



- Board of Directors
Water Planning and Stewardship

4/12/2022 Board Meeting

9-2

Subject

Information on a proposed Water Shortage Emergency Condition and Emergency Water Conservation Program to Preserve Metropolitan's Supplies in the State Water Project-Dependent Areas

Executive Summary

As a result of record drought in California and extremely limited State Water Project (SWP) allocations, staff projects there will be insufficient supplies this year to meet the anticipated demands in areas staff has identified as the current SWP-dependent portions of Metropolitan's service area ("SWP Dependent Area"). Therefore, staff is proposing that the Board take the following actions to reduce demands and preserve supplies in this area:

1. Express support for the Governor's Executive Order N-7-22 on March 28, 2022, calling for all urban water suppliers to implement actions to reduce water use by 20-30 percent, depending on local conditions.
2. Declare that a Water Shortage Emergency Condition exists in the SWP Dependent Area.
3. Adopt the framework for a two-phase Emergency Water Conservation Program to reduce non-essential uses of water and preserve available water supplies for the greatest public benefit in the SWP Dependent Area. The first phase of this program would:
 - a. Limit landscape watering to one day per week in the SWP Dependent Area;
 - b. Require those member agencies whose service areas encompass all or a portion of the SWP Dependent Area to adopt and implement effective enforcement mechanisms to ensure compliance with this limit; and
 - c. Impose volumetric penalties of up to \$2,000 per acre-foot for non-compliance.

The one-day-per-week watering limitation would be effective immediately; any penalties for non-compliance would be assessed beginning June 1, 2022. If needed, the second phase of this program would involve a complete ban on landscape watering to further preserve available supplies in the SWP Dependent Area, with similar penalties for non-compliance.

4. Authorize the General Manager to finalize the terms for the Emergency Water Conservation Program consistent with the Board's authorization and in conformance with the California Department of Water Resources' (DWR) requirements to access SWP water for human health and safety purposes.
5. Require the General Manager to regularly report to the Board on the effectiveness of the first phase of the Emergency Water Conservation Program and authorize the General Manager to implement the second phase of the program if deemed necessary.
6. Require the General Manager to return to the Board with proposed modifications to the Emergency Water Conservation Program should he determine that implementation of the first and second phases of the program are not adequately preserving available supplies in the SWP Dependent Area. These modifications may include using a population-based approach to set limits or targets on per capita water use.

Staff projects that water savings attained from these actions, if implemented by member agencies and other retail agencies, would preserve supply for essential human health and safety needs through the fall. However, if drought conditions persist or the water savings from these actions fall short, staff is prepared to recommend a complete ban on outdoor watering in the SWP Dependent Area.

A public hearing and Special Board Meeting is scheduled for April 26, 2022, for the Board to consider these actions, which would be taken pursuant to Water Code section 350 et seq., Water Code section 375 et seq., and other applicable authorities, and in accordance with Metropolitan's Urban Water Management Plan and Water Shortage Contingency Plan, the Governor's Executive Orders related to the drought, and recent directives from DWR concerning the use of SWP supplies.

Details

The Need to Access Human Health and Safety Supplies from the SWP

For decades, Metropolitan has worked to improve its conveyance and distribution system to ensure flexibility in delivering SWP and Colorado River water throughout much of its service area. However, due to the depth and duration of the current drought, staff projects that Metropolitan will not be able to meet normal demands in the SWP Dependent Area utilizing existing resources. Despite best efforts to maximize available resources and operational flexibility this year, Metropolitan must seek additional human health and safety water allocated from DWR.

Beginning in water year 2020 (October 1, 2019, to September 30, 2020), watersheds supplying the SWP received well below-average precipitation. DWR classified water years 2020 and 2021 as dry and critically dry, respectively. Despite substantial precipitation in October and December 2021, precipitation in Northern California from January through March 2022 fell to the driest levels on record. In addition to reduced precipitation, California's climate is warming, and the historical relationships between temperature, precipitation, and runoff are changing. In 2021, the DWR's snowmelt runoff forecast over-estimated actual runoff by 68 percent. In 2022, despite DWR estimating runoff to a highly conservative 99th percentile, runoff forecasts for the Sacramento River dropped by 27 percent, further exacerbating supply planning.

The deteriorating hydrologic conditions led DWR to reduce the SWP Table A Allocation for 2022 from 15 to five percent of contract amounts on March 18, 2022. This follows a five percent SWP Table A Allocation in 2021. Coming in the third year of drought, this extremely low Table A allocation is insufficient to meet minimum human health and safety needs in the SWP Dependent Area. Accordingly, DWR will exercise a never-before-invoked provision of the water supply contract (Article 18a) that allows SWP water to be allocated on some other basis than Table A to meet minimum demands for domestic supply, fire protection, or sanitation. To that end, in October 2021 Metropolitan submitted a letter to DWR requesting delivery of certain human health and safety supplies to the SWP Dependent Area.

