supply agreements with PG&E into two service zones. Zone 3 begins at the PG&E Alta Forebay, continuing southwest until just below PCWA's Lake Theodore north of Auburn. Zone 1 begins at Lake Theodore, continuing southwest to Roseville.

PCWA purchases water at several connections to the PG&E canal system called "Buy Points" individually identified as an "YB Point", positioned at key locations between Alta and the end of PG&E's South Canal. The maximum flow rate that PCWA can receive from all PG&E combined Zone 1 YB points is 244.8 cfs. The current maximum PG&E flow rate into Zone 3 due to canal system constraints below Lake Alta is 35 cfs, however future upgrades to the zone 3 canal system are being designed for a capacity of 50 cfs.

Water can also enter the canal system from accretion flows into the canals, Pre-1914 water rights, and return flows from PCWA untreated water customers (water that is delivered to customers and flows back into the canal). Middle Fork Project water can also be pumped out of the North Fork of the American River at the PCWA American River Pump Station, into a 3-mile tunnel (Auburn Tunnel) under the City of Auburn to a valved outlet into Auburn Ravine, where the water is purchased by customers west of the City of Lincoln.

The tunnel outlet can be closed, and the Middle Fork Water pumped out of the tunnel at the Ophir Pump Station into the PG&E South Canal, or to the Foothill and Ophir (future) Water Treatment Plants.

Pre-1914 Water Rights

Four Pre-1914 water rights were included with the purchase of portions of the PG&E canal system. These Pre-1914 water rights are on natural water courses which are also used to convey water purchased from PG&E to a downstream PCWA canal or diversion. Two of the Pre-1914 water rights diversions are near the headwaters of North and South Fork Dry Creeks. A third Pre-1914 water right is on an un-named tributary to the Auburn Ravine.

The last Pre-1914 water right is in Zone 3 near Alta. Natural flows, up to 40 cfs, can be diverted into the PCWA Pulp Mill Canal for use in either Zone 3 or Zone 1. One cfs is diverted back into Canyon Creek by PG&E as a required stream maintenance flow upstream of the PCWA diversion point. PG&E can also deliver water to PCWA at this diversion point when performing maintenance on their Towle Canal, several miles upstream of this location.

Nevada Irrigation District Water to Foothill WTP

The Nevada Irrigation District (NID) shares capacity in South Canal with PG&E to transport and release water into Auburn Ravine at YB 132 and YB 259, both below PG&E's Wise Powerhouse.

Until NID constructs and puts into operation a water treatment plant for their service area in the City of Lincoln, NID wheels water through PCWA and the City of Lincoln to its service area. NID uses a portion of their capacity in the South Canal to deliver NID untreated water to PCWA's Foothill Water Treatment Plant without affecting the maximum PCWA Zone 1 flow diversion of 244.8 cfs. This water is treated at the Foothill WTP and delivered to the City of Lincoln through the Lincoln Metering Station near the PCWA Sunset Water Treatment Plant. The City of Lincoln then delivers this treated water to the NID service area.

Middle Fork Project

PCWA owns and operates the Middle Fork Hydroelectric Project (MFP), a FERC licensed hydroelectric and water storage project on the Middle Fork American and Rubicon Rivers. PCWA's relicensing effort resulted in a new license being issued on June 8, 2020 for a 40-year term. Electricity is generated year-round, with water being diverted to storage between November 1 and July 1 each year.

There are five water right permits associated with the Middle Fork Project. Three of the Permits are for hydroelectric generation and two permits are for M&I consumptive use.

For this document, only the M&I consumptive permits are relevant. These permits allow PCWA to divert up 120,000-acre feet of water per year from the MFP. Consumptive use of this water is used following a voluntary agreement with several water purveyors, called the Water Forum Agreement, that divert water from the Lower American River. Following the Water Forum Agreement, PCWA has agreed to pump up to 35,500-acre feet of water at the American River Pump Station until further environmental analysis can be completed. MFP water is not currently fully utilized and is needed to meet the needs of future PCWA growth/development. <https://www.waterforum.org/stakeholders/agreement/>

Folsom Reservoir

In addition to pumping MFP water from the American River Pump Station, MFP water is also diverted out of Folsom Reservoir by the Los Logos Homeowners Association, the City of Roseville, the San Juan Water District, the Sacramento Suburban Water District, and for PCWA out of County water sales. PCWA does not currently own or control facilities that can convey Middle Fork Project or Central Valley Project water from Folsom Reservoir to the PCWA service area but anticipates future diversions of MFP and CVP supplies from the reservoir.

Treated Water

PCWA owns and operates eight water treatment plants between Alta and Rocklin, produces approximately 42,000-acre feet of potable water each year. Treated water is distributed in over 615 miles of pressurized pipe and delivered to various retail and wholesale customers.

PCWA also has several treated water interties with neighboring water agencies: NID, San Juan Water District, the City of Lincoln, and the City of Roseville. Some these connections are one way due to pressure differences, while other connections can flow water in either direction with the use of pumps or pressure reducing valves.

Base PCWA Water Supply

Refer to Table 1 under Section 8.1 for PCWA water supply summary.

Projecting Water Supply Availability

PCWA has ample storage supplies through its PG&E contracts from the Drum-Spaulding Hydroelectric Project and water rights from its own MFP. These combined supplies provide more than enough supply to meet all of PCWA's demands, including multiple dry years. Actual water supply availability from each source is dependent on annual hydrologic conditions and regulatory storage and release requirements. As a result of California's

Mediterranean climate, the amount of annual precipitation and snowpack ranges widely from year to year. Historically, the region will begin to experience precipitation events in October following the dry summer months. October is the beginning of the Water Year which runs from October through September of the following year. Hydrologic forecasts, and thereby runoff projections have the greatest range of outcomes and the lowest confidence at the beginning of the water year. By late April, the majority of the years precipitation and snowfall will have already been observed as the climate transitions into the drier and warmer spring and summer months. The range of hydrologic projections begin to converge and confidence in water supply forecasts for determining how much water is available for consumptive demands for the remainder of the calendar year is greatly improved.

