



Water Shortage Contingency Plan

Public Hearing

February 21, 2023



Agenda

- Review of prior Board discussions
- Key Elements of 2023 Water Shortage Contingency Plan
 - Triggers
 - Shortage Response Actions
- Proposed Ordinance No. 462
 - Code changes needed for implementation of Water Shortage Contingency Plan
- Recommendation

Direction and Input on the Development of the Updated WSCP

- July 15, 2022 - Operations Committee - Overview of current WSCP and possible refinements
- September 6, 2022 – Board of Directors- Review of WSCP
- Oct 21, 2022 - Operations Committee - refinements of proposed triggers
- DOC January 13, 2023 – Operations Committee – Reviewed and referred to Board for adoption

Proposed Triggers Based on Local Reservoir Storage Level

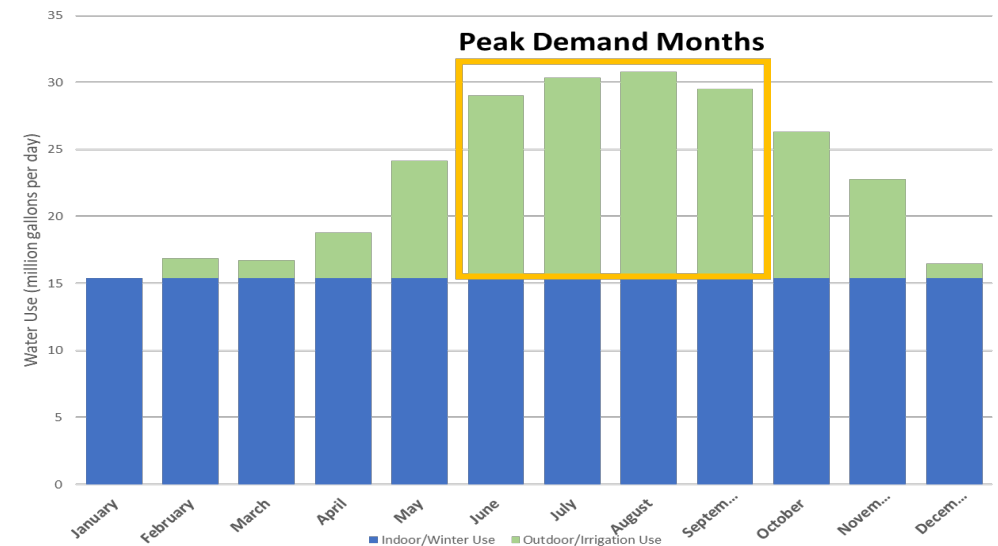
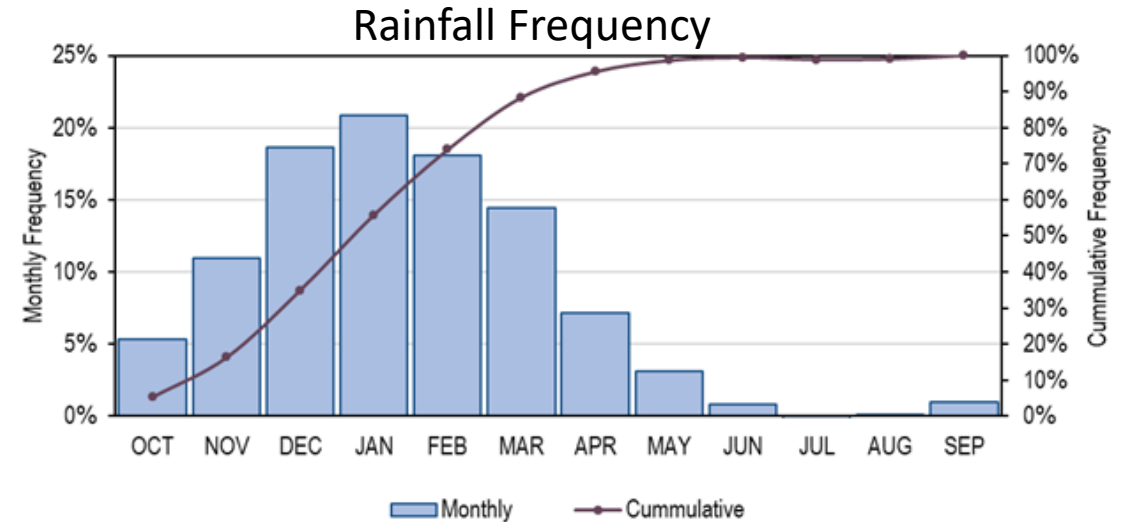
- Local storage provides 75% of supply
- Local storage level forecasts factor in projected availability of supplemental supply
- Provides a firm basis upon which to take action
- Selected based on frequency of reaching storage level
- Good indicator of the state of our water supply