It should be noted that the boundaries of the SWP Dependent Area are not fixed and other Metropolitan supplies (such as previously stored SWP supplies from groundwater banking, carryover, flexible storage in Castaic Lake or Perris Lake, or north-of-Delta transfers) are also delivered through those service connections. The boundaries of the SWP Dependent Area have been reduced in recent years with the new ability to supply the Mills Water Treatment Plant from Diamond Valley Lake (May 2021) and through new water management programs such as the Operational Shift Cost Offset Program (May 2021) and the Reverse Cyclic Storage Program (February 2022).

Although the exact conditions to access human health and safety supplies are not finalized, DWR expects contractors receiving such supplies to mandate substantial reductions in water use consistent with these emergency drought circumstances. Further, DWR will require any water taken in 2022 for human health and safety purposes to be returned within five years, thus creating a water supply debt that effectively trims future Table A allocations and slows any storage recovery once the drought eases. Guidelines established by DWR are based on prior curtailment regulations adopted by the California State Water Resources Control Board (SWRCB) and could be further modified.

The Need for Demand Management in the SWP Dependent Area

Of most importance, the normal water demands of Member Agencies currently lying within the SWP Dependent Area cannot be met in 2022 without a real risk of depleting supplies needed for human health

and safety. Metropolitan must seek the water offered by DWR for human health and safety purposes and must conform to conditions that DWR places on its use.

In November 2021, the Board declared that specified emergency conditions exist within portions of the service area rather than across the entire regional system. The Board's action on that date also stated that, "should drought conditions persist or worsen in the coming months, Metropolitan's Board of Directors will consider declaring a water shortage emergency condition and imposing appropriate regulations, restrictions and penalties pursuant to California Water section 350 et seq., so as to conserve Metropolitan's water supplies for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection." Unfortunately, current hydrologic conditions require this type of action.

In 2014, the Board adopted a revised Water Supply Allocation Plan (WSAP) to be used when a regional shortage exists. The WSAP establishes baseline usage, regional shortage levels, and a surcharge for a member agency's aggregate water use above a predetermined allotment. The WSAP was designed and intended only for use during region-wide water shortages. The WSAP included provisions, based on Senate Bill X7-7 in 2009, to set a floor of minimum per capita usage of 100 gallons per person per day (gpcd) for total water use and 55 gpcd for indoor residential water use. Staff determined that the WSAP, with its regional focus, could not effectively or efficiently alleviate the circumstances of this current emergency.

Rather than modifying or reconstructing the WSAP for this rapidly developing emergency condition, a more expedient manner to preserve existing water supplies in the SWP Dependent Area is to reduce or eliminate non-essential uses in the directly affected areas. These non-essential uses (e.g., water for outdoor landscapes, filling swimming pools or fountains, or washing cars) could be curtailed through either price or non-price mechanisms.

A Framework for the Emergency Water Conservation Program

Based on these principles, and through collaboration with the affected member agencies, staff recommends the Board authorize an Emergency Water Conservation Program that initially focuses on non-price mechanisms to reduce outdoor watering. The proposed Emergency Water Conservation Program includes three main elements to achieve the goal of lowering normal demand and preserving water for human health and safety purposes:

- (1) Each member agency that currently receives SWP supplies¹ at the connections within the SWP Dependent Area must implement and enforce a restriction on outdoor watering of no more than one day per week (and outdoor watering may later be completely banned).
- (2) If a member agency either does not submit an acceptable plan to limit outdoor watering or if it inadequately enforces the plan, a penalty of up to \$2,000 per acre-foot shall be assessed on all supplies delivered to that non-compliant agency at the designated connections. Importantly, for wholesale member agencies, the penalty would apply only to that portion of water delivered to one or more of their non-compliant retail agencies. The penalty would not be applied to the full delivery to the wholesale member agency if only a portion of its retailers were non-compliant.
- (3) An agency **can entirely avoid these outdoor watering restrictions and penalties** if it takes sufficient action to entirely eliminate its use of SWP supplies at the designated connections.

Outdoor watering ordinances. Staff is coordinating with the affected member agencies to define elements of one-day-per-week watering. Metropolitan would not specify, for example, either the day of the week or any even/odd house numbering rotation. Metropolitan will, however, require that member agencies limit watering times to 8 minutes per station (for most irrigation systems) to prevent substitution of water use from newly banned days to permitted days. Hand watering of trees would be exempt from the one-day-per-week restriction.

