



**WP&S Committee**

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G. Peterson  
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R. Record

**Water Planning and Stewardship  
Committee - Final - Revised 1**

Meeting with Board of Directors \*

**December 13, 2021**

**12:00 p.m.**

Teleconference meetings will continue through the end of the year. Live streaming is available for all board and committee meetings on [mwdh2o.com](http://mwdh2o.com) ([Click Here](#))

A listen only phone line is also available at 1-800-603-9516; enter code: 2176868#. Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via teleconference only. To participate call (404) 400-0335 and enter Code: 9601962.

**Monday, December 13, 2021  
Meeting Schedule**

09: 00 a.m. - C&L  
10:00 a.m. - E&O  
11:30 a.m. - Break  
12:00 p.m. - WP&S

\* The Metropolitan Water District's meeting of this Committee is noticed as a joint committee meeting with the Board of Directors for the purpose of compliance with the Brown Act. Members of the Board who are not assigned to this Committee may participate as members of the Board, whether or not a quorum of the Board is present. In order to preserve the function of the committee as advisory to the Board, members of the Board who are not assigned to this Committee will not vote on matters before this Committee.

**1. Opportunity for members of the public to address the committee on matters within the committee's jurisdiction (As required by Gov. Code Section 54954.3(a))**

- A. Public Hearing on SB60 - Review of Metropolitan's Achievements in Conservation, Recycling and Groundwater Recovery [21-716](#)

**Attachments:** [12142021 WPS 1A Report](#)  
[12132021 WPS 1a Presentation.pdf](#)  
[12132021 WPS 1A - Correspondence Received re SB 60](#)

**2. CONSENT CALENDAR OTHER ITEMS - ACTION**

- A. Approval of the Minutes of the Meeting of the Water Planning and Stewardship Committee held November 8, 2021 [21-674](#)

**Attachments:** [12132021 WPS 2A Minutes](#)

### 3. CONSENT CALENDAR ITEMS - ACTION

- 7-4** Authorize the General Manager to enter into a Memorandum of Understanding to facilitate near-term actions to maintain the elevation of water in Lake Mead above elevation 1,020 feet, and to provide up to 20 percent of the non-federal cost share of any such actions, not to exceed \$10 million per year in 2022 and 2023, and delegate authority to the General Manager to enter into additional agreements as needed to implement the Memorandum of Understanding; the General Manager determined that the proposed actions are exempt or otherwise not subject to CEQA [12/7/21 SUBJECT CHANGED] **[21-660](#)**
- Attachments:** [12142021 WPS 7-4 B-L](#)  
[12142021 WPS 7-4 Presentation.pdf](#)
- 7-5** Authorize the General Manager to enter into agreements with San Bernardino Valley Municipal Water District and the California Department of Water Resources to improve the management of State Water Project supplies, including the exchange of water; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **[21-665](#)**
- Attachments:** [12142021 WPS 7-5 B-L](#)  
[12142021 WPS 7-5 Presentation.pdf](#)
- 7-6** Authorize General Manager to enter into agreements with San Diego County Water Authority, Semitropic Water Storage District, and the California Department of Water Resources to purchase water, lease groundwater return capacity, exchange water, and to convey water in the State Water Project facilities; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA **[21-662](#)**
- Attachments:** [12142021 WPS 7-6 B-L](#)  
[12142021 WPS 7-6 Presentation.pdf](#)
- 7-7** Authorize implementation of modifications to the On-Site Retrofit Program; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA. [WITHDRAWN/ITEM DEFERRED] **[21-664](#)**

- 7-8** Adopt resolutions to support Metropolitan's applications for the California Department of Water Resources 2021 Urban and Multi-benefit Drought Relief Program of \$7.5 million to supplement funding for residential and commercial landscapes within the Turf Replacement Program and \$2.5 million to supplement funding for the Residential Direct Install Program in partnership with the Southern California Gas Company; authorize the General Manager to accept grant funds, if awarded; and authorize the General Manager to enter into a contract with the California Department of Water Resources for the grant funds, if awarded; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA [21-663](#)

**Attachments:** [12142021 WPS 7-8 B-L.pdf](#)  
[12142021 WPS 7-8 Presentation.pdf](#)

**\*\* END OF CONSENT CALENDAR ITEMS \*\***

**4. OTHER BOARD ITEMS - ACTION**

None

**5. BOARD INFORMATION ITEMS**

None

**6. COMMITTEE ITEMS**

- a. Oral update on Water Supply and Drought Management [21-714](#)

**Attachments:** [12132021 WPS 6a Report](#)  
[12132021 WPS 6a Presentation.pdf](#)

**7. MANAGEMENT REPORTS**

- a. Colorado River Management Report [21-718](#)

**Attachments:** [12132021 WPS 7a Report](#)

- b. Water Resource Management Manager's Report [21-715](#)

**Attachments:** [12132021 WPS 7b Presentation.pdf](#)

**8. FOLLOW-UP ITEMS**

None

## **9. FUTURE AGENDA ITEMS**

## **10. ADJOURNMENT**

**NOTE:** This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Agendas for the meeting of the Board of Directors may be obtained from the Board Executive Secretary. This committee will not take any final action that is binding on the Board, even when a quorum of the Board is present.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site <http://www.mwdh2o.com>.

Requests for a disability related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting should be made to the Board Executive Secretary in advance of the meeting to ensure availability of the requested service or accommodation.





THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

**Date:** December 1, 2021  
**To:** Board of Directors  
**From:** Adel Hagekhalil, General Manager  
**Subject:** Transmittal of Draft 2022 Annual Progress Report to the California State Legislature on Achievements in Conservation, Recycling and Groundwater Recharge

Attached for your review is the draft Metropolitan report, *Annual Progress Report to the California State Legislature on Achievements in Conservation, Recycling and Groundwater Recharge*. On or before February 1<sup>st</sup> of each year, Metropolitan submits an annual report to the California State Legislature on our progress in achieving the goals of increased emphasis on cost-effective conservation, recycling, and groundwater recharge. This draft report presents these achievements during fiscal year 2020/21.

In conjunction with the report, Metropolitan will hold a public hearing at its regularly scheduled Water Planning and Stewardship Committee Meeting on December 13, 2021 to review our region's achievements. Metropolitan has invited knowledgeable persons from the fields of water conservation and sustainability to comment at the hearing. The public hearing will commence with a staff report reviewing the achievements. Next, invited experts will be requested to make comments on the report. Thereafter, the public will be invited to comment.

A copy of the final report will be distributed prior to the February Board and Committee meetings. Metropolitan will be submitting the final report to the California State Legislature by February 1, 2022.

A handwritten signature in dark ink, appearing to be "Adel Hagekhalil", written in a cursive style.

Adel Hagekhalil

Attachment

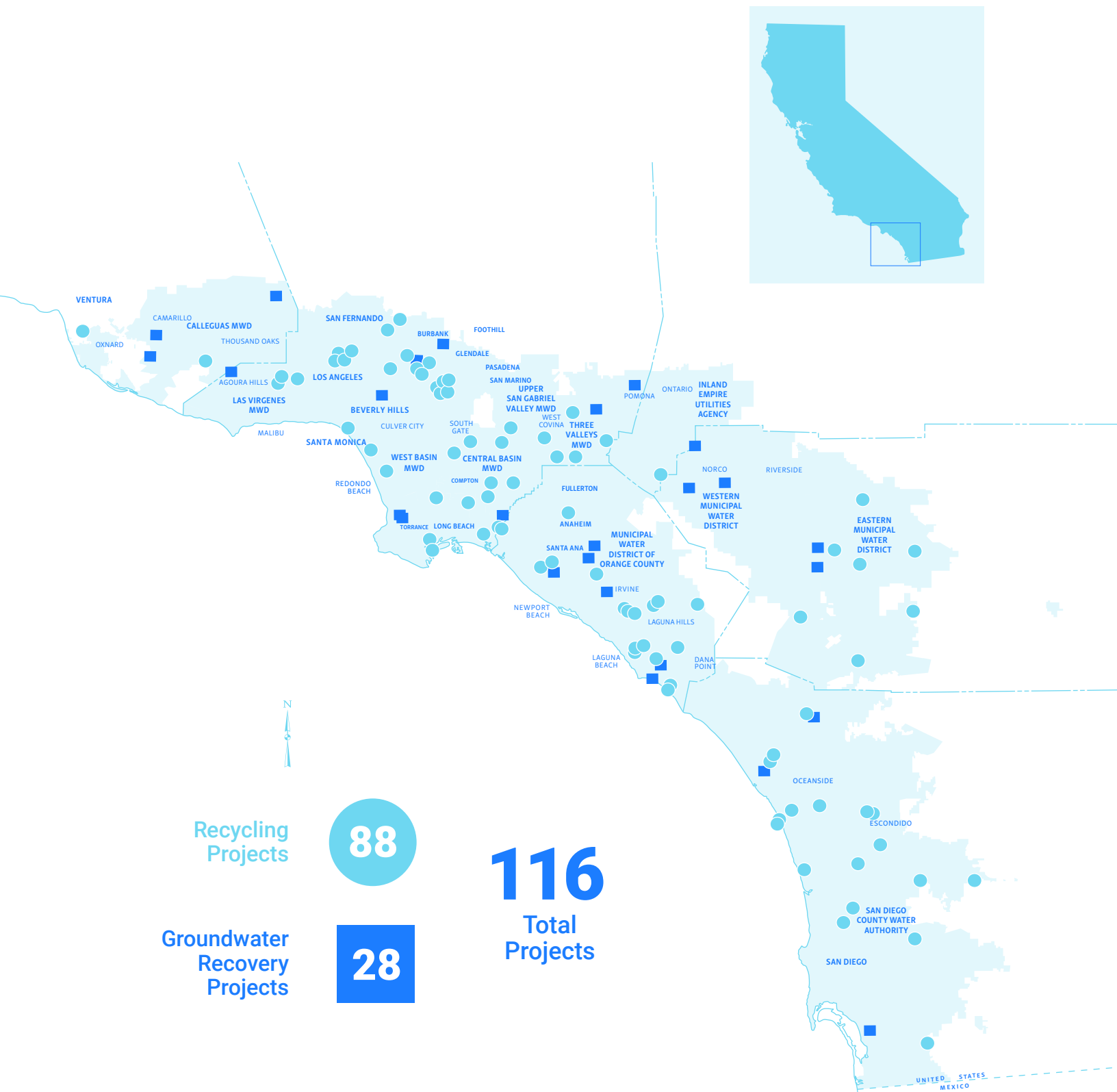
cc: Member Agencies



# One Water

Achievements in Conservation,  
Recycling and Groundwater Recharge  
February 2021  
Covering Fiscal Year 2020/21

THE METROPOLITAN WATER DISTRICT  
*of* SOUTHERN CALIFORNIA



# Table of Contents

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About Metropolitan & this Report	3
Introducing One Water	6
Achievement Scorecard	8
Conservation	11
Communications & Outreach	17
Local Resources	21
Watershed Initiatives	29
Public Hearing Notice	35

For more information about this report, contact Metropolitan's Legislative Office in Sacramento at 916.650.2600.

Cover photo: A great egret posed on the Diamond Valley Lakeview Trail. Photo by William Wagner.





The beauty of a California Friendly® garden on display.



# About Metropolitan & This Report

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The Metropolitan Water District of Southern California was established in 1928 under an act of the state Legislature to provide supplemental water supplies to its member agencies in Southern California. This report details the significant steps our region has taken to manage its demand for water.

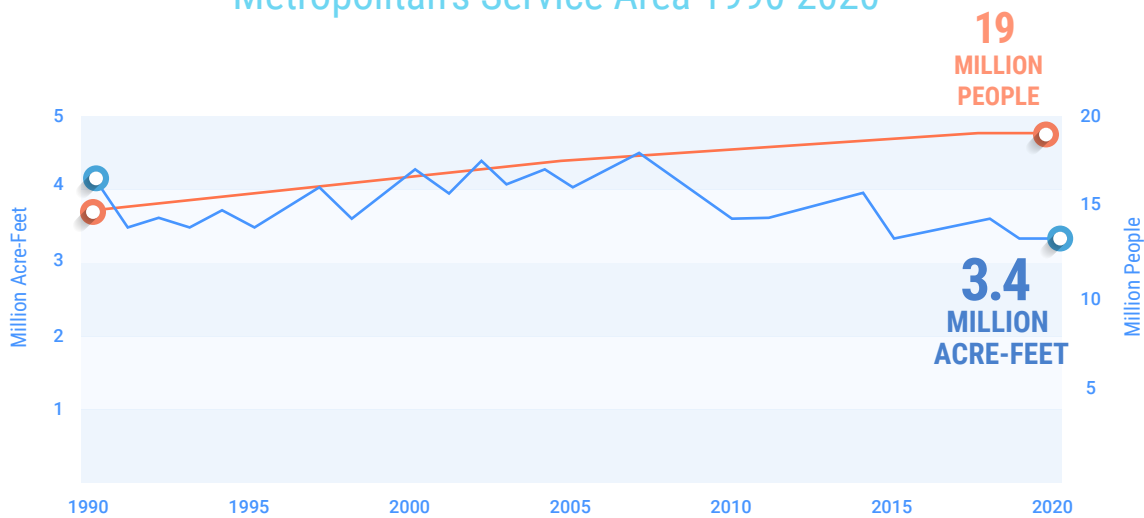
Metropolitan is a public agency and regional water wholesaler. It is a voluntary cooperative of 26 member agencies that purchase some or all their water from Metropolitan. These member agencies and sub-agencies provide water for 19 million people across six Southern California counties. Metropolitan is governed by a 38-member board of directors made up of representatives from each of Metropolitan's member agencies. The mission of Metropolitan is to provide its 5,200-square-mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan draws on supplies from the Colorado River through the Colorado River Aqueduct, which it owns and operates; from Northern California via its participation in the State Water Project; and from exchanges and transfer arrangements. Demands on Metropolitan are also managed through conservation and local resource programs. An increasing percentage of Southern California's water supply comes from conservation, water recycling, and recovered groundwater.

Conservation and local resources development occur at the local level, and regional approaches have proven to be effective and beneficial for all member agencies. These programs increase water supply reliability and reduce the region's reliance on imported water supplies to meet future demands. They decrease the burden on Metropolitan's infrastructure, reduce system costs and free up conveyance capacity to benefit all system users and help the region adapt to climate change. The programs advance the legislative intent that Metropolitan increase "sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures." Metropolitan also is involved in other beneficial programs and initiatives.