Shortage Level	Percent Shortage Range	Shortage Trigger
		Total Local Reservoir Storage on April 1 st at, or projected to be in the vicinity of:
1	Up to 10% Voluntary	70,000 AF
2	Up to 20% Voluntary	65,000 AF
3	Up to 30% Mandatory	55,000 AF
4	Up to 40% Mandatory	45,000 AF
5	Up to 50% Mandatory	35,000 AF
6	> 50 % Mandatory	25,000 AF

Trigger Level Frequency Since Reservoir Expansion in 1983				
Shortage Level	Percent Shortage Range	Trigger Level [AF]	# Occurrences	Percentage Occurrence
1	10%	70,000	12	31%
2	20%	65,000	7	18%
3	30%	55,000	3	8%
4	40%	45,000	1	3%
5	50%	35,000	0	0%
6	>50%	25,000	0	0%

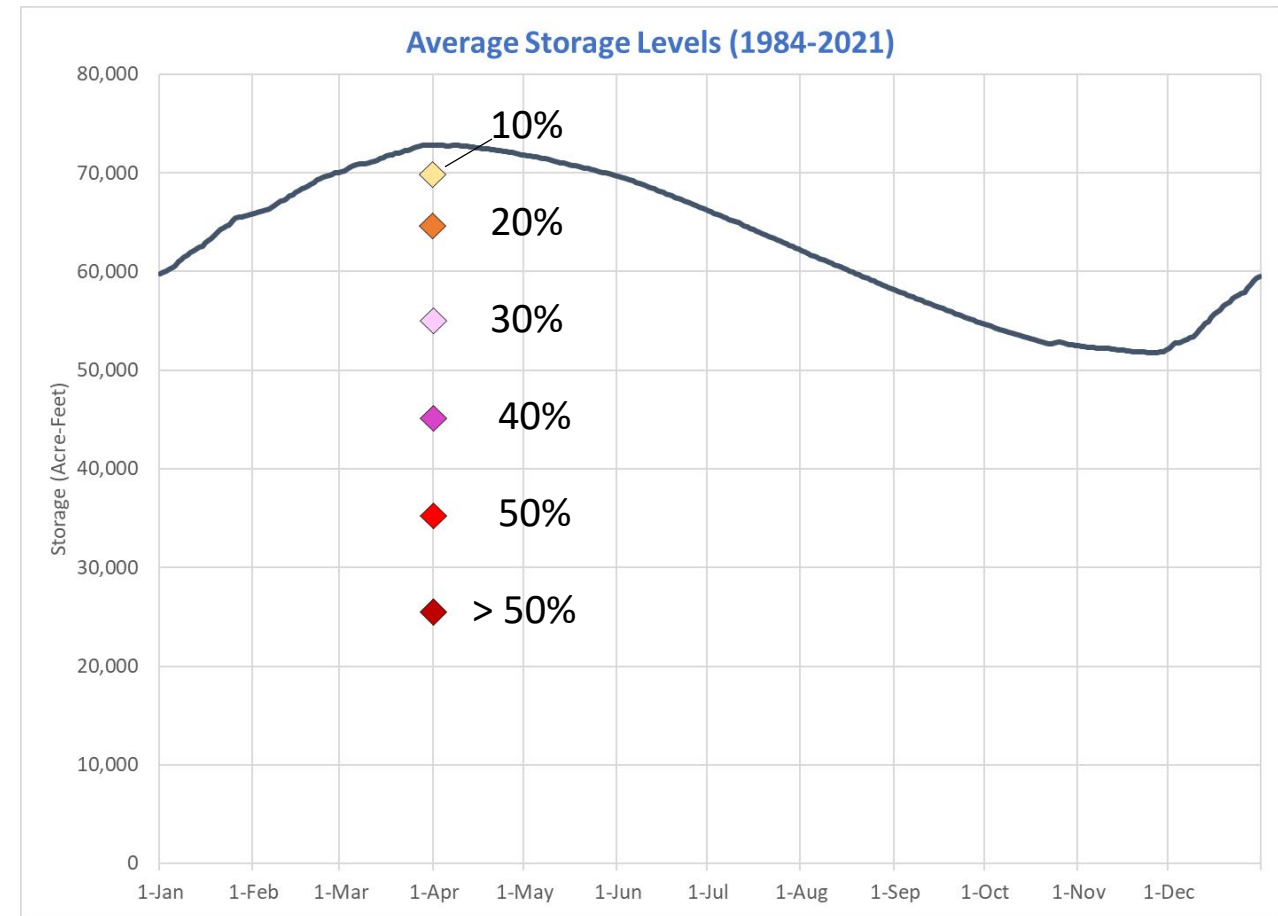
Proposed Timing of Triggers

- Extreme variability of rainfall makes it challenging to accurately predict storage during winter
- Actions taken in low demand period have less effect
- By April 1:
 - 88% of Rainfall by April 1
 - On average reservoir storage at peak level



