



July 19, 2023

**TO:** Utilities Advisory Committee

**FROM:** Ron Munds, General Manager

**SUBJECT: Agenda Item 5 – 07/19/2023 UAC Meeting**  
Water Shortage Contingency Plan Review & Revisions

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### **DESCRIPTION**

The District's current Water Shortage Contingency Plan (Plan) was adopted in September 2014. The Plan has five stages with the fifth stage being the most severe. On April 2, 2015, the Board approved moving to Stage III based on the climatic triggers established in the Plan. The District has remained in Stage III since that time. This report reviews the various stages of the Plan and makes recommendations to update it to current standards and relook at the triggers to enter and exit the five stages and water use restrictions and penalties at each level.

### **STAFF RECOMMENDATION**

Provide comments and direction to staff.

### **DISCUSSION**

#### **Background**

The District has been very proactive in managing water supply during low rainfall years since about 2013. The UAC began developing a Water Shortage Contingency Plan (Plan) during 2013 and completed the work in September 2014 when the Plan was adopted by the Board.

Based on the climatic "triggers" for entering the drought condition stages, the Board declared a Stage III emergency in 2015. The original Plan did not have criterion to exit the various stages in the Plan. After back-to-back above rainfall in 2015-16 and 2016-17, criteria were added to make the exit strategy two consecutive years based on the uncertainty of the fluctuating drought conditions between 2012 and 2019. This criterion hasn't been met since 2019 so the District's water service area has remained in Stage III since 2015. Table 1 below shows the annual total rainfall going back 2012-13 to present. As can be seen, there are three years where rainfall was significantly above average interspersed with multiple years of below average rainfall. Table 2 summarizes the climatic triggers to enter the various stages of the Plan.

Table 1		Cummulative Rainfall Totals			
Water Year	Total	2 year	3 year	4 year	5 year
2022-2023	34.11				97.15
2021-2022	13.2				76.66
2020-2021	13.52				89.47
2019-2020	13.23				93.67
2018-2019	23.09				94.62
2017-2018	13.62				71.53
2016-2017	26.01			57.91	
2015-2016	17.72		31.9	Stage IV?	
2014-2015	7.61	14.18	Stage III		
2013-2014	6.57				
2012-2013	9.87				
Receive rainfall >= average by March 31, for two consecutive years. If in Stage III due to water quality, two consecutive semi-annual samples must be below trigger concentrations to exit Stage III					

Table 2 - Climatic Triggers for Stages					
Stage	1 year	2 years	3 years	4 years	5 years
Stage I	<17 in.				
Stage II		<32 in.	<48 in.	<65 in.	<81 in.
Stage III		<29 in.	<43 in.	<58 in.	<72 in.
Stage IV		<26 in.	<38 in.	<51 in.	<64 in.
Stage V		<17 in.	<26 in.	<34 in.	<43 in.

Along with each stage there are corresponding water use prohibitions and restrictions. Stages III, IV and V suggests that financial penalties for exceeding established water allocations “may” be applied. A decision was made by the Board to forgo mandatory allocations and penalties but revisit the issue if drought conditions worsened and customer water use warranted more drastic measures. Again, to date, no mandatory measures or penalties have been implemented. Table 3 below shows the prohibitions associated with each stage.