Middle Fork Project

On a monthly basis, PCWA's Energy Marketing Department produces an ensemble of operating plans for the Middle Fork Project that accounts for varying hydrologic and runoff projections, regulatory commitments required by the license to operate the MFP from the Federal Energy Regulatory Commission (FERC), consumptive demands, and use of surplus discretionary water for optimized hydropower production.

Unimpaired runoff projections for French Meadows Reservoir, Hell Hole Reservoir, and other tributaries in the watershed are produced and provided to PCWA by the California-Nevada River Forecast Center (CNRFC). The CNRFC is a branch of the National Weather Service and provides detailed hydrologic forecasts throughout the nation. The Energy Marketing staff collaborate with CNRFC staff who are dedicated to the American River Basin to validate and calibrate the hydrologic runoff model. Additionally, the Energy Marketing staff monitor conditions in the basin from various Meteorological (MET) stations and participate in the monthly California Cooperative Snow Surveys by measuring snowpack conditions at four snow courses in the MFP watershed.

PCWA's FERC License dictates the minimum amount of water that needs to be maintained in the river reaches below the MFP storage reservoirs for environmental and recreational purposes. These minimum release requirements vary by water year type. The water year type is determined in April and May following the release of the Department of Water Resources Bulletin 120 (B120) water supply report. There are six water year type classifications varying from Critically Dry to Wet and are based on the median projection of unimpaired inflow into Folsom Reservoir (UIFR)

Drum-Spaulding Project

Like PCWA, PG&E staff regularly produce an ensemble of operating plans for the Drum-Spaulding Project to determine water supply availability. Both PCWA and the Nevada Irrigation District have water supply contracts from PG&E for water from the Drum-Spaulding project and participate in weekly discussions of coordinated operations.

Following the May 1 snow surveys, PG&E makes a determination of water supply availability for the remainder of the year and provides PCWA with a water supply allocation. Only in extremely dry water years has the Drum-Spaulding allocation been reduced. Should there be a reduction in allocation, there is currently excess capacity from the other water supply sources to meet total demands.

Central Valley Project

The Central Valley Project (CVP) supply allocation amounts are based on an estimate of water available for delivery to CVP water users and reflects current reservoir storages, precipitation, and snowpack in the Central Valley and Sierra Nevada. Initial water supply allocations are typically reported in February and updated periodically until a final allocation is reported in May or June.

Projecting Unconstrained Demand

PCWA will utilize the 5-year demand forecast included in the 2020 Urban Water Management Plan to estimate retail and wholesale demands. If significant changes in development, operations, or other factors that influence demand are identified, these forecasts will be updated.

PCWA provides MFP Water Rights water via wholesale water supply contracts annually to the City of Roseville, San Juan Water District and Sacramento Suburban Water District) (collectively referred to herein as “wholesale agencies”) at Folsom Reservoir, a Point of Diversion and Re-Diversion under PCWA’s MFP Water Rights (13856 & 13858).

All three contracts are relatively similar in terms, containing maximum entitlement volumes. The City of Roseville up to 30,000 AF, the San Juan Water District up to 25,000 AF and Sacramento Suburban Water District up to 29,000 AF. While the City of Roseville and San Juan Water District supplies are available every year, Sacramento Suburban Water District supplies are only available in wetter years to facilitate groundwater recharge when the March through November Unimpaired Inflow to Folsom Reservoir (UIFR) is more than 1.6 MAF.

Consistent with contract terms, each wholesale agency provides PCWA with an annual diversion schedule containing the projected monthly diversion volumes for each calendar year. Because wholesale agency demands for MFP wholesale water are typically realized after March, the wholesale agencies provide their annual delivery schedules to PCWA consistent with the requirements of their respective Warren Act Contracts (WAC). The WAC are agreements executed by each respective wholesale agency and the U.S. Bureau of Reclamation (USBR) governing the storage and conveyance of Non-Project water (e.g., PCWA’s MFP water) through Folsom Reservoir, a CVP facility. For the purposes of scheduling Non-Project water, the “year” is defined in each respective WAC as March 1 through the February of the following calendar year.

As such, PCWA receives wholesale agency delivery schedules around March 1 for the year as defined in these WAC. These schedules are used to plan deliveries from the MFP to Folsom Reservoir. In addition, each wholesale agency provides PCWA and the USBR with a monthly diversion report consistent with the terms of their WAC, which reports for actual monthly diversion volumes as well as adjustments to the requested volumes in the coming months to account for any projected changes in demand. The process is iterative and can change from month to month. At the end of the calendar year, diversion volumes are finalized, and reconciliations are made if warranted.

Planned Water Use for Current Year Considering Dry Subsequent Year

With the exception of groundwater and water supply from the Middle Fork Project, PCWA does not have large storage reservoirs to store water for future years. Water supply availability is determined on an annual basis. The Middle Fork Project is operated to an annual carryover storage that provides enough stored water for multiple dry years including any potential shortages from other water supply sources.

8.3 Six Standard Water Shortage Levels

Water Shortage Actions - General

One of the keys to understanding how to respond to the loss of a significant amount of water is to first understand what is possible in terms of the use of the Middle Fork Project supply. Middle Fork Project water can be pumped from the American River into the Auburn Ravine Tunnel and from the tunnel up to the ground surface near Ophir, where it can be delivered to PCWA's Dutch Ravine Canal or the Foothill and Sunset water treatment plants. Middle Fork Project water would be able to supply the treatment plants with enough water to meet all lower Zone 1 treated water demands of about 34 TAF, which represents approximately 83% of treated water use in the Western Water System. Middle Fork Project water has a more limited ability to supply the canal customers of the Western Water System. The Ophir Road pipeline, which connects this supply to the Dutch Ravine Canal, can deliver 20 TAF of water to this portion of the canal system. This represents approximately 23% of canal water use in the Western Water System.