This report describes our successes in the areas of local resource development, local storage efforts, and improvement of the watersheds that provide our imported and local supplies. It also includes a snapshot of some of the people behind our programs.

## Population Growth vs Total Demand Metropolitan's Service Area 1990-2020



Total demand includes retail consumptive and replenishment demand

The report cover reflects the theme of One Water. Imported supplies, recycled water, stormwater capture, groundwater recovery and wastewater – these are all part of the same system. In the end, water is water, and we are all part of the same water community up and down the state. A One Water approach to the challenges we face as a region and a state will foster solutions that bring us all closer to water supply reliability.

Our approach to meet the responsibility we have to our region has evolved over time. The Los Angeles Aqueduct was the forerunner to our own imported supplies. Metropolitan was founded, nearly a century ago, to build and operate the Colorado River Aqueduct. Later, we contracted with the state for a share of the State Water Project. As our region continued to grow, we developed a vast network of distribution lines, state-of-the-art treatment facilities, and reservoir storage to meet the needs of our service area. Today's vision calls for encouraging local resource development, water-use efficiency, and innovative storage initiatives that further increase the resilience of our region. We refer to this strategy as our "fourth aqueduct."



The first-ever Lower Colorado River Basin shortage was declared for calendar year 2022, impacting supplies available to Arizona, Nevada, and Mexico, but not California.

The success of this latest vision depends on each of the separate pieces of our system working together. Our imported supplies provide an important baseline and insurance backstop for our member agencies to develop local supplies. We support the development of local supply sources, and our member agencies also depend on our imported supplies when their local production drops due to various issues (such as water quality challenges, operational interruptions, and reduced surface runoff). These imported supplies also provide additional returns as they are recycled through local treatment plants and used once again.

We encourage the development of local groundwater basins to maximize the use of local storage. Groundwater agencies often use our imported supplies, particularly low salinity State Water Project supplies, to replenish their basins when levels are low.

This report details the significant steps our region has taken to manage our demand for water in unprecedented drought and in the face of daunting climate change. Our systematic program of encouraging reduced water use helps ensure that demand for water remains moderate and complements our supply development initiatives and keeps water in storage. We have been highly successful in managing demands even in the face of significant population growth within our region. In fact, the graphic above shows that our region has seen population grow by almost 30 percent since 1990, but the total demand for water over this same period has dropped by almost 20 percent. This exemplifies the notion of doing more with less, but it has not happened by chance.



# One Water. Many Challenges. Coordinated Solutions.

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One Water. From the beginning of time, Earth's water resources have been finite. They are part of a cycle that moves water on, above and below the Earth's surface. There is no more water and no less water now than there was two billion years ago or ever will be. This is the definition of precious.

When you look at water or touch it or drink it, you do not know its source. It may be treated water pumped from below ground, or snowmelt carried in rivers and transported in aqueducts from hundreds of miles away. While many sources of water are invisible to the eye, the solutions to water challenges brought by climate change and drought stand before us. Answers reside with different constituencies and with many different agencies in Southern California and the western states that share water resources and challenges. Exploring solutions together is the vision of One Water, a resource management strategy championed by Metropolitan's General Manager Adel Hagekhalil.

Metropolitan considers this moment in time like a "Mulholland Moment." We are looking into the future to see what we need to do to have reliable water supplies for Southern California. This time, our solution won't be to build a new aqueduct; we'll be engineering a new vision that looks to local resources, conservation, recycling and innovative partnerships with agriculture and other water agencies, as a way to complement the three major aqueducts that serve the Southland: The Los Angeles Aqueduct, California Aqueduct and Colorado River Aqueduct.

There's no doubt that Southern California will always need imported water. But we can do more to buffer the losses we face from less snowmelt from Northern California and drought on the Colorado River. One Water looks to replace these lost supplies with resources we already have, like wastewater now discharged to the Pacific Ocean. Working together – we will balance needs with realistic solutions to everyone's benefit. This includes a concerted effort to reach our underserved communities with targeted efficiency programs and other opportunities to save.



Metropolitan's Chief Executive and General Manager Adel Hagekhalil (second from right) joins his assistant general managers in a pledge to One Water - his initiative to solve water supply challenges as a region.

Here are some key accomplishments in local resource development this past fiscal year - July 2020 to June 2021:

- Metropolitan provided about \$17 million in rebates, landscape and irrigation classes, research, and outreach to help consumers reduce water use in homes and businesses.
- Metropolitan approved an initiative to continue its enhanced premium high-efficiency toilet rebates for underserved communities which boosts rebates from \$40 to \$250 to replace toilets in multifamily housing built before 1994 with premium high-efficiency models.
- About \$8 million for production of 55,000 acre-feet of recycled water for non-potable and indirect potable uses was provided by Metropolitan. An additional \$7 million was financed by Metropolitan to support projects that produced about 48,000 acre-feet of recovered groundwater for municipal use.
- Member agency partners and groundwater basin managers expressed their support for the Regional Recycled Water Program through executed letters of intent.
- Metropolitan continued working with the State Water Contractors to fund and monitor important science studies and habitat projects in the Delta, including the Tule Red Tidal Restoration Project.

## Achievement Scorecard

Conservation		
FY 2020/21 Total Water Saved <sup>1</sup>	1,050,000 acre-feet	
New Water Saved From Metropolitan Conservation Credits Program <sup>2</sup>	4,120 acre-feet	
Water Saved From Existing Metropolitan Conservation Credits Program <sup>3</sup>	207,000 acre-feet	
FY 2020/21 Investment		
Metropolitan Conservation Credits Program Investment <sup>4</sup>	\$17 million	
Member Agency Conservation Investment <sup>5</sup>	\$4 million	
Metropolitan Outreach & Education	\$1 million	
Cumulative Savings Since 1990		
Water Saved From Metropolitan Conservation Credits Program Only <sup>6</sup>	3,482,000 acre-feet	
Metropolitan Conservation Investment (excluding funding by member agencies) <sup>7</sup>	\$840 million	
Recycled Water		
FY 2020/21 Production <sup>8</sup>	458,000 acre-feet	
Water Produced From Projects Receiving Metropolitan Funding	55,000 acre-feet	
Water Produced From Projects Without Metropolitan Funding (incl. Santa Ana River base flow) <sup>9</sup>	403,000 acre-feet	
FY 2020/21 Investment		
Metropolitan Funding	\$8 million	
Cumulative Production & Investment Since Inception <sup>10</sup>		
Production With Metropolitan Funding	3,029,000 acre-feet	
Metropolitan Investment	\$528 million	
Groundwater Recovery		
FY 2020/21 Production	113,000 acre-feet	
Water Produced From Projects Receiving Metropolitan Funding	48,000 acre-feet	
Water Produced From Projects Without Metropolitan Funding	65,000 acre-feet	
FY 2020/21 Investment		
Metropolitan Funding	\$7 million	
Cumulative Production & Investment Since Inception <sup>11</sup>		
Production With Metropolitan Funding	1,099,000 acre-feet	
Metropolitan Investment	\$181 million	
Conjunctive Use Program <sup>12</sup>		
Metropolitan Cumulative Capital Investment	\$27 million	
Proposition 13 Grant Funds Administered by Metropolitan	\$45 million	
Water Stored Since Program Inception through June 2021	351,000 acre-feet	
Water Extracted Since Program Inception through June 2021	301,000 acre-feet	
Groundwater Replenishment <sup>13</sup>		
FY 2020/2021 Delivery	103,000 acre-feet	
Cumulative Replenishment Delivery since 1984	4,181,000 acre-feet	
Regional Summary		
	FY 2020/21	Cumulative
Metropolitan's Investment in Water Conservation, Recycled Water and Groundwater Recovery <sup>14</sup>	\$31 million	\$1.5 billion
	314,000 AF	7,610,000 AF

The numbers above have been rounded to present a topline view of conservative achievement. More precise numbers are included in the report narrative. Cumulative investment is reported in nominal dollars.

## Metropolitan's Cumulative Investment

	Millions Invested	Acre-feet
Conservation	\$840	3,482,000
Recycled Water	\$528	3,029,000
Groundwater Recovery	\$181	1,099,000
	<b>\$1.5b</b>	<b>7,610,000</b>

### Footnotes for the Achievement Scorecard

Numbers are based on the best available information during the production of this report and are subject to revision for accounting reconciliation.

- Annual total savings include Metropolitan's Conservation Credits Program, code-based conservation achieved through Metropolitan-sponsored legislation; building plumbing codes and ordinances; reduced consumption resulting from changes in water pricing; and pre-1990 device retrofits.
- New water savings achieved through Metropolitan's Conservation Credits Program and from member agency funded programs initiated in fiscal year 2020/21.
- Includes water savings initially achieved through Metropolitan's Conservation Credits Program and subsequently maintained through plumbing codes.
- Active conservation investment includes administrative fees for contracted program vendors. Investment also includes \$104,000 of outreach that was budgeted through the Conservation Credits Program.
- In addition to Metropolitan's Conservation Credits Program, member agencies and retailers also implemented local water conservation programs within their respective service areas. Member agency investment figures include rebate funding beyond rebates already provided by Metropolitan's Conservation Credits Program.
- Cumulative water savings since 1990 that include water savings initially achieved through Metropolitan's Conservation Credits Program and subsequently maintained through plumbing codes.
- Metropolitan's cumulative conservation investment for fiscal year 2020/21 reflects a revision in total cumulative expenditures due to a reconciliation audit. This does not include outreach and education expenditures.
- Figures reflect actual and estimated deliveries for all Metropolitan-assisted projects and payments reported for fiscal year 2020/21; cumulative production and investment reflect accounting reconciliation as data become available; annual regional production for recycled water includes an estimated 57,351 acre-feet of treated wastewater discharged to the Santa Ana River base flow that percolates into downstream groundwater basins. Total may not sum due to rounding.
- Projects accounted for here include some that received funding at the outset through Metropolitan's Local Resources Program. Once the term of the funding agreement expires, the projects continue, but further production is not factored into program totals.
- Metropolitan initiated its Local Resources Program in 1982 to encourage production of recycled water for municipal purposes. Cumulative production and investment figures are subject to annual accounting reconciliation.
- Metropolitan initiated its Groundwater Recovery Program in 1991 to encourage treatment and use of degraded groundwater for municipal purposes. Cumulative production and investment figures are subject to annual accounting reconciliation.
- Construction of the conjunctive use storage programs was completed in 2008. Proposition 13 refers to Chapter 9 of the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act of 2000. Water extracted since the program inception includes losses.
- Figure is cumulative since 1984. Prior to 2013, Metropolitan provided replenishment water at a discounted rate to encourage long-term recharge and maintenance of groundwater basins and local reservoirs. Although the discounted replenishment rate was discontinued Jan. 1, 2013, Metropolitan continues to provide water for replenishment purposes at full-service rates.
- Metropolitan's cumulative conservation investment for fiscal year 2020/21 reflects a revision in total cumulative expenditures due to a reconciliation audit. Cumulative conservation investment does not include outreach and education expenditures.





A rain chain carries water from gutters to rain barrels that distribute water into the garden - some waterwise elements supported by Metropolitan rebates.



# Conservation

There is no area in resource management where the success of a program depends more on collaboration than water conservation. Meeting our region's needs requires working together with our member agencies, local and diverse communities, schools, businesses and our elected officials. Conservation is key to water supply reliability. Without conservation, the effects of drought would be more swift and more severe. Less water used translates into more water stored. And for that reason, Metropolitan has a number of initiatives that include financial incentives, as well as educational, advertising and outreach programs. We also support legislation, smart building codes and standards that ensure continued water savings over time. Reaching underserved communities with targeted and accessible conservation programs is also a priority.

Over the past 40 years, Metropolitan has delivered conservation programs designed to encourage consumers to use water-efficient devices and adopt water-conscious behaviors. Metropolitan pursues a six-pronged approach to transform markets – the overarching strategy to meet conservation goals. Metropolitan has been working to drive innovation, evolve markets and influence consumer decision-making using catalysts. These catalysts include direct rebates, outreach and education, new technology support, advocacy for new codes and standards, and development of strategic alliances. Together, these efforts have been able to bring positive lasting change.



It begins with research and development. We test new technologies with promising potential to see if they work and how well they might do in the marketplace. Ongoing testing, evaluation and pilot programs are conducted through public/private collaborations that reduce associated development costs. We always circle back to track the success of new technologies to maintain water savings and gain acceptance by consumers.

Catalysts like incentive programs, education and outreach bring new technologies to the attention of consumers. Rebates incentivize the use of water-efficient technologies and processes. Education and outreach teach consumers about the use and benefits of water-saving devices and programs through workshops and online and in-person training and classes. Targeted advertising, also in several different languages, brings the conservation message to a broader and more diverse community. Impacts on the market are accelerated by these catalysts. Incentives also have the effect of increasing demand and driving down the production cost of products.

Advocacy for new standards and regulations happens when products become more available. This propels a change in either standards or codes that leads to sustained water savings. New standards and codes also encourage research and development of the next generation of technologies, processes, services and design approaches. We have seen this in building codes that require certain efficiency standards for devices such as toilets and showerheads, as well as outdoor irrigation requirements.