**Table 3**

<b>Stage</b>	<b>Prohibitions</b>
<p><b>Stage I – 5% reduction target</b></p> <p><b>Customers:</b> Residential</p> <p><b>Allocation:</b> 183 gal/day/household</p> <p>Or</p> <p>61/gal/day/occupant</p>	<ul style="list-style-type: none"> <li>• All Outdoor irrigation of vegetation shall occur only between dusk and dawn.</li> <li>• The use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground and other hard-surface areas by direct application shall be prohibited.</li> <li>• The use of non-drinking water fountains, except for those using recirculated water, shall be prohibited.</li> <li>• Use of water which results in flooding or run-off in gutters or streets shall be prohibited.</li> </ul>
<p><b>Stage II – 15% reduction target</b></p> <p><b>Customers:</b> Residential</p> <p><b>Allocation:</b> 174 gal/day/household</p> <p>Or</p> <p>58/gal/day/occupant</p>	<p>In addition to Stage I conservation measures:</p> <ul style="list-style-type: none"> <li>• Use of water from fire hydrants shall be limited to fire suppression and/or other activities immediately necessary to maintain health, safety and welfare of residents within the boundaries of the Los Osos Community Services District.</li> <li>• Use of potable water to irrigate lawns, landscape plantings, groundcovers, and shrubs shall be limited to prescribed days and hours. Irrigation shall only occur between dusk and dawn, and shall only occur on Wednesday and Sunday for even numbered addresses, and Tuesday and Saturday for odd numbered addresses. Community recreational facilities shall be exempt from this prohibition.</li> <li>• Water main flushing shall only occur in emergency situations as declared by the General Manager</li> </ul>
<p><b>Stage III -25% reduction target</b></p> <p><b>Customers:</b> Residential</p> <p><b>Allocation:</b> 150 gal/day/household</p> <p>Or</p> <p>50/gal/day/occupant</p>	<p>In addition to Stage I &amp; II conservation measures:</p> <ul style="list-style-type: none"> <li>• Irrigation of community recreational facilities shall be exempt from this prohibition. Penalties up to 2 times the established rate for usage above the allocation, may be applied. District will notify customer of usage above allocation, if the customer fails to modify usage, penalties will be applied.</li> <li>• No new Intent to Serve applications</li> <li>• No allocations may be transferred to another property</li> </ul>
<p><b>Stage IV – 35% reduction target</b></p> <p><b>Customers:</b> Residential/Commercial</p> <p><b>Allocation:</b> 135 gal/day/household</p> <p>Or</p> <p>45/gal/day/occupant</p>	<p>In addition to Stage I, II &amp; III conservation measures:</p> <ul style="list-style-type: none"> <li>• Irrigation of community recreational facilities and residential edible crops shall be exempt from this prohibition.</li> <li>• New water connections to the District water system shall be prohibited.</li> <li>• Commercial allocation 10% below baseline.</li> <li>• Penalties up to 4 times established rate</li> </ul>

	<p>may be applied.</p> <ul style="list-style-type: none"> <li>No allocations may be transferred to another property.</li> </ul>
<p><b>Stage V – 50% reduction target</b></p> <p><b>Customers:</b> All</p> <p><b>Allocation:</b> 126 gal/day/household</p> <p>Or</p> <p>42/gal/day/occupant</p>	<p>In addition to Stage I, II, III &amp; IV conservation measures:</p> <ul style="list-style-type: none"> <li>Commercial allocation 15% below baseline.</li> <li>Penalties up to 4 times established rate may be applied.</li> <li>No allocations may be transferred to another property.</li> </ul>

### Recommended Plan Updates

Staff has reviewed the components, i.e. percent reductions, triggers and prohibitions, of the Plan and believe minor modifications are in order. Updating of the allocations based on the more recent water use trends, revising the entering and exiting trigger mechanisms at each stage and updating of the prohibitions based on resource limitations are being recommended.

### Percent Reductions

Staff evaluated the last three years of residential per capita water use information to determine an updated baseline for residential customers. This resulted in slightly lower number of 61 gallons per person per day; the current Plan used 64 gallons per person per day. Applying the new number to target reductions and making an additional adjustment to meet the 50% target in Stage V, the following numbers are recommended.

Stage	Target	Base	Base GPCD
		183	61
I	5%	174	58
II	15%	156	52
III	25%	137	46
IV	35%	119	40
V	50%	92	31

### Climate Trigger for Entering and Existing Stages

#### Entering Stage Triggers

Since the Los Osos Groundwater Basin Plan (Basin Plan) had not been adopted and implemented at the time the Plan was adopted, staff is recommending adding language that would reference the Water Level Metric in the Basin Plan. The climatic triggers were based on the best information available back in 2013/2014. Inland groundwater basins water levels will rise and fall based on recharge conditions. Coastal groundwater basin will experience seawater intrusion if in overdraft so water levels don't fluctuate the same as inland basins. It was recognized that water quality triggers were needed and added or key wells because of this dynamic.