Proposed Water Shortage Action Levels

Stage	Shortage Range %	Water Shortage Action Level <u>Total Reservoir Storage on April 1st</u>
		Projected to be in the vicinity of:
1	Up to 10% Voluntary	70,000 AF
2	Up to 20% Voluntary	65,000 AF
3	Up to 30% Mandatory	55,000 AF
4	Up to 40% Mandatory	45,000 AF
5	Up to 50% Mandatory	35,000 AF
6	> 50 % Mandatory	25,000 AF



Shortage Response Actions

Shortage Response Actions

The WSCP requires actions to be developed and activated at each shortage level

- District Response
 - Operational Changes
 - Outreach Response
 - Drought Rates
- Prohibitions on End Users
 - Designed to conserve water through restricting actions which align with the conservation target
 - Escalate at each stage based on the reduction needed
 - Variance process can be utilized by customers if hardship (financial, medical, health and safety, etc) or alternative compliance can be demonstrated

Proposed Water Shortage Triggers and Operational Changes

Stage	Water Shortage Action Level <u>Total Reservoir Storage on April 1st</u>	Operational Changes
Projected to be in the vicinity of:		
1 - Up to 10% Voluntary	70,000 AF	<ul style="list-style-type: none"> • Increase supplemental water imports and closely monitor storage levels and weather conditions • Enact dry year stream release flow restrictions
2 - Up to 20% Voluntary	65,000 AF	<ul style="list-style-type: none"> + Minimize system flushing + Initiate water waste patrols + Implement drought rates
3 - Up to 30% Mandatory	55,000 AF	<ul style="list-style-type: none"> + Increase system leak repair rate + Restrict line flushing to include only regulatory compliance actions + Access stored Emergency Supply - SoulaJule and Phoenix
4 - Up to 40% Mandatory	45,000 AF	<ul style="list-style-type: none"> + Increase system leak repair rate to prioritize class 1-3 leaks + Consider Temporary Urgency Change Petition + Consider Declaration of Water Shortage Emergency + Consider limiting or excluding new service connections.
5 - Up to 50% Mandatory	35,000 AF	<ul style="list-style-type: none"> + Implement Water Use Limits and Penalties + Consider a moratorium on new water service connections, or no net water use requirements for new connections
6- > 50 % Mandatory	25,000 AF	<p>Catastrophic interruption of water supply</p> <ul style="list-style-type: none"> + Health and Safety Water allotments into effect + Decrease Water Use Limits to align with Health and Safety Water Allotments

Summary of Proposed Prohibitions on End Users

Stage	Prohibitions on End Users
1 - Up to 10% Voluntary	Ongoing Water Waste Prohibitions outlined in District's Title 13.02
2 - Up to 20% Voluntary	
3 - Up to 30% Mandatory	<ul style="list-style-type: none"> + Washing vehicles with potable water except at commercial carwash facilities that use recycled water + Use of potable water for refilling or make-up water of any decorative water features + Golf course irrigation, with potable or raw water, shall be reduced by 30% compared to the average use of the last three normal years or shall be irrigated to the sites Maximum Applied Water Allowance, whichever is less. + Power-washing any structure using potable water, unless required for health and safety + Limit sewer cleaning/flushing to only recycled water + Use of potable water for dust control, soil compaction, street cleaning, or any other use determined by the District
4 - Up to 40% Mandatory	<ul style="list-style-type: none"> + Limit irrigation to 1 day per week, assigned by the District + No installation of new landscapes including no expansion of existing landscapes + Golf course irrigation shall be reduced by 40% compared to the average use of the last three normal years or shall be irrigated to 90% of the sites Maximum Applied Water Allowance, whichever is less + Request that local fire departments limit training exercises that use potable water and cease hydrant testing
5 - Up to 50% Mandatory	<ul style="list-style-type: none"> + Irrigation restricted to maintain tree health for all potable and raw water customers, including golf courses + Refilling a completely drained swimming pool and initial filling of any swimming pool + Establish Water Use Limits and associated penalties
6 - > 50 % Mandatory	<ul style="list-style-type: none"> + The use of potable water for any purpose other than human health and sanitation is prohibited + Implement Health and Safety Water Allotments + New water service connections will not be granted