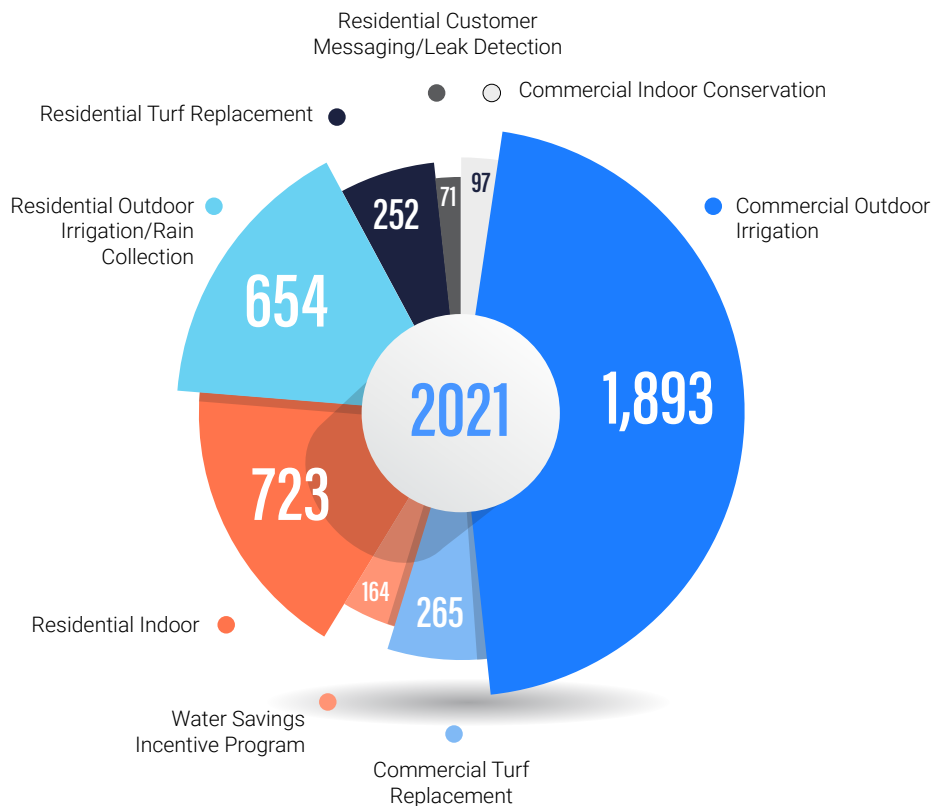
And finally, once catalysts like rebates have their intended effects by changing markets and attitudes, they can be phased out to allow natural market dynamics to take over and sustain the change.

During fiscal year 2020/21, Metropolitan's active conservation efforts saved about 207,000 acre-feet of water. Rebates funded through Metropolitan's conservation program generated about 4,120 acre-feet of new water savings and will continue to produce more savings in years to come.

Since 1990, Metropolitan has invested \$840 million in conservation rebates and programs, of which approximately \$17 million was spent in fiscal year 2020/21. Metropolitan typically calculates rebates based on \$195 per acre-foot of water savings over the life of a device or program. Exceptions include the turf replacement program, rain barrels, cisterns and multi-family housing toilet replacements. These programs are aimed at market transformation and are calculated differently to provide a greater incentive. When available, Metropolitan supplements its conservation programs using state and federal grant funds.

During fiscal year 2020/21, Metropolitan's active conservation efforts saved about 207,000 acre-feet of water.

## New Water Savings in Acre-feet Fiscal Year 2020/21



**Bill McDonnell**

Team Manager – Water Efficiency

**Program purpose:** Reduce demands on Metropolitan so a gallon saved today can be used tomorrow.

**What makes it meaningful:** Helping people and helping Southern California.

**Something memorable:** Seeing how far we have come in the 25 years I've been here. From a concept I had that we could do more regionally if we worked together, to where we are now is amazing. We now have a regional program for commercial, industrial, residential consumers – it's the backbone of our conservation efforts.

### **Connection to a reliable, environmentally sustainable future:**

Having climate-appropriate landscapes, capturing rainwater, and using high-efficiency plumbing products all contribute to an environmentally sustainable SoCal.

**Favorite superhero:** Aquaman.

### **Fiscal Year 2020/21 Conservation Program Highlights**

1. Metropolitan provided about \$17 million in rebates, landscape and irrigation classes, research, and outreach to help consumers reduce water use in their homes and businesses.
2. Metropolitan processed 32,286 applications for a total of \$8.4 million in regional rebate funding.
3. Metropolitan created a municipal leak detection and repair program modeled after its successful pilot program with the Municipal Water District of Orange County. Member agencies are reimbursed for surveying leaks and repairing them in their distribution system.
4. To address residential leaks and how much water a consumer uses, Metropolitan launched a program this past year that provides rebates on flow monitoring products. These products attach to the water line and can provide the consumer with information on how much water they are using at a given time and if they are experiencing any household leaks.





## Gary Tilkian

Senior Resource Specialist – [Water Savings Incentive Program](#)

**Program purpose:** To increase water conservation by rewarding consumers with out-of-the-box thinking and provide a potential incentive for almost any idea out there that may consistently save water.

**What makes it meaningful:** How we can help transition creative ideas into real projects.

**Something memorable:** One of the more interesting projects we've seen installed is a small-scale water recycling plant on the premises of an industrial site to recycle water used in textile dyeing and finish houses and clean it for reuse.

**Connection to a reliable, environmentally sustainable future:** WSIP embodies two very key goals: reliability and efficiency. Most commercial entities are not going to implement a change if it is not going to be reliable because it affects the company bottom line.

**Favorite superhero:** Ant-Man – subtle strength intrigues me.

## Metropolitan's Residential Conservation Programs

### [SoCal Water\\$mart Residential & Member Agency Residential Programs](#)

Metropolitan's regional rebate program is administered through SoCal Water\$mart to encourage and support the use of water-efficient products across the Southland. Residential rebates offered in fiscal year 2020/21 included high-efficiency clothes washers, premium high-efficiency toilets, high-efficiency sprinkler nozzles, smart irrigation controllers, rain barrels and cisterns. Metropolitan estimates about 1,740 acre-feet of annual water savings from more than 31,000 residential conservation device rebates were funded by Metropolitan in fiscal year 2020/21.

Metropolitan also provides funding to member agencies for locally administered conservation programs. Qualifying residential projects include rain barrel distributions, turf replacement programs, sustainable landscape irrigation programs, residential leak detection, customer water use messaging, as well as residential water surveys. Metropolitan estimates water savings of about 275 acre-feet annually from these programs administered in fiscal year 2020/21.

### [Regional Incentives](#)

#### [Turf Replacement Program](#)

Metropolitan's Turf Replacement Program provided rebates for the removal of about 4.35 million square-feet of lawn in fiscal year 2020/21, resulting in an estimated annual water savings of about 520 acre-feet. These savings represent an increase of 20 acre-feet over the previous fiscal year.

#### [Premium High-Efficiency Toilets](#)

In fiscal year 2020/21, Metropolitan approved an initiative to continue its enhanced premium high-efficiency toilet rebates for underserved communities. The initiative continues a regional pilot program that started last year to boost rebates from \$40 to \$250 to replace toilets in multifamily housing built before 1994 with premium high-efficiency models. Metropolitan estimates that the total amount of premium high-efficiency rebates issued for both residential and commercial customers in fiscal year 2020/21 will save about 120 acre-feet of water per year. Premium high-efficiency toilets use no more than 1.1 gallons per flush and about 30 percent less water when compared to older ultra-low-flush toilets.

#### [High-Efficiency Clothes Washers](#)

Metropolitan estimates water savings of about 610 acre-feet annually from clothes washer rebates in fiscal year 2020/21. High-efficiency clothes washers with an integrated water factor of 3.2 or less are eligible to receive rebates. The integrated water factor is the measure of the amount of water used to wash a standard load of laundry. These washers save more than 10,000 gallons per year compared to a conventional top-loading clothes washer.

#### [Smart Irrigation Controllers](#)

Smart irrigation controllers save water by automatically adjusting watering schedules based on weather, soil conditions, plant material, sun exposure, soil moisture and slope. Metropolitan estimates water savings of about 1,130 acre-feet annually from smart controller rebates in fiscal year 2020/21.

## Metropolitan's Commercial Conservation Programs

Metropolitan's commercial conservation programs provide financial incentives for water-saving devices and projects, including landscape transformation. Rebates are available for certain commercial food devices, cooling towers and medical and dental equipment. Metropolitan estimates savings of about 2,420 acre-feet annually from commercial conservation programs in fiscal year 2020/21.

### SoCal Water\$mart and Member Agency Commercial Programs

The majority of commercial conservation device activity came from Metropolitan's SoCal Water\$mart rebate program. Metropolitan's member agencies and their agencies also implemented water conservation programs for commercial sectors using Metropolitan incentives. Qualifying commercial projects included turf removal and direct installation of high-efficiency toilets and high-efficiency sprinkler nozzles. Metropolitan estimates water savings of about 1,140 acre-feet from more than 1,120 applications to SoCal Water\$mart in fiscal year 2020/21. An additional 1,100 acre-feet of water were saved from member agency incentive programs.

### Water Savings Incentive Program

The Water Savings Incentive Program is a regional pay-for-performance initiative. It is open to all commercial, industrial, institutional, agricultural, and large landscape consumers with qualifying projects within Metropolitan's service area. Financial incentives are available for customized water-efficiency projects, including: the installation of commercial or industrial high-efficiency equipment; industrial process improvements; agricultural and landscape water efficiency improvements; and water management services. Incentives are based on the amount of water saved and capped at 50 percent of eligible project costs. In fiscal year 2020/21, Metropolitan estimates savings of about 160 acre-feet.

### Metropolitan Research Focus

In addition to the Innovative Conservation Program, Metropolitan has pursued multiple research efforts, many of them long-term studies. They include:

- A pilot residential household fixture study to determine the concentration of water-efficient fixtures in homes and the amount of water usage attributed to these fixtures, with an end date target of March 2022
- An ongoing study, in two-year snapshots, of past turf removal program participants to determine how many have maintained their sustainable landscaped yards
- A partnership with the Alliance for Water Efficiency to study:
  - Water affordability
  - Commercial cooling tower water savings potential
  - A conservation savings model update
- Evaluating the water savings potential of leak detection for distribution system processes in tandem with multiple member agencies



### Tina Andry

Assistant Resource Specialist II –  
Innovative Conservation Program

**Program purpose:** To provide funding for research on water-saving devices, technologies and strategies with the objective to explore savings potential and reliability of innovative approaches to conservation.

**What makes it meaningful:** 2020 was the 20<sup>th</sup> year of the Innovative Conservation Program, which is a testament to Metropolitan's ongoing commitment to support innovation.

**Something memorable:** This is my first year managing the program, but working with recipients from such a diverse set of entities has been really fun; 2020 recipients represent several small businesses, a municipality, a non-profit, and a university.

**Connection to a reliable, environmentally sustainable future:** There are still many opportunities to refine and improve existing water-saving technologies and strategies, and supporting these projects is one way Metropolitan is working to ensure a more reliable, sustainable water supply.

**Favorite superhero:** Any individual working to improve the lives of others is a superhero to me!





Students virtually visit the Colorado River Aqueduct, one of many virtual lessons offered by Metropolitan's Education Unit. Photo taken pre-pandemic.



# Communications & Outreach

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Our state water system is under great stress. Two consecutive years of low rainfall and snowpack, and critically low runoff is impacting California's current and future water supplies. The message is clear -- climate change is here, and we need to conserve, reuse and recycle as much as we can. Metropolitan's conservation and outreach programs maintain a focus on using water wisely always and recognize customers' past efforts. Reengaging Southern California communities in the conversation about conservation is critical. Metropolitan created an umbrella effort that included a strong presence on social media, a website with current drought information and resources, and continuous outreach to educators, elected officials, our member agencies and the news media.

## **Advertising and Outreach Campaign**

In fiscal year 2020/21, Metropolitan continued in-house outreach efforts to promote water use efficiency programs and rebates. Staff took a grassroots approach mid-pandemic and designed an award-winning "We're California Friendly® Plants" social media campaign as a whimsical, creative and engaging way to reach new online audiences. The campaign celebrated water-saving plants that are well adapted to Southern California's semi-arid climate and encouraged their use in the district's popular Turf Replacement Program. From November 2020 to February 2021, the campaign received some of our highest engagement on social media with a total of 1.5 million impressions and 73,000 visits to [bewaterwise.com](https://www.bewaterwise.com), the district's online water conservation portal.

Staff continued to develop conservation outreach materials in the winter and spring of 2021, including online campaigns to support virtual landscape training classes for residential customers. This broad conservation campaign, which included new iterations of the fall "California Friendly® Plants" assets, reached more than 5 million views on Facebook and Instagram. From April to June 2021, conservation-related social media posts received nearly 10 million impressions with more than 100,000 click-throughs and generated more than 85,000 visitors to [bewaterwise.com](https://www.bewaterwise.com). Nearly 60 percent of the traffic going to the website came from social media efforts. Staff also designed and promoted a "Y/our Water" campaign to illustrate the connection of our everyday activities to the importance of water. The social media campaign ran on Facebook and Instagram through June 2021.



As statewide drought conditions worsened, staff developed a public-facing drought microsite on the district's main website, [mwdh2o.com](http://mwdh2o.com). The microsite launched May 2021 to host the latest drought-related news coverage, media releases, presentations and outreach materials available to member water agencies, media outlets and the general public. In June 2021, staff placed a series of multilingual print advertisements in community newspapers throughout the Southland to increase drought awareness while encouraging Southern Californians to maintain a conservation ethic. These advertisements reached an estimated total of 2 million residents across the district's six-county service area.

### Media

Interacting with the news media is an important avenue for spreading the conservation message. Throughout the fiscal year, Metropolitan officials conducted more than 70 interviews with news reporters from major TV, radio, print and digital media outlets, ethnic media and community publications to discuss a wide range of water-related issues. Topics included the effect of climate change and drought on Colorado River resources, water supply reliability and storage, recycled water, and raising awareness about Metropolitan's conservation programs, including its updated turf replacement program. Reporters have been interested in discussing the impacts of Lake Mead's falling reservoir levels on Lower Colorado River Basin water users. As part of those interviews and other outreach, Metropolitan has highlighted the value of growing collaboration among basin partners in bringing increased sustainability to the river. Metropolitan has specifically cited its partnership with Southern Nevada Water Authority on Metropolitan's Regional Recycled Water Program as an example of the innovative solutions and partnership that will be increasingly required in the future.

Metropolitan's General Manager, Board Chairwoman and other subject matter experts have also authored blogs and op-eds encouraging conservation and the need to think differently to adapt to the challenges ahead, including one blog issued in May 2021 titled "How the Colorado River Benefits from Conservation." Metropolitan also launched its newly redesigned website, [mwdh2o.com](http://mwdh2o.com), which features interactive maps and visuals of Metropolitan's Colorado River Aqueduct facilities, as well as an enhanced Colorado River page that explains the importance of Colorado River resources to Southern California's water reliability. There is also a homepage link to [bewatewise.com](http://bewatewise.com), keeping the conservation portal front and center on the site.