Now that the Basin Management Committee has seven years of monitoring data, better information is now available in the Annual Monitoring Report to help inform the District's decisions on the state of the groundwater basin and the response needed to protect the water supply from overdraft during drought conditions. That is the basis for the recommendation to add the following language to the climate trigger to enter different stages:

*If the BMC spring Water Level Metric remains the same from the previous year or increases, Stage X will not be declared.*

### **Exiting Stage Triggers**

As previously stated, the original Plan did not have exiting triggers for each stage. Exiting triggers were added, there really wasn't any scientific or data driven basis for the equal to or greater than years of rainfall for two consecutive years. Again, using data from the BMC Annual Monitoring Report, staff is proposing adding the following language for exiting a stage:

*Receive the equivalent rainfall  $\geq$  average by March 31 for two consecutive years or the BMC spring Water Level Metric increases...*

By adding the word "equivalent", this would allow for a below average rainfall and above average year to be added together to see if it meets the threshold to exit a stage. Table 1 provides what that would look like when looking at multiple years of data.

### **Prohibitions**

Minor changes to the prohibitions are being recommended. The most significant change is deleting the reference to irrigation being on certain days of the week based on the customer's address. The District does not have the resources to enforce such a prohibition and the effectiveness for actually saving water has been questioned. Other minor changes are:

- Water main flushing shall only occur in emergency situations as declared by the General Manager. Staff believe operational decisions should not be in the Plan and made by the General Manager and staff as needed.
- No allocations may be transferred to another property. Staff doesn't see the current relevance of this prohibition.
- Eliminating the exemption from irrigation restrictions for community recreational facilities. Having the choice to curtail outdoor irrigation when necessary is an important tool during water shortage emergencies. Stating that recreational facilities "may" be exempt would leave that decision to the Board during an emergency.

### **Financial Penalties**

Currently, in stages III, IV and V, the Plan references financial penalties for using water above a base allocation for each customer. Though this approach can be effective, it is very staff intensive and would require special programming in the billing system. Though the water service area has been in Stage III for many years, this tool has not been implemented. Staff is not recommending the removal of financial penalties from the Plan. Based on the water conditions and the data provided by the BMC, the Board can better make those decisions when conditions warrant a more punitive response.

### **Summary**

The District's water customers have been doing an outstanding job a keeping water consistently low for many years. Keeping the water conservation message out in the community is very important but staff is looking for a balanced approach to implementing prohibitions and financial penalties in the Plan. Staff would recommend that the Board consider the Plan as a guidance document that provides alternatives and tools to guide the community through water supply emergencies.

The current Plan is a solid document and provides realistic measures assure water supply availability during emergencies. The recommended changes are meant to enhance the means to implement the measures and achieve the balance needed in a fair and equitable way.

### **Attachment**

Current Water Shortage Contingency Plan Matrix  
Department of Water Resources Water Shortage Contingency Plan for Small Water Systems