Based upon these physical delivery characteristics and the large difference between treated and untreated demands dependent upon the reduced PG&E supply, more severe cuts in delivery may be necessary for customers in the untreated systems than in the treated water systems during periods of extreme drought, such as a 50% cutback in PG&E supplies. Additionally, state law and practical necessity dictate that public health and safety be prioritized over irrigation and agriculture in very serious water shortage conditions. Public health and safety needs rely on the treated water systems and include fire protection, sanitation, hospitals, schools, and other critical needs.

Actions taken to conserve water in the untreated systems are different than those taken in the treated water systems. Specifics of these actions are described for the canal systems and treated water systems as follows.

Water Shortage Actions – Treated Water Systems

Regardless of water supply availability or service conditions, the Board of Directors reserves the right to set water conservation goals and modify stage declarations as necessary, based on the impact to the local conditions, or statewide water shortage conditions to align with regional or state water conservation policies, agreements, declarations or legal requirements. The Board of Director's shall determine, based on present water conditions and any lawful directive of the State, the treated water shortage stage applicable to PCWA for the coming year. To promote the efficient use of water, PCWA has adopted inclining block consumptive water rates for residential and commercial treated water retail customers. When a water shortage stage is declared by PCWA's Board of Directors, resale water suppliers, to which PCWA provides water, are advised to implement conservation measures comparable to those adopted by PCWA, to achieve the same level conservation. All wasteful practices or unreasonable uses of water, whether willful or negligent, are always prohibited regardless of water supply.

PCWA's Water Shortage Contingency Plan consists of six stages of varying conservation actions and use restrictions intended to meet target demands. Implementation of the stages is cumulative; meaning that implementation of a higher stage shall also include implementation of previous stages. These actions shall be used as a starting point to meet targets and shall be monitored, as described later in this plan. For each stage, the water reduction for customers shall be as follows:

Stage 1 - ("Heighten Water Use Efficiency") Shall achieve a reduction up to 10% relative to the full allocation of water. Full allocation of water, which is total supply available to PCWA, may be used to determine allowable water use for each customer in this stage and compliance with the following stages.

Stage 2 - ("Water Conservation") Shall achieve a reduction of up to 20% relative to the full allocation of water.

Stage 3- ("Water Warning") – Shall achieve a reduction of up to 30% relative to the full allocation of water.

Stage 4- ("Water Alert") – Shall achieve a reduction of up to 40% relative to the full allocation of water.

Stage 5- ("Water Crisis") – Shall achieve a reduction of up to 50% relative to the full allocation of water.

Stage 6- ("Water Emergency") – Shall achieve a reduction of greater than 50% relative to the full allocation of water.

Table 8-1 summarizes the water storage stages and shortage response actions. The shortage response actions are discussed further in Section 8.4.

Water Shortage Contingency Plan Levels (DWR Table 8-1)		
Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative description)
1	Up to 10%	Actions are voluntary and will be reinforced through local and regional public education and awareness measures. Actions include customers fixing leaking fixtures and covering pools with covers.
2	Up to 20%	Actions, which are mandatory, include limiting landscape watering to certain time of day and number of days; prohibiting washing down of impervious surfaces; and prohibiting non-essential flushing of mains and fire hydrants.
3	Up to 30%	Actions, which are mandatory, include limiting landscape watering to certain number of days; limiting construction water use; and requiring Commercial, Industrial, and Institutional properties to implement appropriate water efficiency measures for business types.
4	Up to 40%	Actions, which are mandatory, include limiting landscape watering to certain number of days; prohibiting irrigation of ornamental turf on public street medians with potable water and other irrigation activities; requiring car washing to occur at commercial carwash.
5	Up to 50%	Actions, which are mandatory, include water use for public health and safety purposes only and prohibiting irrigation of turf.
6	>50%	Actions, which are mandatory, include water use for public health and safety purposes only. Customer rationing may be implemented.
NOTES: Additional details on water shortages actions are provided in the following section.		

8.4 Shortage Response Actions

8.4.1 Supply Augmentation

PCWA has several interties/connections with neighboring treated water systems including Nevada Irrigation District (4), San Juan Water District (3), City of Lincoln (2) and the City of Roseville (4). These interties can be called upon in times of emergency and/or extended outages due to maintenance or construction projects but typically would not be called upon for extended periods of time. The interties could be utilized in two different ways. First, water can be transferred from the neighboring agencies. Some of these transfers may require the manual assembly and operations of a pump, others are already equipped with pumps. Second, per our various supply contracts, we can request of wholesale customers, California-American Water Company and the City of Lincoln, to transfer demands to their groundwater systems. In addition, PCWA can utilize their two existing wells in Zone 1 for backup supply.

Because of the numerous scenarios that could trigger water shortage actions, the fact that our neighboring agencies could be affected by the same scenarios, and the limitations involved with the various interties, an augmented supply cannot be reliably quantified.

PCWA currently has no long-term new water supply development projects planned in the near future.

Supply Augmentation and Other Actions (DWR Table 8-3)			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>			
	Transfers		Transfers with neighboring agencies - Nevada Irrigation District, San Juan Water District, City of Lincoln and the City of Roseville through interties.
	Other Actions (describe)		Through contracts with treated water wholesale customers (Cal Am and City of Lincoln), PCWA can request these customers transfer to their groundwater supply.
NOTES:			

8.4.2 Demand Reduction

Stage 1 “Heighten Water Use Efficiency” – 10% Conservation -The following best practices are voluntary and will be reinforced through local and regional public education and awareness measures that may be funded in part by PCWA.