### Community Outreach

Metropolitan is an active member in many chambers of commerce and other business organizations and provides regular updates to members on water policy issues and programs. Water use efficiency programs that help reduce demand for potable water are a key focus of these partnerships. In addition, Metropolitan hosts hundreds of community and business leaders on inspection trips of the State Water Project and Colorado River Aqueduct to help them better understand the challenges of providing reliable water to Southern California and how the Colorado River is managed to provide water for urban areas and agriculture. Most of these programs are being shifted to web-based and online formats to maintain strong outreach during the COVID-19 pandemic.

Metropolitan's "Water is Life" calendar invites students across Southern California to use art to share messages about conservation. Photo taken pre-pandemic.



Metropolitan has many on-line offerings for residents and professional landscapers to learn more about waterwise gardening and rebate programs.

### Education Programs

Metropolitan worked with partner agencies, school districts, county offices of education, non-profits, and parents, as well as formal and informal educators to provide water-focused STEAM (Science, Technology, Engineering, Art and Math) curriculum, grants, and outreach programs. Staff met with Metropolitan member agencies to hold more than 100 events and engaged with nearly 78,000 students, teachers, parents and participants through virtual activities, social media and curriculum materials. Solar Cup™, the nation's largest high school solar boat race, completed its 19<sup>th</sup> year virtually and hosted 16 teams with more than 300 high school students. Teams completed challenges in various fields including robotics, solar power, computer-aided design software, digital marketing, visual arts and job skills. The program culminated in a virtual competition with vehicles built by participating teams.

The district continued to develop multilingual K-12 water education curriculum aligned with Common Core and Next Generation Science Standards to encourage conservation behaviors through critical thinking and understanding of water issues affecting the Southwest. Staff also worked with the state Department of Water Resources to promote a virtual reality tour of the State Water Project, which received a first-place award in K-12 Educational Programs from the National Association of Government Communicators. An updated Education website helped visitors find new resources available to them at a time when online learning opportunities were critical. The "Water is Life" Student Art Exhibit and Calendar showcased more than 5,000 pieces of art created by K-12 students to help promote the value of using water wisely.

Metropolitan helped foster the growth of the Water Energy Education Alliance, an initiative to advance Career Technical Education as part of the California Department of Education's Energy, Environment and Utilities Industry Sector. Staff proactively engaged education partners in the wake of widespread school closures due to COVID-19 through online classes, webinars and virtual reality tours of the Colorado River Aqueduct.





The Regional Recycled Water Program could deliver up to 150 million gallons of water per day.

# Local Resources

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Since 1982, Metropolitan has invested in local projects, which contribute to regional water supply reliability. The Local Resources Program provides financial incentives to encourage local development of recycled water, treatment of degraded groundwater for municipal use and seawater desalination. As of fiscal year 2020/21, Metropolitan has invested \$709 million to fund 88 recycled water projects and 28 groundwater recovery projects that have produced about 4.1 million acre-feet. Metropolitan is testing what may become the forerunner to the largest water recycling program in the country with the Regional Recycled Water Advanced Purification Center pilot program. Local resources are climate-resilient and lessen the region's dependence on imported supplies tied to snowpack conditions.

## **Water Recycling and Groundwater Recovery**

In fiscal year 2020/21, Metropolitan provided about \$8 million for production of 55,000 acre-feet of recycled water for non-potable and indirect potable uses. Metropolitan financed about \$7 million to support projects that produced about 48,000 acre-feet of recovered groundwater for municipal use. Metropolitan's board of directors approved five new projects for participation in the Local Resources Program. Additionally, local agencies through other funding sources produced 403,000 acre-feet of recycled water that included wastewater discharged to the Santa Ana River that percolates into downstream groundwater basins and 65,000 acre-feet of recovered groundwater. Figures 1 and 2 (next page) show total recycled water and groundwater recovery production in Metropolitan's service area, including local agency-funded projects.

## **On-site Retrofit Program**

Metropolitan's board approved the On-site Retrofit Program in 2014, now with an annual budget of \$2 million. The program provides financial incentives for the conversion of potable irrigation and industrial systems to recycled water. Metropolitan works continuously with member and retail agencies, as well as organizations like WateReuse, to promote and gather feedback that ultimately reshapes the program. Metropolitan maintains a program website ([bewaterwise.com/onsite-retrofit](http://bewaterwise.com/onsite-retrofit)) where up-to-date information can be accessed, including a link to the application, terms and conditions, frequently asked questions and program publications. As of fiscal year 2020/21, the On-site Retrofit Program has provided funding to 436 sites, replacing about 12,667 acre-feet per year of potable water with recycled water.





## Kira Alonzo

Team Manager – Supply Acquisition, with oversight of Recycling and Groundwater Recovery Programs

**Program purpose:** To develop local supplies to help reduce demands for imported water supplies and increase water supply reliability for the region.

### What makes it meaningful:

Collaborating with our member agencies and supporting the development of these projects; every project built makes us more reliable into the future.

**Something memorable:** The great feedback and support we receive from the member agencies and Metropolitan's board every time we make a refinement to the program or bring a new project forward for approval.

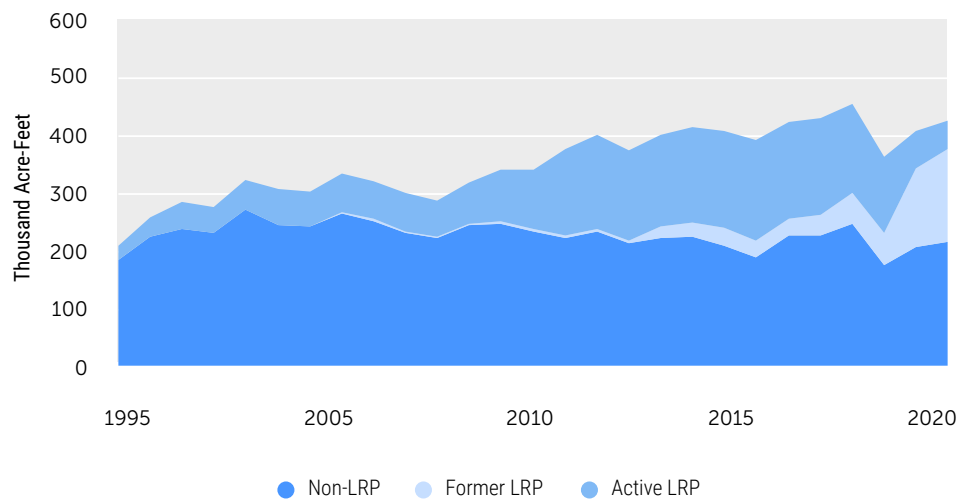
### Connection to a reliable, environmentally sustainable future:

Developing projects locally benefits the entire region regardless of where they are built. Recycled water and groundwater recovery projects help preserve imported water supplies for the future.

**Favorite superhero:** Ruth Bader Ginsberg.

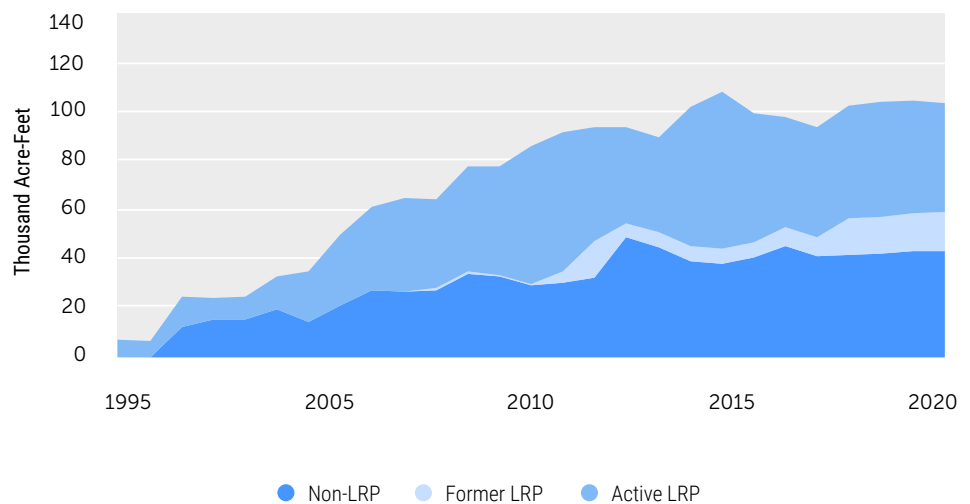
## Recycled Water

Figure 1



## Groundwater Recovery

Figure 2



### Groundwater Management

Metropolitan partners with local agencies to store imported surface water in groundwater basins for use in times of shortage under conjunctive-use agreements. Metropolitan currently has nine storage projects with nearly 212,000 acre-feet of storage capacity. This allows Metropolitan to store up to 53,000 acre-feet per year and withdraw up to 71,000 acre-feet annually during shortage years. In fiscal year 2020/21, Metropolitan extracted about 23,000 acre-feet of previously stored water to support the ongoing drought effort.

Under the Cyclic Program, Metropolitan can capture surplus imported water supplies that cannot be managed through existing storage facilities or other programs. Metropolitan delivers water to member agencies and allows them to pay for these deliveries over a period up to five years. Metropolitan is managing up to 525,000 acre-feet through existing and new agreements. Previously, Cyclic Program agreements did not include a mechanism to offset the higher cost of extraordinary actions that agencies might take to capture increased volumes of imported water in their cyclic accounts. In April 2019, Metropolitan's board authorized the Cost-Offset Program, which provides a credit of up to \$225 per acre-foot to member agencies to help offset costs, increased annually by inflation.



### Jessica Arm

Associate Resource Specialist –  
On-Site Retrofit Program

**Program purpose:** To provide financial incentives directly to public or private properties for costs associated with converting a potable water system. The program goal is to offset demand on Metropolitan's potable water supplies.

**What makes it meaningful:** It is rewarding to see applications come in from people who I have previously communicated with, and it is even more rewarding when I get to approve their incentive check.

**Something memorable:** Several member agencies have found creative solutions for leveraging our incentives with other sources of funding, and it is memorable to hear stories from agencies on how they employed these solutions to retrofit otherwise hard-to-reach customers.

**Connection to a reliable, environmentally sustainable future:** The program helps boost our local supplies, which makes our service area more reliable and sustainable as we continue to experience the effects of climate change.

**Favorite superhero:** Captain Planet.



The retrofit of a cooling tower at a production studio in Burbank converted 13 AFY of potable water to recycled water.

## Regional Recycled Water Program Timeline



### Matt Hacker

Senior Resource Specialist –  
Regional Recycled Water Program

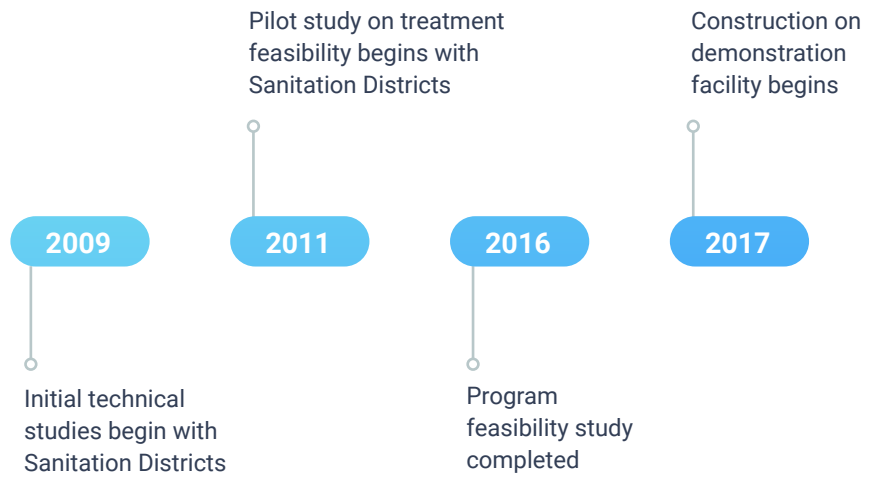
**Program purpose:** To develop a new drought-resilient local supply for Southern California.

**What makes it meaningful:** This is the most challenging project I've ever worked on in my career, and the progress we have made over the past 12 years on this project is inspiring! This project began with a small team and has grown to a team of about 50 people from throughout Metropolitan. What amazes me is how well the team, with members from different backgrounds, works together seamlessly.

**Something memorable:** I think the most exciting thing for me is how much buzz there is for this program – not only have we developed partnerships with stakeholders in Southern California, but we have also developed partnerships with other states.

**Connection to a reliable, environmentally sustainable future:** The RRWP will produce purified water that can help replenish Southern California's groundwater basins and free up imported water for other uses.

**Favorite superhero:** Spider-Man. *With great power there must also come great responsibility.*

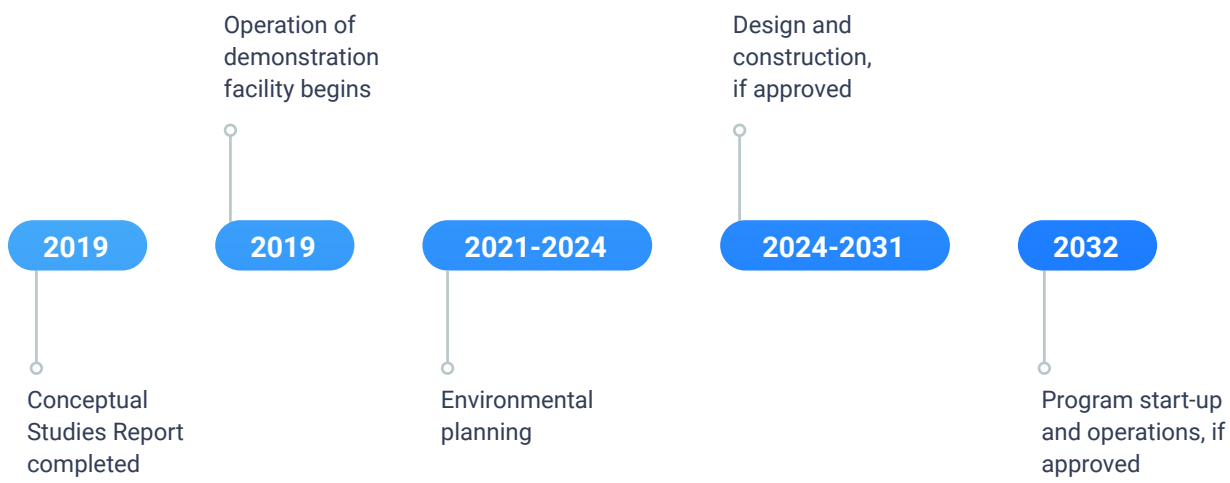


### Regional Recycled Water Program

For the first time in its history, Metropolitan is pursuing the development of its own in-region water supply. The Regional Recycled Water Program is planned to produce and deliver up to 150 million gallons per day, or approximately 168,000 acre-feet per year of purified water. This is enough water for 500,000 homes. The program is a partnership between Metropolitan and the Los Angeles County Sanitation Districts. The two agencies have been working together on this effort since 2009.