Stage (Household allocations are based on household of 3)	Reduction Target	Climate Trigger (Median Rainfall 17 Inches)	Chloride Trigger (8th or 10th Street Wells - Zone D)	TDS Trigger (8th or 10th Street Wells - Zone D)	Recommended Climate & Water Quality Requirements To Exit Water Shortage Stages (de-trigger)	Prohibitions
<b>STAGE I ALERT</b>  Customers: Residential  Allocation: 183 gal/day/household or 61 gal/day/occupant	5%	Rainfall total as of March 31: less than median (17 in) for current year	N/A	N/A	Receive rainfall >= median by March 31	All outdoor irrigation of vegetation shall occur only between dusk and dawn. The use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground and other hard-surface areas by direct application shall be prohibited.  The use of non-drinking water fountains, except for those using recirculated water, shall be prohibited. Use of water which results in flooding or run-off in gutters or streets shall be prohibited.
<b>STAGE II WARNING</b>  Customers: Residential  Allocation: 174 gal/day/household  or 58 gal/day/occupant	15%	Stage I plus rainfall total as of March 31: <= 32 in. for over two years or <= 48 in. over three yrs. or 65 in. over four yrs. or 81 in over five years	N/A	N/A	Receive rainfall >= median by March 31	In addition to Stage I conservation measures: Use of water from fire hydrants shall be limited to fire suppression and/or other activities immediately necessary to maintain health, safety and welfare of residents within the boundaries of the Los Osos Community Services District.  Use of District potable water for construction projects shall be prohibited. Washing of automobiles, trucks, trailers, boats, and other types of mobile equipment not occurring upon the immediate premises of a commercial car wash and/or commercial service station shall be prohibited unless residents have an automatic shut-off hose nozzle and do not allow water to run off their property.  Use of potable water to irrigate lawns, landscape plantings, groundcovers, and shrubs shall be limited to prescribed days and hours. Irrigation shall only occur between dusk and dawn, and shall only occur on Wednesday and Sunday for <u>even</u> numbered addresses, and Tuesday and Saturday for <u>odd</u> numbered addresses. Community recreational facilities shall be exempt from this prohibition.  Water main flushing shall only occur in emergency situations as declared by the General Manager
<b>STAGE III EMERGENCY</b>  Customers: Residential  Allocation  150 gal/day/household or 50 gal/day/occupant NO TRANSFERS ALLOWED	25%	Stage I plus rainfall total as of March 31: <= 29 in for over two yrs. Or <= 43 in. over three yrs. or 58 in. over four yrs. Or 72 in over five yrs. Stage III shall be enacted no earlier than April 2015. <b>Declared by BOO 4/2/2015 - Based on Climate Trigger ONLY</b> <b>Modified on 5/7/2015</b>	150 mg/l	700 mg/l	Receive rainfall >= median by March 31 for two consecutive years. If in Stage III due to water quality, two consecutive semi-annual samples must be below trigger concentrations to exit Stage III. <b>Modified on 6/6/19</b>	In addition to Stage I & II conservation measures: Irrigation of community recreational facilities shall be exempt from this prohibition. Penalties up to 2 times the established rate for usage above the allocation, may be applied. District will notify customer of usage above allocation, if the customer fails to modify usage, penalties will be applied.  No new Intent to Serve applications.  No allocations may be transferred to another property.
<b>STAGE IV SEVERE</b>  Customers:  Residential, Commercial  Allocation  135 gal/day/household or 45 gal/day/occupant NO TRANSFERS ALLOWED	35%	Stage I plus rainfall total as of March 31 <= 26 in. for over two years or <= 38 in over three yrs. or 51 in over four yrs. Or 64 in. over five years, Stage IV shall be enacted no earlier than November 2015	250 mg/l	850 mg/l	Receive rainfall >= median by March 31 for two consecutive years, transition to Stage II for current year. If in Stage IV due to water quality, two consecutive semi-annual samples must be below trigger concentrations to exit Stage IV	In addition to Stage I, II, & III conservation measures: Irrigation of community recreational facilities and residential edible crops shall be exempt from this prohibition.  New water connections to the District water system shall be prohibited. Commercial allocation 10% below baseline.  Penalties up to 4 times established rate may be applied. No allocations may be transferred to another property.
<b>STAGE V CRITICAL</b> All Customers  Allocation:  126 gal/day/household or 42 gal/day/occupant NO TRANSFERS ALLOWED	50%	Stage I plus rainfall total as of March 31 <= 17 in. for over two years or <= 26 in over three yrs. Or 34 in. over four yrs. Or 43 in. over five years.	500 mg/l	1,000 mg/l	Receive rainfall >= median by March 31, transition to Stage II for current year. If in Stage V due to water quality, two consecutive semi-annual samples must be below trigger concentration to exit Stage V	In addition to Stage I, II, III, & IV conservation measures:  Commercial allocation 15% below baseline.  Penalties up to 4 times established rate may be applied. No allocations may be transferred to another property.

**Appendix 2**  
**Proposed Water Shortage Contingency Plan**  
**Components for Small Water Systems**  
**Serving 1,000 to 2,999 Service Connections**

Prepared for

**County Drought Advisory Group Process as Partial Fulfillment of**  
**Assembly Bill 1668**

By  
**California Department of Water Resources**

Water Use Efficiency Branch

March 2021

Part 1: Appendix 2  
WSCP Components for Small Water Systems

This appendix contains recommended components of a water shortage contingency plan for small water suppliers. The appendix is part of the report *Small Water Systems and Rural Communities Drought and Water Shortage Contingency Planning and Risk Assessment, Part I – Recommendations for Drought and Water Shortage Contingency Plans*. The report is submitted pursuant to California Water Code (CWC) Section 10609.42, which directs the California Department of Water Resources (DWR) to identify small water suppliers and rural communities that may be at risk of drought and water shortage vulnerability, and to propose recommendations and provide information in support of improving their drought preparedness.

The table included in this appendix contains the basic planning components recommended for small water suppliers' water shortage contingency plans (WSCP), related to Recommendation S3 in the report.