Summary of Proposed Water Shortage Outreach Response Actions

Stage	Outreach Response Actions
1 - Up to 10% Voluntary	<ul style="list-style-type: none"> +Initiate public outreach campaign to communicate about dry conditions + Education focused on ongoing prohibitions and water waste reporting + Provide list of simple actions that can be done to save water (e.g., use a broom instead of hosing down a sidewalk) + Explain drought situation to local governments to provide a snapshot of the water supply picture, restrictions, and water conservation tips + Promote the Weekly Watering Schedule + Explain other stages and forecast future actions
2 - Up to 20% Voluntary	<p>All previous response actions</p> <ul style="list-style-type: none"> + Develop internal speakers bureau to provide educational presentations to community groups + Develop (or use existing) brief and simple educational videos to increase water efficiency + Provide outreach toolkit to cities in service area of drought conditions to ensure collaboration + Encourage use of graywater and weather-based landscape watering
3 - Up to 30% Mandatory	<p>All previous response actions</p> <ul style="list-style-type: none"> + Accelerate public information & outreach campaign, including communication with news media to help amplify messaging + Reduce Weekly Watering Schedule to deficit irrigation
4 - Up to 40% Mandatory	<p>All previous response actions</p> <ul style="list-style-type: none"> + Provide information to customers about trees preservation during drought conditions
5 - Up to 50% Mandatory	<p>All previous response actions</p> <ul style="list-style-type: none"> + Communicate Water Use Limits and associated penalties
6- > 50 % Mandatory	<p>All previous response actions</p> <ul style="list-style-type: none"> + Additional communication to help amplify messaging regarding Health and Safety Water Allotments

Ordinance No. 462

- Incorporate the provisions of the Water Shortage Contingency Plan into District Code allowing for implementation of the Plan
 - Shortage Response Triggers
 - Outreach Response
 - Prohibitions on End Users
 - Variance

Recommendation

- Approve Resolution to adopt the 2023 Water Shortage Contingency Plan
- Adopt Proposed Ordinance No. 462 amending District code to add provisions for the implementation of the Water Shortage Contingency Plan to District Code

Extra Slides

Typical Operations under Normal Water Supply Conditions

District Actions

Operational Changes

- Front-load Sonoma Water supplemental supply during initial months of FY using improved Kastania Pump Station capacity
- Balance supply from local reservoirs
- Continuous monitoring and reporting of water supply conditions

Outreach Response

- Provide water efficient and conservation focused campaigns
- Conservation Rebate and Incentive program
- Offer free water-efficient fixtures and phone consultations to assist customers navigate programs
- Encourage use of graywater and weather-based landscape watering

Normal Year Water Waste Prohibitions (13.02.020)

- Limit of 2 day/ week for overhead irrigation
- Limit of 3 day/ week for drip irrigation
- Gutter flooding and run off
- Leak repair
- Non-recirculating fountains
- Using a garden hose w/out a hose end nozzle
- Irrigation between 9am and 7pm
- Irrigation within 48hrs of rainfall
- Irrigating ornamental turf on public street medians
- Hosing down sidewalks, driveways, etc
- Sewer cleaning with recycled water, when available

Dry Conditions Stage

Shortage Level 1: 10% Voluntary

District Actions

(Reservoir Storage < 70,000 acre-feet on April 1st)

Operational Changes

- Increase supplemental water imports and closely monitor storage levels and weather conditions
- Enact dry year stream release flow restrictions

Outreach Response

- Initiate public outreach campaign to communicate about dry conditions
- Education focused on ongoing prohibitions and water waste reporting
- Provide list of simple actions that can be done to save water (e.g., use a broom instead of hosing down a sidewalk)
- Explain drought situation to the public and governmental bodies via “Drought Watch” to provide a snapshot of the water supply picture, restrictions, and water conservation tips
- Promote the Weekly Watering Schedule
- Explain other stages and forecast future actions

Water Waste Prohibitions

Normal Year Water Waste Prohibitions (13.02.020) in effect.