As a part of the full-scale program, a new advanced water treatment facility would be constructed at the Sanitation Districts' Joint Water Pollution Control Plant in Carson. A new conveyance system, over 60 miles long, would deliver water to groundwater basins within Metropolitan's service area. The purified water would replace imported water currently used to replenish the basins, saving imported water for other purposes. Initially, purified water from the program would be used for indirect potable reuse, and, as regulations are developed, purified water from the program would be delivered for direct potable reuse at two Metropolitan water treatment plants. The program would reuse the largest untapped source of purified water in the region and could become one of the largest programs of its kind in the world.

In fall 2019, Metropolitan began operation of the Regional Recycled Water Advanced Purification Center, a 500,000 gallon-per-day demonstration facility. The facility is used by Metropolitan and the Sanitation Districts to test purification processes for potable reuse. The facility features an innovative process with membrane bioreactors followed by reverse osmosis and ultraviolet light/advanced oxidation. If approved by regulators, the process may be used throughout California and could advance water reuse in the state. The demonstration facility will also provide information to optimize operations and identify costs and other data needed for a future full-scale facility and program. In addition, the facility is used to showcase the program to the public.



In 2020, member agency partners and groundwater basin managers expressed their support for the program through executed letters of intent. Metropolitan has executed letters of intent with the Los Angeles Department of Water and Power, the city of Torrance, the city of Long Beach, Central Basin Municipal Water District, West Basin Municipal Water District, Upper San Gabriel Valley Municipal Water District, and Three Valleys Municipal Water District, as well as the Water Replenishment District and the Main San Gabriel Basin Watermaster. In addition, agencies such as Southern Nevada Water Authority and the Central Arizona Water Conservation District have expressed interest and executed letters of intent. Metropolitan is collaborating with them to discuss potential transfers or exchanges of Colorado River supplies in return for investment in the program. Through unique partnerships, the program is enabling diverse groups of agencies to work together to solve the Southwest's water challenges. In December 2020, Metropolitan and Southern Nevada Water Authority executed a funding agreement for the environmental planning phase of the program.

Recently, Metropolitan's board of directors approved moving forward with the environmental planning phase of the program, a significant milestone. This was a major policy decision for Metropolitan. For nearly four decades, Metropolitan has encouraged development of local water supplies through the Local Resources Program that provides funding to member agencies. The Regional Recycled Water Program would be a new approach with Metropolitan directly funding the development of a new local water supply with regional benefits. Metropolitan's board will continue to consider funding, partnerships, and institutional and policy considerations related to the program.

**For the first time in its history, Metropolitan  
is pursuing the development of its own  
in-region water supply.**



## Warren Teitz

Team Manager – Resource Development – [Future Supply Action Funding Program](#)

**Program purpose:** To fund studies addressing technical, regulatory and institutional barriers to local supply development related to groundwater, stormwater, recycling and desalination supplies.

**What makes it meaningful:** The opportunity to participate in applied research and to develop innovative approaches for bringing new supplies online, and the outstanding FSA team who make this program possible.

**Something memorable:** Because of COVID restrictions, we pivoted to webinars to share results of the FSA studies, and they have been outstanding and, as moderator, allowed me to see firsthand the study results and how they help the region.

**Connection to a reliable, environmentally sustainable future:** The FSA program builds resilience to climate change by enabling the development of new water resources and will help the region manage the next drought and the droughts to come.

**Favorite superhero:** Underdog: “There is no need to fear – Underdog is here!”

## Metropolitan’s Investments in Future Supply Actions

	2013 FSA Member Agency Studies		2019 FSA Member Agency Studies		2019 WRF Potable Reuse Studies	
	Studies	Funding	Studies	Funding	Studies	Funding
Groundwater	4	\$900,000	3	\$661,000		
Recycled Water	5	\$810,000	5	\$1,265,000	7	\$975,000
Stormwater	2	\$814,000	4	\$865,000		
Seawater Desalination	2	\$325,000	2	\$365,000		
Total Funding	13	\$2,939,000	14	\$3,156,000	7	\$975,000

### Future Supply Actions

Metropolitan supports the development of local supplies through its Future Supply Actions Funding Program. The 2010 Integrated Water Resources Plan established this program to promote low-cost, low-risk investments for addressing technological, regulatory, and institutional barriers to new supplies. These actions will enable the region to accelerate new local supplies in the future when needed. The FSA Program is one of Metropolitan’s primary vehicles for promoting innovative and sustainable approaches to local supply development. Under the program, Metropolitan funds member agency studies addressing challenges for groundwater, recycled water, stormwater and seawater desalination supplies.

Program goals include:

- Reducing barriers to future resource production
- Providing results that are unique, yet transferable to other areas in the region
- Advancing the field of knowledge
- Targeting critical paths to water resource implementation

Since the initial 2013 round of funding and the second in 2018, pilot tests, demonstration studies, and white papers have been produced. The 14 studies approved in 2018 are currently underway, and most are expected to be completed in 2021.

In 2018, Metropolitan also co-funded six potable reuse projects and one agricultural reuse study with the Water Research Foundation under the FSA Program. Metropolitan’s nearly \$1 million in co-funding supports WRF’s \$8 million Advancing Potable Reuse Initiative and matches \$3.5 million in State Water Resources Control Board grant funding. The table above summarizes Metropolitan’s FSA Program investments.



### Stormwater Pilot Programs

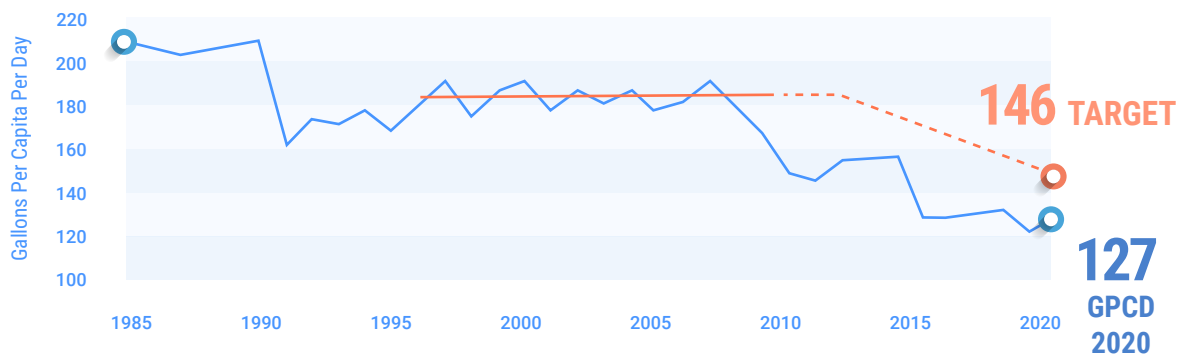
Metropolitan authorized stormwater pilot programs looking at direct use and recharge in 2019. These pilot programs encourage the development, monitoring, and study of new and existing stormwater projects by providing financial incentives for their construction/retrofit and monitoring/reporting costs. These pilot programs help evaluate the potential water supply benefits delivered by stormwater capture projects and provide a basis for potential future funding approaches. Metropolitan's board authorized a total of \$12.5 million for the stormwater pilot programs (\$5 million for the District Use Pilot and \$7.5 million for the Recharge Pilot).

### Water-Use Efficiency Strategy

Metropolitan and the Natural Resources Defense Council co-sponsored the Water Conservation Act of 2009 (SBX7-7), which targets a 20 percent reduction statewide in urban per capita potable water use by the year 2020 (commonly known as 20x2020). Per capita water use is one indicator of progress in advancing water-use efficiency. Metropolitan's baseline is 182 gallons per capita per day (GPCD), and the 2020 reduction target was 145 GPCD. A strong increase in regional conservation in response to the 2015 drought emergency declaration led to a substantial decrease in GPCD. While the water use efficiency mandates were mostly lifted in 2016, the progress in regional conservation did not wane. From 2015 to 2020, the region's potable GPCD averaged about 127 – exceeding the goal of a 20 percent reduction by 2020.

In 2018, the state Legislature enacted two policy bills, Senate Bill 606 and Assembly Bill 1668, to establish a new foundation for long-term improvements in water conservation and drought planning, and to adapt to longer and more intense droughts in California due to climate change. These two bills amend existing legislation to achieve those goals by providing expanded authority to state agencies and new requirements for local water providers. Metropolitan is participating in the state Department of Water Resources' collaborative process to support the implementation of urban water use efficiency standards and establish reporting requirements.

## Exceeding Our 20 Percent Target Reduction for 2020 Declining Gallons per Capita per Day Water Use





An immature Cooper's Hawk,  
photographed by William Wagner.

# Watershed Initiatives

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Our responsibility is not just to ensure water supply reliability and quality, but to do so in an environmentally responsible and thoughtful way. Metropolitan focuses on a range of issues that include watershed health, stormwater collection, salinity management, and habitat restoration and preservation. Taking care of the environment and water quality for our imported source waters benefits our water supply reliability. This is especially difficult in drought conditions that have consequences for ecosystems and human communities alike.

## **Local Watersheds**

Metropolitan's commitment to environmental stewardship is reflected in its many activities. Metropolitan actively participates on planning boards and organizations focused on efforts that include the protection of water quality at the source.

## **Integrated Regional Water Management**

Metropolitan participates in a multi-jurisdictional water planning effort, serving on the Greater Los Angeles County Region Leadership Committee of the Integrated Regional Water Management Program as its surface water management area representative.

## **Southern California Water Coalition**

Metropolitan remains actively involved in the Southern California Water Coalition Stormwater Task Force. In 2021, the task force supported the development of a white paper led by Las Virgenes Municipal Water District. The paper evaluated the potential for dry weather stormwater diversions to provide water supply benefits for wastewater treatment plants. This project was funded by multiple partners, including Metropolitan.

In 2020, the Southern California Water Coalition created its recycled water taskforce to provide a forum for the discussion of recycled water issues in the region. In addition to monthly meetings, Metropolitan staff participated in a workgroup to create a series of educational videos on water and recycling for K-12 children in the city of Los Angeles.





## Alex Marks

Environmental Specialist – [Multiple Species Habitat Reserve Program](#)

**Program purpose:** To mitigate impacts to sensitive animal species associated with the construction and/or operation of Metropolitan's Lake Mathews and Diamond Valley Lake reservoirs to preserve natural communities, which provide habitat for the species.

**What makes it meaningful:** Conserving lands to benefit the multitude of species that depend on the protected habitats and provide an opportunity for outdoor recreation and environmental education to the residents of Southern California.

**Something memorable:** Knowing that I am contributing to a project that will continue to benefit people in Metropolitan's service area and the planet for generations to come.

### Connection to a reliable, environmentally sustainable future:

Although established to mitigate impacts associated with our facilities, the Reserves also yield critical watershed protection, and climate change-related value that contribute to a more reliable, environmentally sustainable Southern California.

**Favorite superhero:** Kelly Slater.

## Council for Watershed Health

Metropolitan has partnered with the Council for Watershed Health on research studies and educational outreach efforts focused on water supply reliability, quality and efficiency. The council currently has four programs: Living Laboratory, Sustainable Landscape Resources, Healthy Streams, and Watershed Coordination and Planning. Metropolitan serves on the Council's board of directors and collaborates on projects to advance the health and sustainability of the region's watersheds and natural resources.

In January 2018, Metropolitan entered into an agreement with the council on a study to better understand and support school water conservation efforts in underserved communities. Under Phase 1 of this agreement, which concluded June 20, 2019, the council performed three tasks:

1. A survey to assess which schools in Metropolitan's service area either have taken or are planning to take advantage of Metropolitan's water efficiency incentives and rebates
2. A special analysis of school district property lines within underserved communities in Metropolitan's service area
3. A barrier analysis to identify impediments hindering schools and school districts from developing and implementing water efficiency projects, and highlight successful school greening plans, programs, and projects

Phase 2 of the agreement was completed Dec. 30, 2020 and involved outreach and engagement to schools within Metropolitan's service area. Because this outreach had to transition to remote correspondence and interviews as dictated by the pandemic, additional time was allowed to generate greater participation. Council staff were able to interview more school district facilities personnel to further assess "Greening" and sustainability project opportunities, as well as provide guidance toward project implementation. Project deliverables for Phase 2 included:

1. Coordinating connections among school greening stakeholders in the LA Basin to cultivate relationships and disseminate resources and educational material
2. Providing ongoing technical assistance to "hot" schools to further define campus opportunities for water conservation and greening needs, and connecting them to partners and resources
3. Development of case studies using Geographic Story Map formats to provide a Greening Practices Summary/Guide for Schools in the LA Basin. The case studies can be viewed [here](#):

Metropolitan and the council jointly presented information from both phases of work at the California Water Efficiency Partnership annual Peer-to-Peer Event which was held virtually in 2021. The information was well received by agencies throughout California.

Recent local, statewide, and even global events have underscored the need for schools to more actively pursue sustainability projects that address issues such as expanding use of outdoor spaces as classrooms and specialized learning resources, adding to watershed resources with stormwater capture and on-site reuse, mitigation for runoff and related water quality permits, etc.

The council's work has contributed to Metropolitan's understanding of school resources, limitations and opportunities, and will continue to assist Metropolitan in promoting water efficiency incentive programs in these underserved areas. Though this work with the council has completed, Metropolitan is exploring ways to leverage the work done and extend collaboration with the council into the future.