1. Wash only full loads when washing dishes or clothes.
2. Use pool covers to minimize evaporation.
3. Upgrade to water efficient indoor and outdoor fixtures when possible.
4. Fix leaks or faulty sprinklers within 72 hours of occurrence or time of discovery.
5. Decorative water features must recirculate and shall be leak proof.
6. Water shall be confined to the customer’s property and shall not be allowed to run off to adjoining property, roadside, non-irrigated areas, private and public walkways, roadways, parking lots, ditch or gutter or any other impervious service. Care shall be taken not to water past the point of soil saturation.
7. No landscape watering shall occur during rain/snow events or within 48 hours after a ¼” or more of rainfall/snowfall.
8. Automatic shut-off devices shall be installed on any hose or filling apparatus in use.
9. Unauthorized use of hydrants shall be prohibited. Authorization for use must be obtained from PCWA.
10. Commercial, industrial, institutional equipment must be properly maintained and in proper working order.
11. Hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered. The hotel or motel shall prominently display notice of this option in each bathroom using clear and easily understood language.
12. Restaurants shall serve water to customers only upon request.
13. All new landscaping shall, at a minimum, adhere to the specifications outlined in the State’s Model Water Efficient Landscape Ordinance adopted by the California Department of Water Resources or specifications of any land use jurisdiction in effect. Link to ordinance here: [Model Water Efficient Landscape Ordinance](#).

Stage 2 – “Water Conservation”, up to 20% Conservation - In addition to the above, the following actions are mandatory during Stage 2.

1. Resale water suppliers to which PCWA provides water are advised to implement conservation measures comparable to those adopted by PCWA, to achieve the same level conservation. Coordinated messaging will be important to achieve regional requirements imposed by the state.
2. Landscapes shall only be watered between the hours of 7:00 p.m. and 7:00 a.m. to reduce evaporation. Plant containers, trees, shrubs, and vegetable gardens may be watered outside of this watering timeframe if using only drip irrigation, hand watering, or smart controller systems.

3. Turf watering shall be limited to a maximum of three days per week during the months of July, August, and September, a maximum of two days per week in April, May, June, October and November, and shall not be watered during the remaining winter months unless PCWA notifies customers that watering is allowed due to unseasonably and extended dry conditions. Plant containers, trees, shrubs and vegetable gardens may be watered any day when using drip irrigation, hand watering or smart controller systems.
4. Washing down impervious surfaces such as driveways and sidewalks shall be prohibited unless necessary for public health and safety purposes.
5. Non-essential flushing of mains and fire hydrants shall be prohibited.

Stage 3, "Water Alert," up to 30% Conservation - In addition to all the above, the following actions are mandatory:

1. Decorative water features, such as fountains shall be drained and kept dry.
2. A construction water use plan shall be submitted that mitigates the use of water for purposes such as dust control.
3. The installation of new landscaping for existing homes shall be limited to low water use trees, shrubs and groundcover. Landscapes shall be watered with high efficiency nozzles using a smart controller or rain sensor on a typical controller. The installation of new turf or hydro seed for existing homes shall be prohibited unless watered using drip or micro spray systems. Customers who had installed new turf or hydro seed prior to the prohibition may apply for a waiver to irrigate during an establishment period.
4. Turf watering shall be limited to a maximum of two days per week April through November and the remaining winter months unless PCWA notifies customers that watering is allowed due to unseasonably and extended dry conditions. Plant containers, trees, shrubs and vegetable gardens may be watered any day when using drip irrigation or hand watering.
5. Commercial, Industrial, and Institutional properties, such as campuses, golf courses, and cemeteries shall implement sector appropriate water efficiency measures to achieve a water usage reduction consistent with the objective of this stage.

Stage 4, "Water Warning," up to 40% Conservation - In addition to all the above, the following actions are mandatory:

1. Existing pools shall not be emptied and refilled unless required for public health and safety purposes.
2. No new landscape installations or renovations shall be permitted.
3. Waivers granted previously for turf or hydro seed watering during an establishment period shall be revoked.
4. Wholesale customers to utilize reclaimed water for dust control, earthwork, or road construction as permits allow and as available.

5. Turf watering shall be limited to a maximum of one day per week April through November and shall not be watered during the remaining winter months unless PCWA notifies customers that watering is allowed due to unseasonably and extended dry conditions. Plant containers, trees, shrubs and vegetable gardens may be watered any day when using drip irrigation, hand watering or smart controller systems.
6. Car washing shall only be permitted using a commercial carwash that recirculates water and use high pressure/low volume wash systems.
7. Irrigation of ornamental turf on public street medians with potable water shall be prohibited.

Stage 5, “Water Crisis, “up to 50% Conservation - In addition to all the above, the following actions are mandatory:

1. Water use for public health and safety purposes only.
2. Turf shall not be watered.

Stage 6, “Water Emergency,” 50% and Greater Conservation - In addition to all the above, the following actions are mandatory:

1. Water use for public health and safety purposes only. Customer rationing may be implemented.

PCWA’s demand reduction actions were combined into DWR’s defined demand reduction actions for each shortage level. These combined demand reduction actions and estimated reduction are presented in the following table.

Demand Reduction Actions (DWR Table 8-2)				
Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply to you.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>(Yes or No)</i>
1	CII - Lodging establishment must offer opt out of linen service	0-1%		No
1	CII - Other CII restriction or prohibition	0-1%		No
1	Decrease Line Flushing	0-1%		No
1	Expand Public Information Campaign	0-1%		No

Demand Reduction Actions (DWR Table 8-2)				
Shortage Level	Demand Reduction Actions Drop down list <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply to you.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>(Yes or No)</i>
1	Landscape - Other landscape restriction or prohibition	0-6%		No
1	Landscape - Restrict or prohibit runoff from landscape irrigation	0-5%		No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-2%		No
1	Other - Require automatic shut of hoses	0-1%		No
1	Water Features - Restrict water use for decorative water features, such as fountains	0-1%		No
1	Pools and Spas - Require covers for pools and spas	0-1%		No
1	CII - Restaurants may only serve water upon request	0-1%		No
2	Decrease Line Flushing	5-15%		No
2	Landscape - Limit landscape irrigation to specific times	5-10%		No
2	Landscape - Limit landscape irrigation to specific days	5-10%		No
2	Other - Prohibit use of potable water for washing hard surfaces	0-1%		No
2	Other	0-10%		No
3	CII - Other CII restriction or prohibition	0-5%		No
3	Landscape - Limit landscape irrigation to specific days	10-25%		No
3	Landscape - Other landscape restriction or prohibition	0-1%		No

