



August 3, 2023

TO: LOCSO Board of Directors

FROM: Ron Munds, General Manager

SUBJECT: Agenda Item 7A – 08/03/2023 BOD Meeting
Water Shortage Contingency Plan Review & Recommended Revisions

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DESCRIPTION

The District's current Water Shortage Contingency Plan (Plan) was adopted by the Board 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 relook at the triggers to enter and exit the five stages, water use prohibitions and penalties at each level.

STAFF RECOMMENDATION

The staff recommends that by motion the Board take the following action:

I move that the Board:

- 1. Conceptually approval of recommended changes to the Water Shortage Contingency Plan; and***
- 2. Direct staff to bring back an ordinance to amend Title 2 with the changes conceptually approved.***

DISCUSSION

Background

The District has been very proactive in managing water supply during low rainfall years since about 2013. The Utilities Advisory Committee (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 April 2015. The original Plan did not have criteria to exit the various stages in the Plan. After back-to-back above rainfall in 2015-16 and 2016-17, criteria were added to provide for an exiting strategy based on two consecutive years of average or above rainfall in 2017. The strategy was based on the uncertainty of the fluctuating drought conditions being experienced during the previous years. The criteria hasn't been met since 2017 so the District's water service area has remained in Stage III since 2015. Table 1 below shows the annual total rainfall going from 2012-13 to present. As can be seen, since Stage III was declared there have been three years where rainfall was significantly above average interspersed with multiple years of below average rainfall but the two consecutive years of average or above has not been met.

Table 1		
Water Year	Total	Comments
2022-2023	34.11	Exit Criteria Not Met
2021-2022	13.2	Exit Criteria Not Met
2020-2021	13.52	Exit Criteria Not Met
2019-2020	13.23	Exit Criteria Not Met
2018-2019	23.09	Exit Criteria Not Met
2017-2018	13.62	Exit Criteria Not Met
2016-2017	26.01	Exit Criteria <u>Adopted</u>
2015-2016	17.72	
2014-2015	7.61	Plan Adopted/Stage III
2013-2014	6.57	
2012-2013	9.87	

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 financial measures or penalties have been implemented. Table 2 below shows the prohibitions associated with each stage.

Table 2

Stage	Prohibitions
<p>Stage I – 5% reduction target</p> <p>Customers: Residential</p> <p>Allocation: 183 gal/day/household</p> <p>Or</p> <p>61/gal/day/occupant</p>	<ul style="list-style-type: none"> • 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.
<p>Stage II – 15% reduction target</p> <p>Customers: Residential</p> <p>Allocation: 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"> • 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 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. • Water main flushing shall only occur in emergency situations as declared by the General Manager
<p>Stage III -25% reduction target</p> <p>Customers: Residential</p> <p>Allocation: 150 gal/day/household</p> <p>Or</p> <p>50/gal/day/occupant</p>	<p>In addition to Stage I & II conservation measures:</p> <ul style="list-style-type: none"> • 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
<p>Stage IV – 35% reduction target</p> <p>Customers: Residential/Commercial</p> <p>Allocation: 135 gal/day/household</p> <p>Or</p> <p>45/gal/day/occupant</p>	<p>In addition to Stage I, II & III conservation measures:</p> <ul style="list-style-type: none"> • 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

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

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 more recent water use information, revising the entering and exiting trigger mechanisms at each stage and updating the prohibitions based on resource limitations of the District 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.

Current

Stage	Target	Base	Base GPCD
		192	64
I	5%	183	61
II	15%	174	58
III	25%	150	50
IV	35%	135	45
V	50%	126	42

Proposed

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

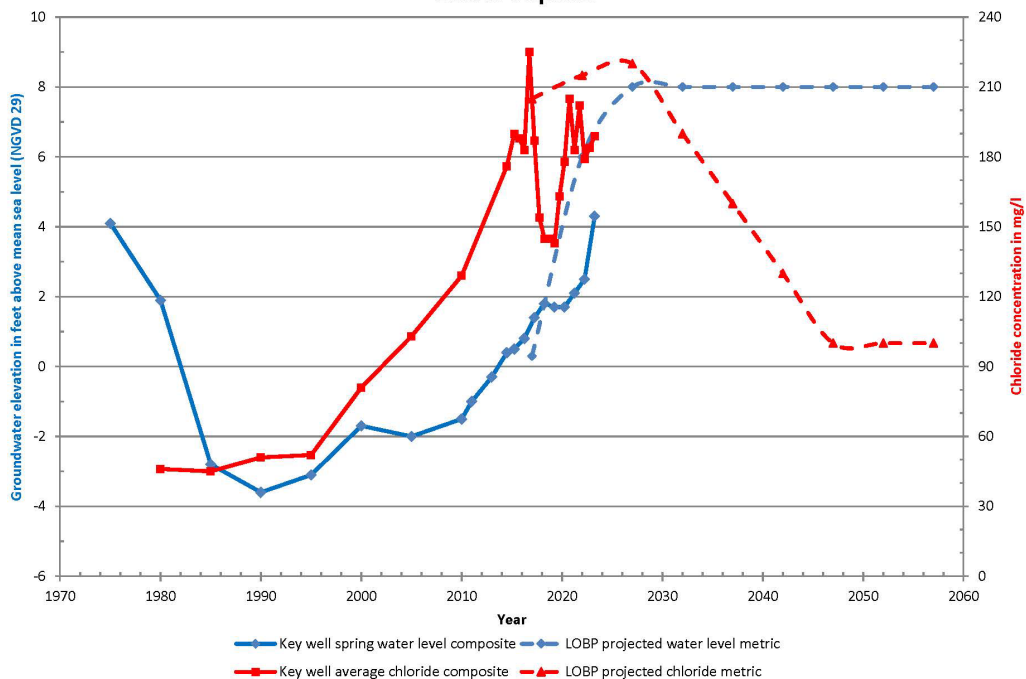
in 2013/2014. Inland groundwater basins water levels will rise and fall based on recharge conditions. Coastal groundwater basin will experience seawater intrusion if in overdraft so water levels don't fluctuate the same as inland basins. It was recognized that water quality triggers were needed and added for 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.”