### Southern California Salinity Coalition

Formed in 2002, the Southern California Salinity Coalition promotes research and outreach activities to address the need to control or reduce salinity in drinking water, wastewater, groundwater, and recycled water. In addition to water agencies, local wastewater, groundwater, and watershed management agencies also participate in the SCSC. Metropolitan is a founding member and serves on its board. SCSC accomplishments in fiscal year 2020/21 include:

- Implementing a Water Research Foundation study to assess the benefits of blending low-salinity seawater desalination supplies into existing distribution systems in San Diego County
- Co-sponsoring a three-day desalination research needs workshop to guide future investments in desalination and salinity management research
- Funding new SCSC member studies including an evaluation of an innovative desalination/brine treatment technology and a feasibility study of a potential brine-line in the Los Angeles basin
- Granting a graduate fellowship to a UCLA student developing novel desalination membranes capable of targeting specific contaminants
- Presenting on salinity management to Southern California stakeholders
- Supporting salinity management on the Colorado River through letters of support for urging USBR to address the increased salinity resulting from the shutdown of the Paradox Valley Unit

### Multi-Species Habitat Protection and Preservation

Four multi-species reserves encompassing about 30,000 acres are the cornerstone of Metropolitan's investments in environmental conservation and stewardship. These reserves provide mitigation for impacts from construction of Metropolitan infrastructure projects, watershed protection around reservoirs and protection of habitat for native species. The reserves also provide opportunities for education, research, and trails for bicycling, hiking and horseback riding. A snapshot of the four reserves follows:

#### Southwestern Riverside County Multi-Species Reserve

The reserve consists of nearly 14,000 acres surrounding Diamond Valley Lake and Lake Skinner and includes the Dr. Roy E. Shipley Reserve located between the reservoirs. The reserve is home to at least eight types of natural habitat and many sensitive bird, animal and plant species.

Metropolitan partners with the California Department of Fish and Wildlife, Riverside County Habitat Conservation Agency, Riverside County Regional Park and Open-Space District, and United States Fish and Wildlife Service to cooperatively manage the reserve. Provisions to ensure the protection of the Diamond Valley Lake and Lake Skinner watersheds are incorporated into management of the reserve, including the appropriate siting of public access points and vegetation management tools.



### Dee Bradshaw

Program Manager – Bay Delta Initiatives – Oversight of Lower Colorado River Multi-Species Conservation Program

**Program purpose:** The Lower Colorado River Multi-Species Conservation Program was created for the conservation of endangered and threatened species and their habitats.

**What makes it meaningful:** It is truly a collaborative effort among the Lower Basin States of Arizona, California, and Nevada, several federal agencies, and Native American tribes.

**Something memorable:** Being part of the development of the Dennis Underwood Conservation Area – former farmland owned by Metropolitan set aside to be transformed into a natural habitat of cottonwood, willow and honey mesquite trees – is expected to attract numerous species. This is the most memorable experience since my start on the program in 1995.

#### Connection to a reliable, environmentally sustainable future:

The LCR MSCP will create over 8,100 acres of habitat and stock 1.2 million native fish to augment existing populations, and also allow key activities on the Lower Colorado River that provide water and power to millions of people.

**Favorite superhero:** Squirrel Girl.



## Lynda Smith

Principal Resource Specialist –  
Delta Watershed Program

**Program purpose:** To support ecosystem investments that will improve habitat conditions for native fish species and other aquatic wildlife in the Delta watershed by working with other stakeholders to conduct studies, pilot projects and restoration activities.

**What makes it meaningful:** Developing collaborations with other agencies and stakeholders to implement projects.

**Something memorable:** The Battle Creek Salmon and Steelhead Restoration Project stands out to me because Metropolitan invested in the project many years ago, and the restoration efforts to date have made it possible for U.S. Fish and Wildlife Service to begin the process of reintroducing winter run Chinook salmon to Battle Creek, which was a significant milestone.

**Connection to a reliable, environmentally sustainable future:** Protecting the Delta ecosystem and improving habitat conditions for listed species will support State Water Project water supply reliability.

**Favorite superhero:** Dr. Fauci.

### [Upper Salt Creek Wetland Preserve](#)

A 40-acre parcel of land purchased as mitigation for the Eastside Pipeline, the Upper Salt Creek Wetland Preserve provides protection for unique vernal pool habitat and rare plants. The preserve is protected in perpetuity from future development, and public access is not provided.

### [Santa Rosa Plateau Ecological Reserve](#)

The nearly 10,000-acre Santa Rosa Plateau Ecological Reserve is home to several endangered, threatened or rare animals and plants, including a species of fairy shrimp that exists nowhere else on earth. The reserve, established as partial mitigation for construction of Diamond Valley Lake, protects some of the most unique chaparral, grassland, oak and vernal pool habitats in California.

### [Lake Mathews Multiple Species Reserve](#)

The 5,100-acre reserve surrounding Lake Mathews is managed for native habitat and sensitive plant and animal species, including the endangered Stephens' kangaroo rat and coastal California gnatcatcher. Metropolitan partners with the California Department of Fish and Wildlife, Riverside County Habitat Conservation Agency, and United States Fish and Wildlife Service to cooperatively manage the reserve. Habitat management tools and strategies on the reserve, such as grazing and prescribed burns, are critically evaluated for their potential effects to water quality in Lake Mathews. The lake itself is an important bird resting and feeding site, especially in winter, when ducks, double-crested cormorants, grebes and eagles visit.

### [Colorado River](#)

#### [The Lower Colorado River Multi-Species Conservation Program](#)

This program is a comprehensive restoration effort along the Colorado River through the states of Arizona, Nevada and California. The plan targets the restoration of natural habitat communities once prevalent along the river corridor—riparian forests, marshes and backwaters. The benefits of restoring natural communities go beyond providing habitat for native aquatic and terrestrial species. Through Metropolitan's support as the largest non-federal contributor, along with its federal and state partners, the program continued to make great advances in the restoration of native habitats and natural processes along the lower Colorado River from Lake Mead to the southern international boundary with Mexico. As of fiscal year 2020/21, about 6,500 acres of habitat have been created or restored.

#### [Colorado River Basin Salinity Control Forum](#)

The Colorado River Basin Salinity Control Forum is an organization of the seven Colorado River Basin states of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. The forum coordinates salinity control efforts among the states; collaborates with federal agencies on the implementation of the Colorado River Basin Salinity Control Program; and works with Congress on the authorization and funding of the program. The forum funds efforts to reduce salt loading to the Colorado River and provides information on salinity control.

Metropolitan holds the forum's board chair position and participates in technical workgroup activities. To date, the forum's salinity control measures have removed about 1.22 million tons of salt from the Colorado River annually. This translates to a salinity reduction of approximately 100 milligrams per liter from the Colorado River's lower basin and Metropolitan's Colorado River Aqueduct supplies.



In fiscal year 2020/21, the forum participated in the development of a Final Environmental Impact Statement for the replacement of the Paradox Valley Unit injection well, which is operated by the U.S. Bureau of Reclamation and is the single largest salinity control project on the Colorado River. Reclamation released the FEIS in late fall 2020 and identified “no action” as the preferred alternative among those considered. However, given the critical role of the PVU in controlling salinity in the Colorado River basin, Reclamation plans to consider additional alternatives beyond those considered in the FEIS, including a potential public-private partnership to implement salt evaporation ponds in the Paradox Valley.

Although the Paradox Valley Unit did not operate for the majority of fiscal year 2020/21 due to a seismic event that halted the injection well’s operations in March 2019, Reclamation is currently conducting seismic hazard, seismic risk, and well infrastructure analyses with an eye to restarting the existing well in the future, so that brine injection can continue with an acceptable risk of seismic activity until a replacement alternative is implemented. Reclamation expects to complete these analyses by summer 2023, though the well may begin operating at reduced capacity before then.

Additionally, in fiscal year 2020/21, the forum completed the 2020 Review of Water Quality Standards for Salinity in the Colorado River System. The document is required by the U.S. Environmental Protection Agency every three years to ensure that the salinity standards continue to protect beneficial uses of the Colorado River.

#### **Multi-State Salinity Coalition**

The Multi-State Salinity Coalition is a consortium of water agencies from across the country promoting information exchange on salinity management and desalination issues. As a founding member, Metropolitan serves on the MSSC’s Board of Directors. MSSC promotes stakeholder collaboration through an annual summit covering a range of topics including salinity and concentrate and management, watershed sustainability, international projects, revenue stability, potable reuse and innovative technologies. MSSC also hosts meetings throughout the year for members highlighting salinity management case studies. Metropolitan typically sponsors and helps plan annual MSSC conferences. Due to the COVID-19 pandemic, MSSC did not hold its annual conference or case study meetings in 2021. MSSC also awards scholarships for students working on topics related to salinity management issues.

#### **Sacramento-San Joaquin Delta**

##### **Municipal Water Quality Investigations Program**

Metropolitan continues to support and participate in DWR’s Municipal Water Quality Investigations program, which implements water quality monitoring and modeling studies in the Delta and the State Water Project facilities. In fiscal year 2020/21, this program conducted routine water quality monitoring for drinking water quality constituents throughout the Delta, operated five real-time water quality monitoring stations, completed seasonal water quality forecasts, and continued a monitoring study to evaluate the degradation of an herbicide used to treat aquatic weeds in Clifton Court Forebay. The program also continued sampling for constituents of emerging concern along the Delta Mendota Canal, due to concerns with treated wastewater input flows. Work also continued on testing on-line sensors for chlorophyll-a and phycocyanin to see if they can provide an early warning for harmful algal blooms and toxin management. A retrospective manuscript on the 30-year program was submitted to the San Francisco Estuary and Watershed Science journal for publication, and work has started on the 2021 State Water Project Watershed Sanitary Survey.

### Delta Water Quality Studies

Metropolitan continues to work with the State Water Contractors and other stakeholders to support studies and management actions that address the impact of nutrients, contaminants and other water quality stressors impacting native species in the Delta watershed. Metropolitan funded studies investigating toxic contaminant effects on Delta smelt and juvenile salmon. Metropolitan also continued participating in the Delta Regional Monitoring Program. In fiscal year 2020/21, the Delta RMP conducted water quality monitoring studies for pesticides and aquatic toxicity, nutrients, mercury and contaminants of emerging concern.

### California EcoRestore Habitat Restoration

Metropolitan participates in a Yolo Bypass working group and is also a cooperating agency for the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project, participating on the project's Fisheries and Engineering Technical Team. The project is a comprehensive federal and state planning process to address Biological Opinion requirements for enhanced access to salmonid rearing habitat and increased passage for adult salmonids and sturgeon. The schedule for various milestones includes site preparation in advance of construction in September 2021; completion of final design to commence in May 2022; and completion of construction by December 2022, as required by the Biological Opinion.

Metropolitan continued working with the State Water Contractors to fund and monitor the effectiveness of the Tule Red Tidal Restoration Project. In June 2020, monitoring crews reported finding dozens of the state-listed juvenile longfin smelt inside and outside the wetland restoration site, which is a promising start for the project.



The Tule Red Tidal Restoration Project returns tidal water to more than 400 acres of habitat. Photo courtesy state Department of Water Resources.

### Butte Creek Bypass Project

In fiscal year 2020/21, Metropolitan staff continued to meet with the Centerville Schoolhouse Workgroup, a diverse group of stakeholders committed to ensuring the future of Butte Creek's population of spring-run Chinook salmon. The Workgroup first met in October 2017 following the decision by PG&E to withdraw its license application for the DeSabra - Centerville Hydroelectric Project. The group is focused on identifying the needs of spring-run Chinook salmon in this system and finding creative solutions to ensure those needs are met. This includes discussions on a wide variety of topics, such as improving access to cold water, implementing habitat restoration, and evaluating options to improve the long-term viability of the hydroelectric Project. The workgroup is waiting for PG&E to submit a license transfer application with FERC and will consider providing comments that flag the importance of this project to supporting spring-run Chinook salmon in the Central Valley.

### Butte Sink and Sutter Bypass Project

Metropolitan is a funding partner on the Butte Sink and Sutter Bypass Project. During fiscal year 2020/21, Metropolitan participated in the collaborative Sutter Bypass Workgroup process. Activities related to this effort included coordination of study plans and discussion of ongoing fish, zooplankton, and hydrology studies. These studies help stakeholders gain a better understanding of how fish benefit from the Sutter Bypass and Butte Sink habitats and inform what restoration actions are needed to improve salmon use and survival. Preliminary results suggest that fish using Butte Sink and Sutter Bypass habitats generally have higher growth rates than fish in the Sacramento and Feather Rivers.

### Delta Islands

Metropolitan's acquisition of four islands in the Sacramento-San Joaquin Delta allows us to help secure and guard the Delta's future State Water Project supplies. We are using the strategically located islands – Webb Tract, a large portion of Holland Tract, Bouldin Island and Bacon Island – to conduct research and identify potential projects that support water system reliability, restore habitat, and promote sustainable agricultural practices. We're also studying climate change risks, managing peat soils to reduce carbon emissions, and monitoring and strengthening levees to improve and protect water quality and supply reliability.