Advisory Stage

Shortage Level 2: 20% Voluntary

District Actions

(Reservoir Storage < 65,000 acre-feet on April 1st)

Operational Changes

Continue Stage 1 Operational Actions

- + Minimize system flushing
- + Initiate water waste patrols

Outreach Response

Continue Stage 1 Outreach Actions

- + Develop internal speakers bureau to provide educational presentations to community groups
- + Develop (or use existing) brief and simple educational videos to increase water efficiency
- + Provide outreach toolkit to cities in service area of drought conditions to ensure collaboration
- + Encourage use of graywater and weather-based landscape watering

Drought Rates

- Drought rates will continue to increase based on declaration of water shortage stage and water savings target.

Water Waste Prohibitions

Normal Year Water Waste Prohibitions
(13.02.020) in effect.

Alert Stage

Shortage Level 3: 30% Mandatory

District Actions

Operational Changes

Continue Stage 2 Operational Actions

- + Increase system leak repair rate
- + Restrict line flushing to include only regulatory compliance actions
- + Access stored Emergency Supply - Soulajule and Phoenix

Outreach Response

Continue Stage 2 Outreach Actions

- + Accelerate public information & outreach campaign, including communication with news media to help amplify messaging
- + Reduce Weekly Watering Schedule to deficit irrigation

Drought Rates

- Drought rates will continue to increase based on declaration of water shortage stage and water savings target.

(Reservoir Storage < 55,000 acre-feet on April 1st)

Water Waste Prohibitions

Prohibitions and restrictions from Stage 2 are in effect.

- + **Washing vehicles with potable water except at commercial carwash facilities that use recycled water**
- + **Use of potable water for refilling or make-up water of any decorative water features**
- + **Golf course irrigation, with potable or raw water, shall be reduced by 30% compared to the average use of the last three normal years or shall be irrigated to the sites Maximum Applied Water Allowance, whichever is less.**
- + **Power-washing any structure using potable water, unless required for health and safety**
- + **Limit sewer cleaning/flushing to only recycled water**
- + **Use of potable water for dust control, soil compaction, street cleaning, or any other use determined by the District**

Shortage Stage

Shortage Level 4: 40% Mandatory

District Actions

(Reservoir Storage < 45,000 acre-feet on April 1st)

Operational Changes

Continue Stage 3 Operational Actions

- + Increase system leak repair rate to prioritize class 1-3 leaks
- + Board could consider Temporary Urgency Change Petition
- + Board could consider Declaration of Water Shortage Emergency
- + Board could consider limiting or excluding new service connections.

Outreach Response

Continue Stage 3 Outreach Actions

- + Provide information to customers about trees preservation during drought conditions

Drought Rates

- Drought rates will continue to increase based on declaration of water shortage stage and water savings target.

Water Waste Prohibitions

Prohibitions and restrictions from Stage 3 are in effect.

- + **Limit irrigation to 1 day per week, assigned by the District**
- + **No installation of new landscapes including no expansion of existing landscapes**
- + **Golf course irrigation shall be reduced by 40% compared to the average use of the last three normal years or shall be irrigated to 90% of the sites Maximum Applied Water Allowance, whichever is less**
- + **Request that local fire departments limit training exercises that use potable water and cease hydrant testing**

Critical Stage

Shortage Level 5: 50% Mandatory

District Actions

Operational Changes

Continue Stage 4 Operational Actions

- + Implement Water Use Limits and Penalties
- + Board could consider a moratorium on new water service connections, or no net water use requirements for new connections

Outreach Response

Continue Stage 4 Outreach Actions

- + Communicate Water Use Limits and associated penalties

Drought Rates

- Drought rates will continue to increase based on declaration of water shortage stage and water savings target.

(Reservoir Storage < 35,000 acre-feet on April 1st)

Water Waste Prohibitions

Prohibitions and restrictions from Stage 4 are in effect.

- + Irrigation restricted to maintain tree health for all potable and raw water customers, including golf courses
- + Refilling a completely drained swimming pool and initial filling of any swimming pool
- + Establish Water Use Limits and associated penalties

Emergency Stage Shortage Level 6: Over 50% Mandatory

District Actions

Operational Changes

Continue Stage 5 Operational Actions

- + Health and Safety Water allotments into effect
- + Decrease Water Use Limits to align with Health and Safety Water Allotments

Outreach Response

Continue Stage 5 Outreach Actions

- + Additional communication to help amplify messaging regarding Health and Safety Water Allotments

Drought Rates

- Drought rates will continue to increase based on declaration of water shortage stage and water savings target.

(Reservoir Storage < 25,000 acre-feet on April 1st)

Water Waste Prohibitions

Prohibitions and restrictions from Stage 5 are in effect.

- + **The use of potable water for any purpose other than human health and sanitation is prohibited**
- + **Implement Health and Safety Water Allotments**
- + **New water service connections will not be granted**