Spring 2023 DRAFT

**Chloride and Water Level Metric
Lower Aquifer**



Exiting Stage Triggers

As previously stated, the original Plan did not have exiting triggers for each stage. When the 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...”

Adding the word “equivalent” would allow for a below average rainfall and above average year to be added together to determine if it meets the threshold to exit a stage. Table 3 provides what that would look like when looking at multiple years of data using the recommended exiting triggers.

Table 3		Cumulative Rainfall Totals				
Water Year	Total	2 year	3 year	4 year	5 year	Stage
2022-2023	34.11				97.15	None
2021-2022	13.2				76.66	None or III
2020-2021	13.52				89.47	None or II
2019-2020	13.23				93.67	None
2018-2019	23.09				94.62	None
2017-2018	13.62				71.53	III
2016-2017	26.01			57.91		III
2015-2016	17.72		31.9			IV?
2014-2015	7.61	14.18				III
2013 - 2014	6.59					
2013-2014	6.57					
2012-2013	9.87					

Table 4 provides the current matrix for entering the various drought stages. This can act as a guide to determine “equivalent or greater” when following the climatic triggers exiting a stage.

Table 4 - Climatic Triggers for Entering 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.

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 (staff) 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 very 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.

Advisory Committee Recommendation

The Utilities Advisory Committee recommended at their July 19th meeting that the Board conceptually approved the recommendations made in this report.

Summary

The District's water customers have been doing an outstanding job at 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

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
STAGE I ALERT 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	<p>All outdoor irrigation of vegetation shall occur only between dusk and dawn.</p> <p>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.</p> <p>The use of non-drinking water fountains, except for those using recirculated water, shall be prohibited.</p> <p>Use of water which results in flooding or run-off in gutters or streets shall be prohibited.</p>
STAGE II WARNING 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	<p>In addition to Stage I conservation measures:</p> <p>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.</p> <p>Use of District potable water for construction projects shall be prohibited.</p> <p>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 even numbered addresses, and Tuesday and Saturday for odd numbered addresses. Community recreational facilities shall be exempt from this prohibition.</p> <p>Water main flushing shall only occur in emergency situations as declared by the General Manager</p>

<p>Stage (Household allocations are based on household of 3)</p>	<p>Reduction Target</p>	<p>Climate Trigger (Median Rainfall 17 Inches)</p>	<p>Chloride Trigger (8th or 10th Street Wells - Zone D)</p>	<p>TDS Trigger (8th or 10th Street Wells - Zone D)</p>	<p>Recommended Climate & Water Quality Requirements To Exit Water Shortage Stages (de-trigger)</p>	<p>Prohibitions</p>
<p>STAGE III EMERGENCY</p> <p>Customers: Residential</p> <p>Allocation</p> <p>150 gal/day/household or 50 gal/day/occupant</p> <p>NO TRANSFERS ALLOWED</p>	<p>25%</p>	<p>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. Declared by BOD 4/2/2015 - Based</p> <p>Modified on 5/7/2015</p>	<p>150 mg/l</p>	<p>700 mg/l</p>	<p>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.</p> <p>Modified on 6/6/19</p>	<p>In addition to Stage I & II conservation measures:</p> <p>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.</p> <p>No Allocations may be transferred to another property</p>
<p>STAGE IV SEVERE</p> <p>Customers:</p> <p>Residential, Commercial</p> <p>Allocation</p> <p>135 gal/day/household or 45 gal/day/occupant</p> <p>NO TRANSFERS ALLOWED</p>	<p>35%</p>	<p>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 to no</p>	<p>250 mg/l</p>	<p>850 mg/l</p>	<p>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</p>	<p>In addition to Stage I, II, & III conservation measures:</p> <p>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.</p>

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
STAGE V CRITICAL 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.