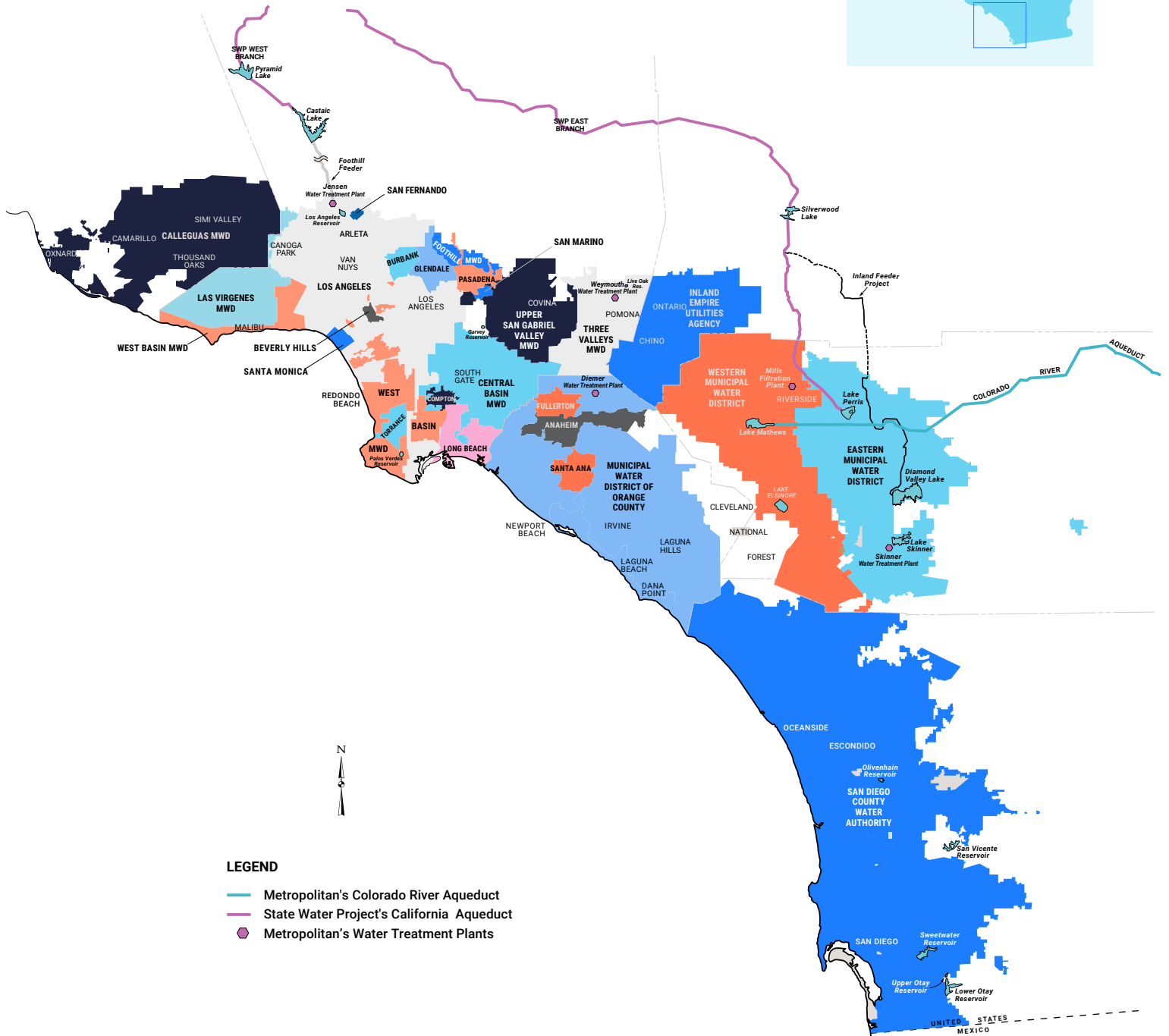
### PUBLIC HEARING NOTICE

Every year, Metropolitan reports its accomplishments in water conservation, recycling and groundwater recharge to the state Legislature. To coincide with the report preparation, the MWD Act requires Metropolitan to "hold an annual public hearing... during which the district shall review its urban water management plan... for adequacy in achieving an increased emphasis on cost-effective conservation, recycling, and groundwater recharge." The MWD Act also provides that Metropolitan "shall consider factors of availability, water quality, regional self-sufficiency, benefits for species and environment, the totality of life-cycle costs, including avoided costs, and short- and long-term employment and economic benefits."

While the Urban Water Management Plan is prepared and updated every five years in accordance with state requirements (Metropolitan's 2020 UWMP was adopted in May 2021), Metropolitan hosts an annual December hearing to share progress on fiscal year plan objectives and to receive public comments. Metropolitan held a public hearing on December 13, 2021 to receive public and stakeholder input. Comments received at the hearing are on file at Metropolitan and are available upon request.



# Metropolitan's Member Agencies





City of Anaheim



City of Beverly Hills



CITY OF  
BURBANK  
City of Burbank



City of Compton



CITY OF FULLERTON  
CALIFORNIA  
City of Fullerton



City of Glendale



CITY OF LONG BEACH  
INCORPORATED 1891  
City of Long Beach



CITY OF LOS ANGELES  
FOUNDED 1781  
City of Los Angeles



CITY OF PASADENA 1886  
INCORPORATED JUNE 1886  
City of Pasadena



CITY OF SAN FERNANDO  
CALIFORNIA  
City of San Fernando



CITY OF SAN MARINO  
1889  
City of San Marino



CITY OF SANTA ANA  
CALIFORNIA  
City of Santa Ana



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Santa Monica™  
City of Santa Monica



CITY OF TORRANCE  
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City of Torrance



CALLEGUAS  
MUNICIPAL WATER  
DISTRICT  
Calleguas Municipal  
Water District



Central Basin  
MUNICIPAL WATER DISTRICT  
Central Basin Municipal  
Water District



emwd  
EASTERN  
MUNICIPAL  
WATER  
DISTRICT  
Eastern Municipal  
Water District



FOOTHILL MUNICIPAL WATER DISTRICT  
INCORPORATED  
JANUARY 2, 1960  
FOOTHILL  
CALIFORNIA  
Foothill Municipal  
Water District



Inland Empire  
Utilities Agency  
A MUNICIPAL WATER DISTRICT  
Inland Empire  
Utilities Agency



LAS VIRGENES  
MUNICIPAL  
WATER DISTRICT  
EST. 1968  
Las Virgenes Municipal  
Water District



Municipal Water District  
of Orange County  
MWD OC  
Municipal Water District  
of Orange County



San Diego County  
Water Authority  
Our Region's Trusted  
Water Leader  
San Diego County  
Water Authority



THREE VALLEYS  
MWD  
THREE VALLEYS MUNICIPAL WATER DISTRICT  
Three Valleys Municipal  
Water District



UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT  
Upper San Gabriel Valley  
Municipal Water District



WEST BASIN  
MUNICIPAL WATER DISTRICT  
West Basin  
Municipal Water District



WESTERN  
MUNICIPAL  
WATER  
DISTRICT  
Western Municipal Water  
District of Riverside County

Metropolitan is a voluntary cooperative of 26 member agencies with a 38-member board of directors. Metropolitan board and committee meetings are open to the public and broadcast live through [mwdh2o.com](http://mwdh2o.com).



P.O.Box 54153  
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# Review of Metropolitan's Achievements in Conservation, Recycling and Groundwater Recovery

Water Planning and Stewardship Committee

Item 1A

December 13, 2021

# Annual Reporting to the California State Legislature

- Show progress in water conservation, recycling and groundwater storage and replenishment measures
  - 2020 Urban Water Management Plan adopted in May 2021
- Annual submittal to California Legislature by Feb 1
- Required by MWD Act Section 130.5, added by statute in 1999 (SB 60)
- Conduct public hearing and invite knowledgeable individuals



# Importance of One Water and the Current Drought

- One Water fosters solutions to water supply reliability
- Severe drought conditions impacting imported water supplies
- Drought declaration by MWD Board November 2021





# Metropolitan's Key Accomplishments in Fiscal Year 2020/2021



Provided \$17 million in Water-Use Efficiency through rebates, landscape and irrigation classes, research, and outreach



Funded \$15 million to support Local Resources Program efforts in recycled water and recovered groundwater production

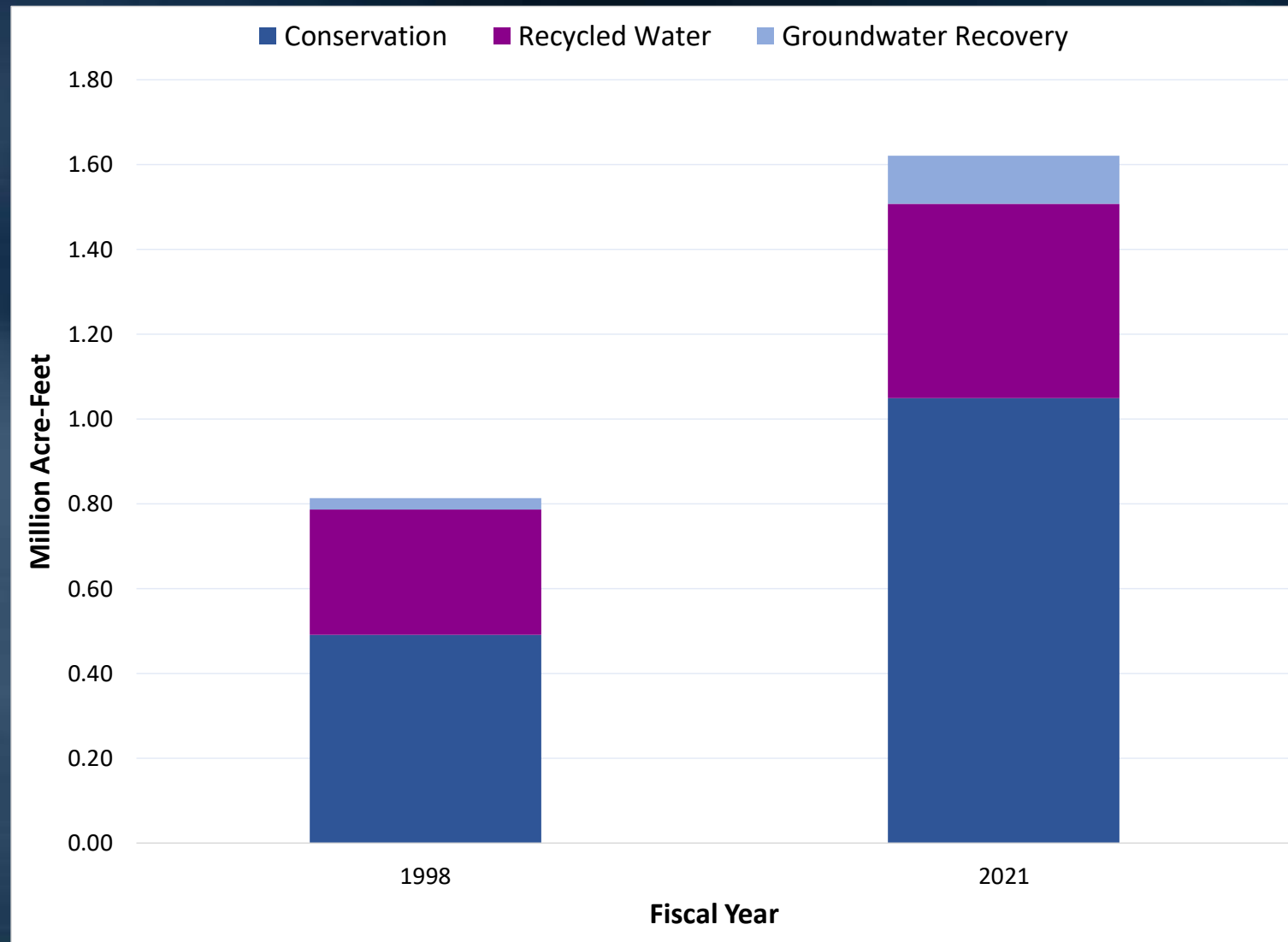


Improved access to Metropolitan rebate programs specifically for underserved communities



Funded and monitored studies and habitat restoration projects in the Delta Watershed and along the Lower Colorado River

# Metropolitan's Achievements: 1998 vs. 2021



# Metropolitan's Cumulative Investment

	Dollars Invested	Acre-Feet
Conservation	\$840 M	3.48 MAF
LRP Recycling	\$528 M	3.03 MAF
LRP Groundwater Recovery	\$181 M	1.10 MAF
<b>Total</b>	<b>\$1.5 B</b>	<b>7.61 MAF</b>

Conjunctive Use Program	0.35 MAF
Groundwater Replenishment	4.18 MAF



# Conservation

# Metropolitan's Suite of Conservation Offerings

- Incentives available for residential, and commercial, industrial & institutional (CII) consumers
- Rebates for indoor & outdoor devices and turf replacement
- Performance-based incentives for larger customized projects
- Partnerships with energy utilities to extend reach
- Classes and other resources to educate consumers on how to remove/replace turf
- Workshops and certification trainings for landscape professionals



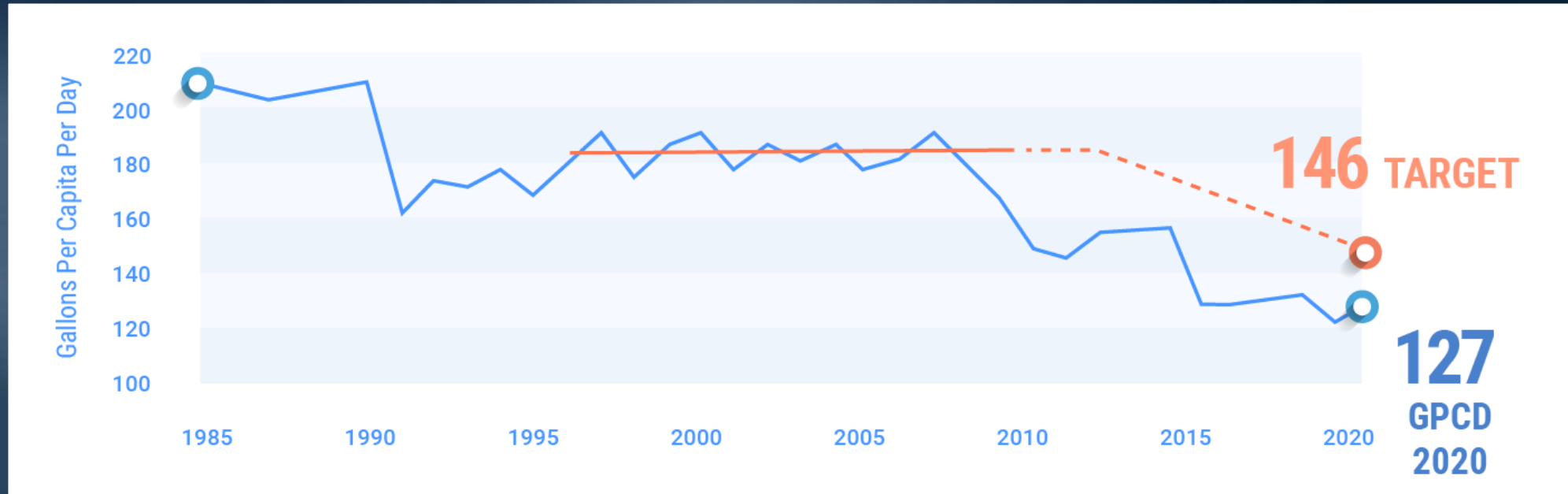
# Achievements in Conservation





# Region Achieved 20x2020 Target

- Water Conservation Act of 2009 set targets for a 20% statewide reduction in urban per capita potable water use by 2020



# Local Resources

# Local Resources Program

Provides incentives for Metropolitan's member agencies to develop new local projects to increase water supply reliability in the region



Recycled Water  
(1982)



Groundwater Recovery  
(1991)