Each retail water provider receiving supply at the designated connections must submit municipal codes or ordinances adopted by their respective governing bodies which clearly restrict outdoor watering to no more than one day per week. Staff will report progress and performance with these restrictions monthly to the Board. The

¹ SWP supplies are Metropolitan's supply inclusive of SWP Table A, carryover storage, flexible storage, north-of-Delta transfers, and previously stored Table A supplies pumped or exchanged through water management programs along the California Aqueduct.

call for one-day-per week watering would take place immediately upon the Board's authorization of the Emergency Water Conservation Plan (planned for April 26, 2022). In order to avoid a volumetric penalty for water used beginning in June 2022, the retailer must adopt and begin enforcement of the restrictions by May 31, 2022.

Enforcement plans. Equally important to the outdoor watering restrictions on paper is the agency's willingness and ability to enforce meaningful penalties for non-compliance. Staff is also coordinating with the member agencies in this area to develop a list of acceptable enforcement provisions, because enforcement mechanisms may vary widely. For example, one agency might use code enforcement officers to cite and educate customers. Another agency might use advanced metering infrastructure to flag suspected outdoor water use on banned days electronically. Yet another agency might use tiered pricing penalties to assure compliance. **The relevant enforcement principle is that the agency establishes a plan with real consequences to the consumer for inaction with either a one-day-per-week restriction or a ban on all outdoor water use.** Further, an enforcement plan must be auditable with a clear and transparent way to verify enforcement. Similar to the outdoor watering ordinances, enforcement plans must be adopted by the retail agency's governing body by May 31, 2022, to avoid the volumetric penalty beginning Jun. 1, 2022. If the retail agency is not the Metropolitan member agency, then the Metropolitan member agency must coordinate regulations to be enacted by the retail agency in the affected area.

Volumetric penalties. If a retail agency takes supply at the designated connection but does not adopt either an acceptable outdoor watering ordinance or enforcement plan, the volume of water purchased by the member agency at that connection for itself, or on behalf of the retail agency, shall be assessed a \$2,000 per acre-foot penalty. This penalty will be charged to the member agency separate from all other applicable rates and charges for water service, as it is not a charge for service. For wholesale member agencies, the penalty would apply only to that portion of water delivered to one or more of their non-compliant retail agencies. The penalty would not be applied to the full delivery to the wholesale Member Agency if only a portion of its retailers were non-compliant.

The fine of \$2,000 per acre-foot was selected to send a strong economic signal to reduce water use by complying with an outdoor watering ordinance and enforcement plan. Any penalties collected would be proportionately returned to member agencies (once compliant) to help defray enforcement or other costs incurred in conjunction with the proposed Emergency Water Conservation Program.

The outdoor watering ordinances, enforcement plans, and volumetric penalties listed above comprise the framework of the Emergency Water Conservation Plan. At the Special Board Meeting planned for April 26, 2022, the Board will consider whether to authorize the General Manager to finalize the plan's terms. Once final, the member agencies and retail agencies that are not member agencies would adopt ordinances and enforcement plans to avoid penalties to the Member agencies.

Assistance Provided to Member Agencies

Metropolitan will assist the member agencies in improving compliance with the watering restrictions and amplifying the serious message to consumers within the SWP dependent areas. Assistance will take these forms:

- (1) **Member Agency Administered Program (MAAP).** Metropolitan will make available the full allotment of the MAAP funds to the affected Member agencies. Metropolitan will allow affected member agencies to access remaining funds in the MAAP for enforcement activities for the current biennium. For the upcoming biennium, approximately \$4.2 million is proposed in the budget for the affected agencies. These funds would be made immediately available beginning July 1, 2021. In addition, any penalties paid for non-compliance with the Emergency Water Conservation Plan would likewise be made available to agencies for enforcement. A member agency wishing to access these funds must still submit a proposal for approval by Metropolitan.
- (2) **Assistance with public messaging for drought awareness and water conservation.** In Mar. 2022, the Board authorized staff to enter into a three-year contract with a media placement firm. From March – June 2022, up to \$3.5 million is available to develop and purchase advertising. Likewise, up to \$7.4 million is available in the proposed FY 2022-24 biennium budget. Metropolitan staff will coordinate closely with the public affairs staff of the affected member agencies to send an amplified and unified message to consumers about the one-day-per-week watering restrictions. Metropolitan will stand with the

member agencies in communicating these emergency conditions. Staff expects many opportunities to amplify the message also through the earned media of press conferences and news media stories.