Demand Reduction Actions (DWR Table 8-2)				
Shortage Level	Demand Reduction Actions <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply to you.</i>	How much is this going to reduce the shortage gap? <i>Include units used (volume type or percentage)</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>(Yes or No)</i>
3	Other - Prohibit use of potable water for construction and dust control	0-1%		No
3	Other water feature or swimming pool restriction	0-1%		No
4	Landscape - Limit landscape irrigation to specific days	5-20%		No
4	Landscape - Other landscape restriction or prohibition	0-3%		No
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	0-1%		No
4	Other water feature or swimming pool restriction	0-1%		No
4	Other	0-1%		No
5	Landscape - Other landscape restriction or prohibition	0-50%	Water use for public health and safety purposes only.	Yes
6	Landscape - Other landscape restriction or prohibition	0-70%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes
NOTES:				

8.4.3 Operational Changes

Operational changes to address a short-term water shortage may be implemented based on the severity of the reduction goal. Changes may include: non-essential flushing of mains and fire hydrants shall be prohibited, expand public information campaign, include target information on customer bills, modify staff schedules for expanded water waste patrol.

8.4.4 Additional Mandatory Restrictions

Water Shortage Actions – Irrigation Canal Systems

The actions taken to conserve water in the canal systems are more operational in nature on the part of PCWA and may include changing the sizes of the orifices through which water is delivered to customers and/or instituting “rolling” or alternating canal outages. Changes in customer water use practices will be necessary to work within the water delivered under shortage conditions. Canal operations staff can work with customers in groups along a specific canal or, in select cases, as individuals to meet the necessary level of conservation.

In a water shortage emergency, the PCWA Board of Directors will have declared a necessary level of conservation for the canal system. In the same action as declaring a level of conservation, more specific details on how to implement these generalized operational procedures will also be adopted, giving canal operations staff and customers guidelines on how to work cooperatively to meet conservation needs. In the 2014 water year, a 20% level of conservation was sought, operations staff worked to minimize losses in the delivery system, orifices were resized to reduce their peak delivery rate by 10%, rolling outages were used in some cases, but minimized, and the achieved level of conservation was 35%.

PCWA Resolution 14-12 is an example of a resolution that could be used to include more specifics on operational procedures for the canal systems Water Shortage Contingency Plan. This resolution is written for a 20% level of conservation but could be modified for a higher level of conservation if needed.

8.4.5 Emergency Response Plan

PCWA has prepared an Emergency Response Plan. The Emergency Response Plan provides general procedures for responding to catastrophic supply interruption (i.e., infrastructure failure).

PCWA’s water systems are susceptible to interruption in water supply due to catastrophic events. In particular, fire, landslides, major pipeline failures, power outages, and earthquakes are risks to PCWA water supply infrastructure.

Water supplied by PG&E is delivered through a canal system that traverses hillsides and crosses valleys using raised flumes and pipelines. PCWA has established a Renewal and Replacement Program to replace aging infrastructure along the canal system; however, this program is phased over a long period of time. The remaining supplies are delivered through pumping stations that have back-up power, with the exception of the American River and Ophir Road Pump Stations.

PCWA currently has a project anticipated to be completed in 2021 that will provide 2.5 megawatt generators at these sites for this purpose. These generators will allow for these pump stations to run at approximately 50% of their capacity. Additional generators will be added in the future to address future demands when necessary.

8.4.6 Seismic Risk Assessment and Mitigation Plan

Water Code Section 10632.5 requires the participating agencies to assess seismic risk to water supplies as part of their WSCP. The code also requires a mitigation plan for managing seismic risks.

In lieu of conducting their own seismic risk assessment, which can be a lengthy process, suppliers can comply with the Water Code requirement by submitting the relevant local hazard mitigation plan or multi-hazard mitigation plan.

Placer County, the county which PCWA serves water, prepared a Local Hazard Mitigation Plan (LHMP) in March 2016. Placer County is currently in the process of updating The LHMP was not available at the time of this WSCP. The 2016 LHMP is available on the Placer County's website at <https://www.placer.ca.gov/1381/Local-Hazard-Mitigation-Plan>. The LHMP contains an annex (Annex O) that details hazard mitigation planning elements specific to PCWA, including seismic risk assessment and mitigation strategies.

8.4.7 Shortage Response Action Effectiveness

PCWA has estimated the effectiveness of shortage response actions in terms of reducing the gap between expected supplies and demands. These estimates were developed using industry resources and observations from recent operating history at PCWA. These estimates are included in DWR Tables 8-2 and 8-3 above.

8.5 Communications Protocols

Part I: Introduction

PCWA conducts an ongoing program of public information to keep customers, the general public, other agencies, and the news media current on water-efficiency efforts during normal supply conditions. In the event of a water shortage, clear and effective communications becomes critical. As a part of the larger WSCP, the Communication Plan provides the following information:

- Ways customers can save water
- Water saving goals
- Why water saving measures are in effect
- What PCWA is doing to ensure water reliability during a time of shortage

Part II: Audiences

PCWA will need to communicate with a number of different stakeholders as part of the WSCP. In general, stakeholders include, but are not limited to:

- Retail treated water customers
- Retail raw water customers
- Wholesale partners
- Local municipalities
- Public officials including PCWA Board of Directors

- Land use agencies
- Business/civic leaders
- Community-based service organizations
- Local nurseries, irrigation supply stores, and landscape companies
- Placer County Master Gardeners
- Associations (Regional Water Authority, California Municipal Utilities Association, Association of California Water Agencies, Save Our Water Campaign)

Part III: Objectives

Communication objectives throughout differing stages identified in the WSCP include the following:

- Encourage and incentivize water use efficiency as a “way of life” throughout Placer County.
- Raise awareness about externalities affecting water supply and water use including drought conditions, regulatory actions, and other factors.
- Educate stakeholders on PCWA’s efforts and initiatives to maintain a reliable water supply now and into the future.
- Prepare stakeholders for implementation and potential escalation or de-escalation of WSCP when conditions warrant.
- Maintain credibility through constant communication, with a particular focus on showing appreciation for water saving efforts and minimizing confusion about water restrictions in effect.
- Successfully exit WSCP emphasizing effectiveness and value of water saving measures and investments in water supply reliability.