*Recommendation S3: All small community water systems serving 1,000 to 2,999 service connections should be required to develop an abridged drought and water shortage contingency plan and coordinate with groundwater sustainability agencies, where applicable.*

The proposed WSCP elements for small water suppliers are consistent with the 2019 American Water Works Association M60 Manual (Drought Preparedness and Response).



**Proposed Water Shortage Contingency Plan Components for  
Small Water Systems**

<b>Water Shortage Contingency Plan (WSCP) Component (American Water Works Association M60, 2019)</b>	<b>Examples of Elements Department of Water Resources (DWR) Suggests as Required Items</b>
<p><b>Step 1. Form a Water Shortage Response Team</b></p> <p>Select the Water Shortage Response Team</p> <p>Set Priorities</p> <p>Establish Schedules and Maintain Momentum</p> <p>Coordination, Cooperation, and Communications</p>	<p>Identify responsible staff for coordinating with Regional Water Planning Groups and drought task force.</p> <p>Identify potential events that may cause emergencies. Identify contractors you will need.</p> <p>What are your goals/objectives for managing drought-related problems and involving the public?</p> <p>Annually report progress and schedule.</p> <p>Emergency notification and effective communication; chain of command with lines of authority, and emergency contact information; coordinate with county/regional planning on drought response.</p>
<p><b>Step 2. Forecast Supply in Relation to Demand</b></p> <p>Data Collection</p> <p>Data Analysis</p> <p>Is There a Predicted Shortage?</p> <p>Catastrophic Supply Interruptions</p>	<p>Summary inventory of water supply and demand, water system background (sources), and describe what indicates drought conditions for your system.</p> <p>Document previous water shortage conditions, drought scenarios, and annual monthly usage.</p> <p>Document your anticipated drought-related problems and thought process to determine if a water shortage is imminent.</p> <p>Develop response actions for specific events (wildfire actions should be included).</p> <p>Document highest stage-minimum usage and connection moratorium.</p>

Part 1: Appendix 2  
WSCP Components for Small Water Systems

<b>Water Shortage Contingency Plan (WSCP) Component (American Water Works Association M60, 2019)</b>	<b>Examples of Elements Department of Water Resources (DWR) Suggests as Required Items</b>
<p><b>Step 3. Balance Supply and Demand and Assess Mitigation Options</b></p> <p>Supply Augmentation Methods</p> <p>Demand-Reduction Methods</p>	<p>Assess supply and demand, mitigation measures, and assessments. Determine long-term mitigation measures: alternative water sources and improvements in supply.</p> <p>Determine how to balance supply and demand.</p>
<p><b>Step 4. Establish Triggering Levels</b></p> <p>Trigger Mechanisms</p>	<p>Set drought response triggers.</p>
<p><b>Step 5. Develop a Staged Demand-Reduction Program</b></p> <p>Criteria for Demand Reduction During a Water Shortage</p> <p>Establish Stages</p> <p>Measures</p> <p>Manage Customer Expectations</p>	<p>Identify criteria for initiation and termination of drought stages. Criteria for triggers. Triggers should be set at 10%, 25%, and 50% shortage levels.</p> <p>Establish drought response stages.</p> <p>Develop response actions.</p> <p>Identify variances to water use restrictions.</p>
<p><b>Step 6. Adopt the Plan</b></p> <p>Involve the Community</p> <p>Prepare the Community</p> <p>Prepare a Revenue Program</p> <p>Formalize Cooperation with Local Agencies in the Region</p> <p>Review and Finalize the Plan</p>	<p>Declaration of policy, purpose, and intent. Develop public involvement and outreach plan.</p> <p>Revenue and expenditure analysis and urgency ordinance for surcharges.</p>

Part 1: Appendix 2  
WSCP Components for Small Water Systems

<b>Water Shortage Contingency Plan (WSCP) Component (American Water Works Association M60, 2019)</b>	<b>Examples of Elements Department of Water Resources (DWR) Suggests as Required Items</b>
<p><b>Step 7. Implement the Plan</b></p> <p>Essential Elements of Implementing a Water Shortage Plan</p> <p>Shortage Plan</p> <p>Public Information and Media Program</p> <p>Drought Recovery and Water-Shortage Plan Termination</p>	<p>Mechanism for determining actual water use reductions.</p> <p>Completed public involvement and outreach plan.</p> <p>Returning to normal operation: criteria for initiating and termination of drought response stages.</p>