Planned Monitoring and Reporting

Staff will report to the Water Planning and Stewardship Committee each month on progress achieved by the Emergency Water Conservation Program. Further, staff will partner with the member agencies to collect and report changes in per-capita water use. Staff will monitor progress and report back to the Board using these types of tools:

- Lists of agencies with compliant outdoor watering restrictions and enforcement plans.
- Change in Metropolitan water deliveries to the SWP Dependent Area.
- Total local supply production within the SWP Dependent Area.
- Water conservation and productions reports based on monthly data submitted to the SWRCB on residential per capita water use.
- Disaggregated data from more than 5,000 flow-monitoring devices installed on single-family homes in Metropolitan's service area (including approximately 1,500 within the SWP Dependent Area) showing changes in outdoor water use behavior.
- Remote-sensing imagery showing change in "greenness" of outdoor landscapes (this is a developing research method).

Through this monthly monitoring and through regular communications with the member agencies, the General Manager would inform the member agencies and the Board in advance of the intent to implement the second phase of the Emergency Water Conservation Plan and ban all outdoor watering.

Continuing Actions to Improve the Plan if the Drought Persists or Compliance Falters

The primary goals of the two-phase Emergency Water Conservation Plan are to (1) preserve Metropolitan's scarce supplies in 2022; (2) minimize the amount of SWP human health and safety water that Metropolitan must access (and pay back); and (3) prepare for a potentially dry 2023. Preserving water supply now allows the potential for a new water year to develop, and the plan could be modified as conditions improve. Alternatively, despite the best efforts of agencies in the SWP Dependent Area to reduce or eliminate non-essential water use, continuing drought conditions may force further action.

Staff is actively exploring with the member agencies alternative approaches to reduce demands if the outdoor watering restrictions within the proposed Emergency Water Conservation Plan prove ineffective, disproportionate, or unworkable. Staff will develop a population-based method designed to share the remaining supply across the agencies using limits on per-capita water use rather than solely on outdoor watering restrictions. The population-based method, or a hybrid approach combining outdoor watering restrictions with a backstop of a population-based limit, may prove to be a more viable tool to reduce water use. If an alternative approach is needed, the General Manager would seek Board approval before implementation.

Other Activities Supporting the SWP Dependent Area

Staff regularly reported to the Board and sought authority and funding to address system and supply shortages affecting the SWP Dependent Area. The Emergency Water Conservation Program is intended only as a short-term, stop-gap policy until lasting relief can be provided. Sample operational, physical, and supply actions to improve the supply constraints include:

- Adjusted distribution system operations to minimize SWP use and draw heavily on the Colorado River and stored supplies (January 2021).
- Increased pumping on the Colorado River Aqueduct to the total capacity of eight pumps (intermittent operation since April 2021).
- Initiated the Operational Shift Cost Offset Program (May 2021) and Reverse Cyclic Program (February 2022), which removed financial barriers to switching from or deferring SWP deliveries.
- Switched the source water feed to the Mills Water Treatment Plant from SWP to Diamond Valley Lake storage (May 2021).
- Rebuilt and started up the Greg Avenue facility to pump ~100 acre-feet per day of Colorado River and stored supplies into the western portion of the distribution system (June 2021).

- Expanded conservation programs (December 2021).
- Authorized agreements with other water agencies to improve management of SWP supplies (San Bernardino Valley MWD, San Diego County Water Authority, December 2021).
- Amended the capital investment plan to start planning and implementing infrastructure projects for the western portion of the distribution system (February 2022).

These actions are accelerating with the development of infrastructure and water supply portfolios through the Extreme Drought Assessment, which includes as its design condition three SWP allocations of five percent.

Policy

Metropolitan Water District Administrative Code Section 6410. Powers and Duties

Metropolitan Water District Administrative Code Section 6412. Delegation of Executive and Administrative Powers

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 20984, dated Nov. 1, 1960, the Board adopted Resolution 5838 and approved the execution of the SWP contract with DWR.

By Minute Item 49979, dated Dec. 9, 2014, the Board approved adjustments to the Water Supply Allocation Plan

By Minute Item 50824, dated May 9, 2017, the Board adopted a resolution that declared a “Condition 1 –Water Supply Watch.”

By Minute Item 52378, dated May 10, 2021, the Board adopted the 2020 Urban Water Management Plan and the Water Shortage Contingency Plan

By Minute Item 52481, dated Aug. 17, 2021, the Board adopted a resolution that declared a “Condition 2 –Water Supply Alert.”

By Minute Item 52581, dated Nov. 9, 2021, the Board adopted a resolution which declared specified emergency conditions within the Metropolitan service area.

Fiscal Impact

Upon adopting the Emergency Water Conservation Plan, revenues from water transactions will likely decrease as member agencies reduce water demands. At the Mar. 22, 2022, budget workshop, staff presented a scenario with 100 thousand acre-feet fewer transactions for two years. This scenario—realistic in the magnitude of the needed demand management activity—would reduce revenues by approximately \$100 million each year.



Brad Coffey
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4/7/2022

Date



Adel Hagekhalil
General Manager

4/8/2022

Date