Part IV: Communication under normal water supply conditions

Under normal water supply conditions, PCWA will engage in standard communication and outreach activities to promote water-use efficiency. Communication can be delivered through the following platforms:

- Media relations (press releases, interviews, etc.)
- Social media (Twitter, Facebook, YouTube)
- PCWA website
- Newsletters (print and electronic)
- Community events
- Regional partnerships

As a member of the Sacramento Regional Water Authority (RWA), PCWA also has access and input to regional messaging on water supply conditions and water saving practices. This includes

the BeWaterSmart website (Bewatersmart.org), and other water-efficiency programs implemented by RWA.

Part V: Stage Strategies

Stage 1 Strategies (“Heighten Water Use Efficiency”)

Under a Stage 1 declaration, the WSCP calls for a **10 percent reduction** in water use. The following strategies have been shown to be effective in previous water conservation campaigns and should be considered in Stage 1.

- Increase distribution of educational material to help customers understand importance of and how to reduce water use.
- Highlight opportunities where PCWA can assist customers increase water use efficiency such as rebates for water efficient appliances.
- Develop targeted outreach material for businesses and local municipalities to reduce water use.
- Continue partnering with regional associations to present unified message on the importance of using water efficiently.

Stage 2 Strategies (“Water Conservation”)

Under a Stage 2 declaration, the WSCP calls for a 20 percent reduction in water use. Specific strategies employed in Stage 2 will be done in addition to those strategies outlined in Stage 1 and may include the following:

- Direct mailings to all retail treated and untreated water customers requesting a 20 percent reduction in water use.
- Coordinate water conservation messaging and outreach with pertinent Placer County officials and agencies, including Agricultural Commissioner and Resource Conservation District.
- Provide area Chambers of Commerce appropriate conservation messaging to convey to members.
- Develop materials for business that have high water use. This includes, but is not limited to, signage for hotels and motels offering guests the option to not to have towels and linens laundered; and signage for restaurants stating that water is served only upon request.
- Engage wholesale customers on strategies to reduce water use.
- Provide local elected leaders and officials with pertinent information to share with constituents.

Stage 3 (“Water Warning”) & Stage 4 (“Water Alert”) Strategies

Under a Stage 3 or Stage 4 declaration, the WSCP calls for a water use reduction of 30 or 40 percent reduction, respectively. Specific strategies employed in Stage 3 and Stage 4 will be in addition to strategies outlined in previous stages and may include the following:

- Develop and implement a high-visibility campaign using platforms such as
 - Billboards
 - Radio
 - Local access television
 - News conference, preferably with regional partners
- Implement stringent landscape watering guidelines for customers
 - Under Stage 4, limit landscape watering to one day per week
- Coordinate with large commercial, industrial, and institutional (CII) properties, such as campuses, golf courses, parks, and cemeteries to implement sector-appropriate water efficiency measures.
 - Under Stage 4, limit landscape watering on above CII properties to one day per week
- Consider using public opinion polls to determine effectiveness of messaging strategies.
- Provide updated communications to stakeholders to raise immediate awareness for increased water-savings and available assistance.

Stage 5 (“Water Crisis”) & Stage 6 (“Water Emergency”) Strategies

Under a Stage 5 or Stage 6 declaration, the WSCP calls for a water use reduction of 50 or 60 percent reduction, respectively. Specific strategies employed in Stage 5 and Stage 6 will be in addition to strategies outlined in previous stages and may include the following:

- Prohibit all landscape watering on residential and CII properties.
- In coordination with local governments, prioritize water deliveries for public health and safety measures.
 - Under Stage 6, customer rationing may be implemented.
- Suspend canal operations so water can be treated and used for public health and safety purposes.

8.6 Compliance and Enforcement

Prohibitions and Penalties for Excessive Use

The goal of PCWA is to achieve voluntary compliance from our customers. PCWA will take reasonable measures to assure that customers have information available to promptly and efficiently address water use issues. Where voluntary compliance cannot be achieved through initial contacts and warnings, then appropriate administrative penalties and further action are required and therefore, enforcement of the Water Shortage Contingency Plan. These penalties and actions will also be enforced for excessive residential water use during a drought as indicated in the Water Code Division 1, Chapter 3.3 Section 365.

Violations of mandatory actions shall be addressed as described in PCWA’s Rules, Regulations, Rates and Charges Governing the Distribution and Use of Water, updated January 1, 2021, as follows:

Per Sec. 40208 of the Rules and Regulations - PROHIBITION AGAINST WASTE OF WATER. Customers are required to operate and maintain their facilities in a suitable condition to prevent waste of water. If PCWA determines that a customer is wasting water, that customer may be subject to a Water Waste Charge as set forth in Section 40921; or to termination of service or a reduction in the amount of water that the customer is allowed to purchase as set forth in Section 41005; or both.

Sec. 40921 - WATER WASTE CHARGE.

Ref: Section No. 40208/41005

<u>Charge</u>	<u>Occurrence</u>	<u>Action</u>
-----	(first)	written notification
-----	(second)	written warning
\$75.00	(third)	2 nd written warning
\$75.00	(fourth)	service terminates - lock meter / lock canal service

This cost is intended to recover staff costs to monitor and enforce prohibitions against water waste.

Sec. 41005 - TERMINATION OF WATER SERVICE, OTHER THAN AS PROVIDED IN SECTION 41004, FOR NONPAYMENT. The Agency may terminate water service for causes provided herein and after notification as provided herein.

a) Water service may be terminated immediately without notice for any situation which presents an immediate health or safety hazard to the public water system. The water service shall be locked and remain inactive until corrective action has been approved by the Agency. The Agency shall attempt to contact the customer by telephone and shall mail a letter to the customer as soon as reasonably possible to set forth the reasons for the termination. Conditions that create a basis for the immediate termination of water service shall include, but are not limited to, the following items:

1. Direct or indirect connection between the public water system and a sewer line.
2. Unprotected direct or indirect connection between the public water system and a system or equipment containing contaminants.
3. Unprotected direct or indirect connection between the treated water system and any other water source.

b) Water service may be terminated for failure of the customer to operate or maintain their facilities in a suitable condition so as to prevent waste of water.

1. UNTREATED WATER CUSTOMERS

If a customer is found to be taking delivery of an amount of water that exceeds the consumptive needs of their property such that there is persistent runoff into local drainage or storm drain systems, such excess water delivery shall be deemed a waste and unreasonable use of the Agency's water resources and the customer shall be subject to Water Waste Charges, as set forth in Section 40921 herein, and a reduction in the amount of water that the customer may purchase.

Following written notification of a water waste occurrence, the customer may choose to modify their facilities, or work with the Agency to reconfigure their

Service Box such that water is delivered only on an “as-needed” basis or may voluntarily reduce the amount of water purchased.

If a customer fails to eliminate persistent water waste within a reasonable amount of time, the Agency may permanently reduce the size of the customer’s delivery orifice until such waste is eliminated.

2. TREATED WATER CUSTOMER

The Agency shall notify customers and actual users of waste and unreasonable use of water if there is persistent and excessive discharge of water from a customer’s property. Such notifications shall result in imposition of a Water Waste Charge as set forth in Section 40921. If water waste continues or if the Agency finds that all or most of the delivered water results in discharge from the customer’s or actual users’ property or area of use, the Agency may terminate service to the property.

- c) Water Service may be terminated for repeated tampering with Agency facilities or unauthorized taking of water or the taking of water in excess of the amount paid for.
- d) During extreme water shortages, if voluntary conservation measures are not sufficient to prevent a water shortage emergency, the Agency may institute additional mandatory conservation measures, up to and including temporary suspension of water service.
- e) Any violation by the customer of any rules and regulations of the Agency governing water service.
- f) Notice Requirements. Except in health emergency situations described in Section 41004 c) 3), at least 10 days before terminating service, the Agency shall provide the customer with a written notice specifying the reason for the proposed termination and informing the customer of the procedure to discuss the proposed termination with the General Manager. The General Manager has the authority to review disputes, rectify errors, and settle controversies pertaining to such proposed termination of service. The Agency’s contact information shall be provided in a notice of termination given to a customer.
- g) At the Agency’s discretion, in lieu of termination of service, the Agency may install a flow restrictor on a treated water service, restricting flow to a half gallon per minute.

8.7 Legal Authorities

The following provisions of the Placer County Water Agency Act provide PCWA with the legal authority to implement and enforce the response actions set forth in this Water Shortage Contingency Plan. The Rules and Regulations contained in this Plan were adopted pursuant to the foregoing legal authorities.

Section 4 provides PCWA with the authority “to do any and every lawful act necessary in order that sufficient water may be available for any present or future beneficial use or uses of the lands or inhabitants within the agency . . .” (Stats.1957, c. 1234, p. 2522, §4.).

Section 4.3 provides PCWA with the authority “to conserve and reclaim water for present and future use within the agency . . .” (Stats. 1957, c. 1234, p. 2522, §4.3.)

Section 5(c) provides PCWA with the authority to “[t]o establish rules and regulations to protect the public health in the operation of the works, to provide for the sale, distribution and use of water and the services and facilities of the works . . .” (Stats. 1957, c. 1234, p. 2525, §5, as amended Stats. 1959, c. 815, p. 2824, §9; Stats. 1965, c. 972, p. 2589, §1.)

PCWA shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1.

Water Code Section Division 1, Section 350

Declaration of water shortage emergency condition. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

PCWA shall coordinate with any city or the County of Placer for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code (California Emergency Services Act). The following is a list of individuals and land jurisdictions who would be contacted as previously discussed under section 8.5 (*contact information for the following has been redacted for public version*):

Aly Zimmerman	City of Rocklin
Sean Rabe	Town of Loomis
Jon Donlevy	City of Auburn
Wes Heathcock	City of Colfax
Todd Leopold	Placer County CEO
Ann Edwards	Sacramento County CEO
Jennifer Hanson	City of Lincoln
Dominick Casey	City of Roseville

8.8 Financial Consequences of WSCP

Analysis of Revenue and Expenditures during Shortages

There are three primary objectives during a water shortage, 1) reduce water use 2) maintain adequate resources to meet revenue requirements 3) ensure customers are properly notified and educated. Portions of PCWA’s operating revenue is derived from volumetric based water

rates, hence, during a water shortage with reduced water use, PCWA's revenue would decrease. PCWA's water rates have been designed within the legal framework and industry standards to support and optimize a blend of various objectives, including conservation and revenue stability. Based on the 2017 Water Cost of Service and Rate Study, PCWA implemented a new water rate structure and design that was effective January 1, 2018 that shifted the Water System revenue components for Treated Retail from 45% fixed and 55% commodity (volumetric), to 60% fixed and 40% commodity. This adjustment aligned revenue more closely to the PCWA's cost structure, which also provides additional fixed revenue in years of water shortages.

Also, depending on the root cause of a water shortage, unbudgeted and unforeseen expenses would most likely be incurred. A drought induced water shortage would result in additional expenses for public outreach, conservation enforcement and various other associated costs. An infrastructure failure induced water shortage would incur similar costs as a drought situation, plus other costs such as construction of alternate source facilities or alternative supply transmission costs, such as pumping which can be very expensive.

For example, if there is water available, PCWA has the ability to access water in the American River through double lift pumping. Based on the current energy prices, if the pumps were operated to achieve maximum flows, it could cost up to an additional \$1.6 million annually and would pump an amount equal to approximately 90% of peak demand in a certain service area. However, these costs can vary significantly depending on demand and are partially offset by a reduction in costs for purchased water. In a water shortage caused by an infrastructure failure, pumping costs would most likely be the most significant expense. Other non-capital expenses can vary substantially from \$0 to \$50,000 or more per month depending on the nature, magnitude, and duration of the water shortage.

Mitigation Actions

PCWA has established reserves to supplement resource needs during a water shortage. These reserves would be available to fund anticipated operating costs, as well as unanticipated operating and other costs. This is an alternative to implementing water shortage or drought pricing. Based on designation/reserve policies, over the years, PCWA has accumulated monies for a variety of unanticipated, unforeseen or planned needs, whether those needs are operating or capital related. Based on PCWA policy, PCWA has funded reserve accounts that could be used as needed. The policy identifies events or conditions, which would prompt the use of these funds. PCWA has established an Operating Reserve for unanticipated, unforeseen or planned variations in operating expenses or revenues. As of December 31, 2020, the Operating Reserve portion of the Water Division Reserves totaled just over \$17.5 million.

PCWA's 2020 Operating Budget for the Water Division was \$42.2 million. On December 31, 2020, the overall funded reserves for this Division was \$67.2 million, respectively, including the Operating Reserve amount mentioned previously. In the event of a water shortage that results in a decline in revenue, PCWA's Board of Directors could consider the use of these reserves to meet necessary resource requirements as the use of reserves requires Board approval. Although PCWA has funded reserves as an alternative to drought pricing, that practice could change and if so, PCWA would follow the Proposition 218 notification process and other rate adjustment regulations to implement water shortage or drought rates.

Capital expenditures, including projects and capitalized expenses associated with the capital program are expected to be fully funded by fixed R&R rate revenue. However, during a water

shortage, Renewal and Replacement (R&R) revenue may be used to supplement operating revenue and capital projects deferred as an alternative to, or in addition to the use of Reserves. The Table below summarizes the WSCP potential financial implications and shortage response actions that align with the defined shortage levels as defined in Water Code Section 10632 (a)(3) & (4).

2020 WSCP Mandated Shortage Levels and Potential Financial Implications for Treated Retail						
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Shortage Level	< 10%	10% - 20%	20% - 30%	30% - 40%	40% - 50%	> 50%
Potential Water Revenue Reduction:	\$0 - \$1,700,000	\$1,700,000 - \$3,300,000	\$3,300,000 - \$5,000,000	\$5,000,000 - \$6,600,000	\$6,600,000 - \$8,200,000	> \$8,200,000
Percent of Total Annual Water System Revenue	0% - 4%	4% - 8%	8% - 12%	12% - 16%	16% - 20%	> 20%
<u>Increase in Expenses:</u>						
Customer Service Expenses*	20,000	35,000	45,000	60,000	75,000	100,000
Pumping Expenses	350,000	650,000	1,000,000	1,200,000	1,400,000	1,600,000
Other Operating Expenses	50,000	120,000	250,000	350,000	450,000	600,000
<u>Decrease in Expenses:</u>						
O&M Expenses: Water Operations Savings (existing water purchase contract)	50,000	250,000	500,000	750,000	1,000,000	1,250,000
Net Potential Expense Increase:	\$370,000	\$555,000	\$795,000	\$860,000	\$925,000	\$1,050,000
Mitigation (Response) Actions:	1) Reduce O&M Expenses 2) Potentially Defer Capital Projects	1) Reduce O&M Expenses 2) Potentially Defer Capital Projects	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves	1) Reduce O&M Expenses 2) Defer Capital Projects and/or 3) Utilize Reserves
Communications Protocols:	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers	Customer Outreach: *PCWA website / social media *Flyers mailed to customers
<i>* Customer Service Expenses include costs associated with increased staff costs for customer outreach, tracking and reporting, and enforcing compliance with the WSCP and Chapter 3.3 (commencing with Section 365) of Division 1</i>						

8.9 Monitoring and reporting

Stage Implementation and Monitoring Procedures

PCWA maintains a draft water shortage contingency resolution that is adopted during water shortages. Legal requirements, including public notices and hearings, shall be followed in adopting any resolution. However, PCWA staff may implement operational changes in the canal systems and request voluntary actions by treated water customers on an interim basis to meet public health and safety needs as detailed above until such a resolution can be adopted.

In a water shortage, and particularly that resulting from failure of infrastructure, critical roles shall be established and appointed by the General Manager. These roles may include, but are not limited to Incident Commander, Operations Manager, and Public Information Officer.

Other supporting roles that should be considered are engineering, mapping, customer service, information service, and public outreach. Other more detailed instructions may be found in the PCWA's Emergency Response Plan.

Under normal water supply conditions, Field Services and Technical Services operations staff record water production figures daily. Totals are reported monthly and incorporated into a water supply report.

Based upon shortage level staff would prepare a monthly production target to coincide with the level of % reduction sought. During a water shortage, monthly production is compared to the target production to verify that the reduction goal is being met. Appropriate monthly reports are forwarded to the department heads and General Manager's office. Appropriate monthly reports are also included in the Board of Directors meeting materials.

8.10 WSCP Refinement Procedures

In all stages, if targets are not met, PCWA staff may implement further actions as long as they fall within the limits set by the resolution adopted by the Board of Directors in response to the shortage. Actions needed in excess of these limits, or reductions in actions, must be approved by the Board of Directors.

8.11 Special Water Feature Distinction

Decorative water features that are not pools or spas will be defined as artificial ponds, lakes, waterfalls, fountains, or non-pool or non-spa water features.

8.12 Plan Adoption, Submittal and Availability

Prior to adoption of this WSCP, PCWA held a public adoption hearing on May 20, 2021. Before the hearing, PCWA made a draft of the WSCP available for public inspection at PCWA's office and on the PCWA website. General notice of the public adoption hearing was provided through publication of the hearing date and time and posting of the hearing at PCWA's office.

A copy of the adopted WSCP will be provided to Placer County and cities within PCWA service area no later than 30 days after its adoption. The adopted WSCP will also be on PCWA's website.

After the adoption of the WSCP by PCWA Board of Directors, PCWA will submit all required documentation to DWR.

If an update to the WSCP is required, the adoption, submittal and availability procedures outline above should be followed.