# Achievements in Local Resources

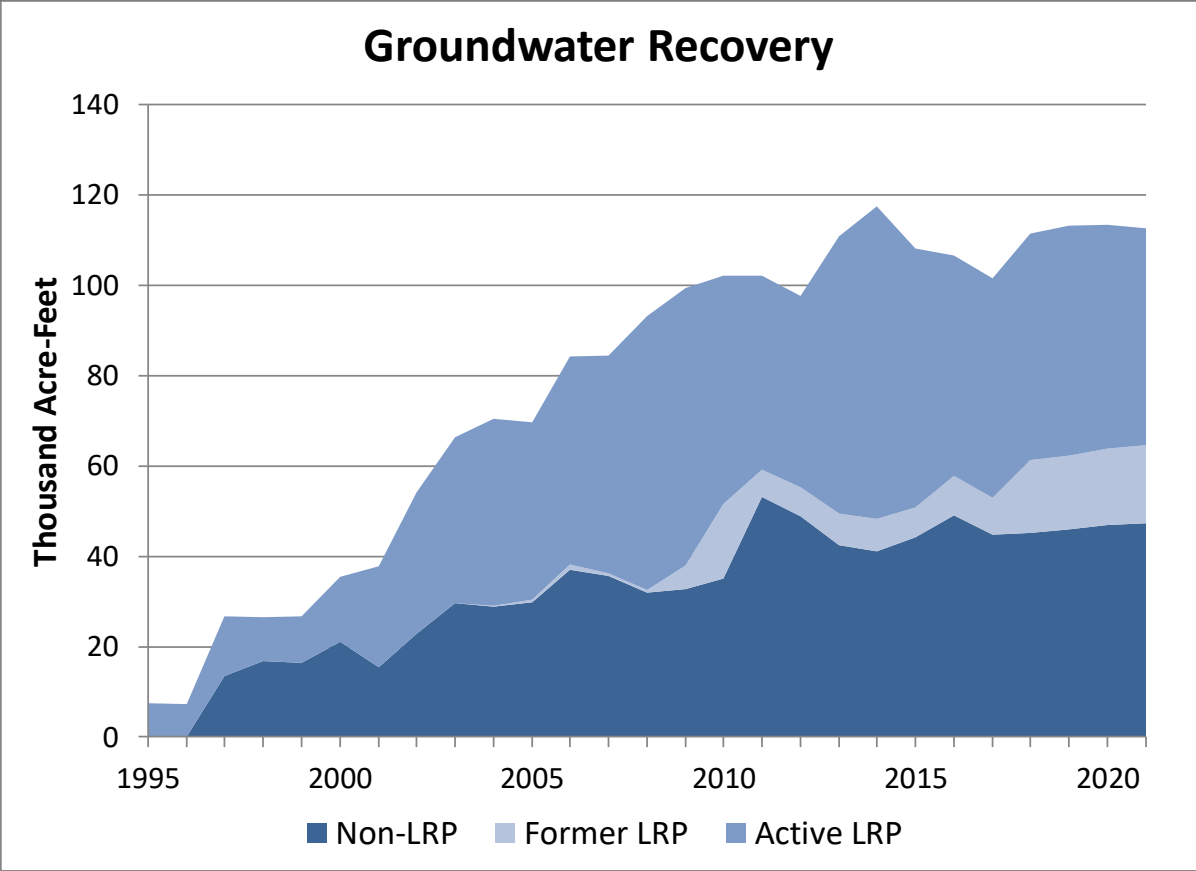
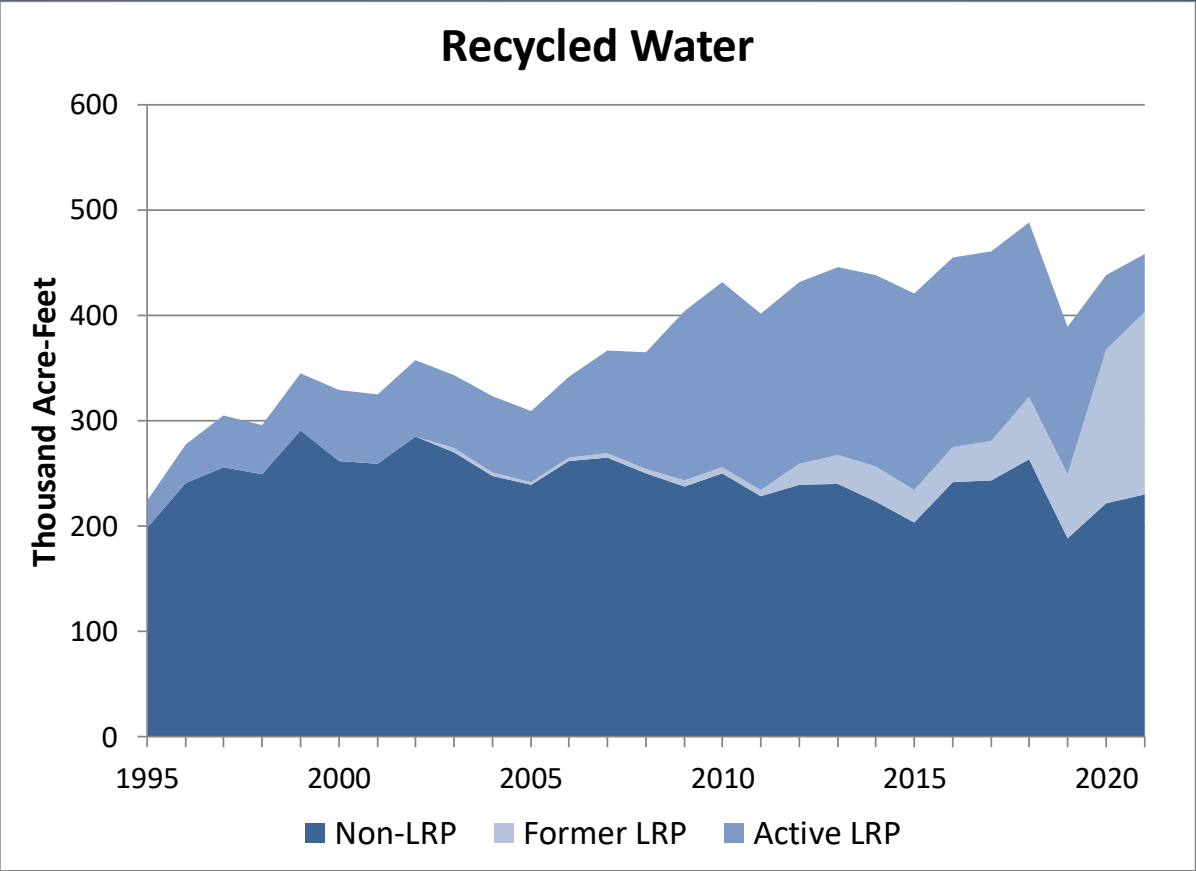


**Activity:**  
**116 LRP  
Projects**

**Investment:**  
**\$15 M**

**Produced:**  
**103 TAF**

# LRP Drives Growth in Recycled Water and Groundwater



# Additional Investments in Recycled Water

## Regional Recycled Water Program

- Funding agreement executed by SNWA and MWD
- MWD Board moved forward with environmental planning phase



## On-Site Retrofit Program

- Funding to 436 sites
- 12,700 acre-feet savings of potable water converted to recycled water





# Groundwater Recharge

# Achievements in Groundwater Recharge



**FY 20/21  
Groundwater Recharge  
Highlights**

**Imported Water  
Delivered for  
Recharge:  
103 TAF**

*Note: The values above reflect the imported supplies for groundwater recharge and do not include groundwater for recycled water projects.*

# Groundwater Recharge Programs Overview

## Conjunctive Use Program

- 9 conjunctive use accounts with up to 71,000 AFY extraction capability
- \$27 M cumulative capital investment
- \$45 M from Prop 13 grant funds administered



## Cyclic Program

- Aids in management of surplus imported water
- Deferred payment over period of up to five years
- Can manage up to 525,000 AF





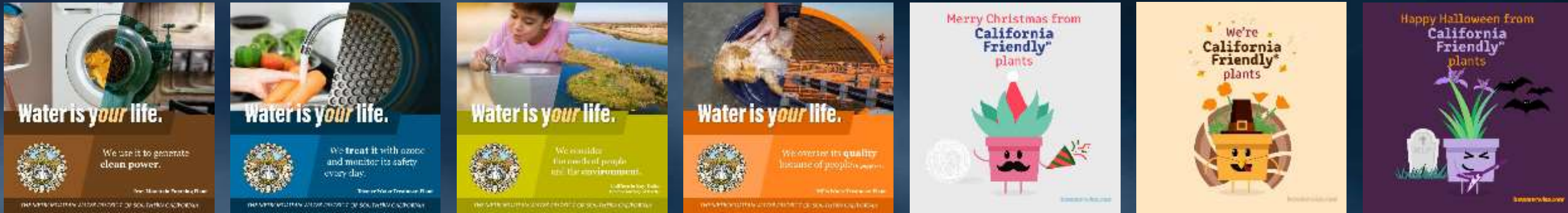
# One Water Approach Strengthens Water Supply Reliability

- Without conservation, the effects of drought would be swifter and more severe
  - **Less water used translates into more water stored**
- Local resources projects reduce Metropolitan's dependence on imported supplies
- Groundwater recharge allows for healthy and sustainable use of our groundwater basins
- Metropolitan continues to promote innovative and sustainable approaches to the region's ongoing challenges

# Other Metropolitan Initiatives

# Communications and Outreach

- Advertising and Outreach Campaigns



- Media

- 70+ interviews on major TV, radio, print and digital media outlets
- General Manager and Board Chairwoman blogs, op-eds, podcasts
- Award winning redesigned website



# Communications and Outreach

- Community Outreach
  - Active memberships and partnerships with local business and community organizations
  - Virtual inspection trips of MWD facilities
- Education Programs
  - Water-focused curriculum, grants, and outreach programs
  - 100+ events and engaged with ~78,000 students, teachers, parents, and participants



# Other FY 2020/21 Initiative Highlights

## Future Supply Actions

- Program funds studies addressing groundwater, recycled water, stormwater and seawater desalination supply challenges
- 2018 studies expected to be completed in 2021

	2013 FSA Member Agency Studies		2018 FSA Member Agency Studies		2018 WRF Potable Reuse Studies	
	Studies	Funding	Studies	Funding	Studies	Funding
Groundwater	4	\$900,000	3	\$661,000		
Recycled Water	5	\$810,000	5	\$1,265,000	7	\$975,000
Stormwater	2	\$814,000	4	\$865,000		
Seawater Desalination	2	\$325,000	2	\$365,000		
Total Funding	13	\$2,939,000	14	\$3,156,000	7	\$975,000

## Stormwater Pilot Programs

- Pilots encourage development and monitoring of new and existing stormwater projects
- Five projects approved by Board
  - **Over \$2.8 million in funding by Metropolitan**



# Local Watershed Initiative Highlights

- Southern California Salinity Coalition
  - Implementing WRF study to assess benefits of blending low-salinity seawater desalination supplies into existing distribution systems in San Diego County
  - Funding new member studies, including a feasibility study of a potential brine-line in the Los Angeles basin
- Council for Watershed Health
  - Metropolitan and the council jointly presented at the California Water Efficiency Partnership annual Peer-to-Peer Event





# Delta Watershed Initiatives Highlights

- California EcoRestore Habitat Restoration
  - As part of Tule Red Tidal Restoration Project, found state-listed juvenile longfin smelt inside and outside tidal wetland restoration site
- Municipal Water Quality Investigations Program
  - Conducted routine water quality monitoring for drinking water quality constituents throughout the Delta
  - Continued monitoring study to evaluate the degradation of an herbicide used in Clifton Court Forebay





# Colorado Watershed Initiatives Highlights

- Lower Colorado River Multi-Species Conservation Program
  - As of FY 2020/21, approximately 6,500 acres of habitat have been created or restored
- Colorado River Basin Salinity Control Forum
  - Forum completed the 2020 Review of Water Quality Standards for Salinity in the Colorado River System



# Next Steps

- Review and incorporate comments received today
- Finalize Report – January 2022
- Submit to Legislature – February 1, 2022







December 7, 2021

Mr. Adel Hagekhalil  
General Manager  
Metropolitan Water District of Southern California  
700 N. Alameda St.  
Los Angeles, CA 90012

Dear Mr. Hagekhalil:

The Alliance for Water Efficiency (AWE) and the California Water Efficiency Partnership (CalWEP) are pleased to provide comments on *Metropolitan's 2021 Progress Report to the State Legislature on Achievements in Conservation, Recycling, and Groundwater Recharge*. AWE is the only North American organization dedicated to water efficiency, which is typically the fastest and least expensive way to save water while also fighting climate change and lowering water bills. CalWEP is a chapter of AWE with a mission to maximize water efficiency and conservation throughout California.

AWE and CalWEP bring together a North American network of more than 530 organizational members with expertise in water efficiency, including water suppliers, businesses, government agencies, nonprofits, associations, and academic institutions.

The Metropolitan Water District ("Metropolitan") and its retail partners are national leaders in water efficiency whose work is crucial to sustaining a clean, reliable water supply. AWE and CalWEP are thankful to have collaborated with Metropolitan in 2021 on a number of initiatives and projects that benefit southern California while also providing important learnings for other water agencies.

For example, with support from Metropolitan, AWE and CalWEP released the first-of-its-kind *Cooling Tower Estimating Model (CTEM) and Guide for Identifying Cooling Towers* in February of 2021. Cooling towers use large amounts of water, and there is potential for significant water savings. The *Model and Guide* help water agencies locate cooling towers. Metropolitan is also supporting additional elements of this project, including:

- Determining the conservation potential for improvements to existing cooling tower systems
- Determining water savings potential of implementing alternative cooling technologies
- Creating a How-To guide for water agencies to operate a cooling tower efficiency program
- Creating a Cooling Tower Audit Assessment form and a return-on-investment calculator

In 2021, AWE and CalWEP collaborated with Metropolitan and Long Beach Water on a *Water Affordability Assessment for Long Beach*. The final report, which is about to be released, identifies the extent to which the cost of water may be an economic hardship for customers, evaluates the impact of rate restructuring on water affordability, and evaluates the role that water conservation can play in lowering water bills. We are exploring a potential pilot program to donate water efficient fixtures and appliances to disadvantaged households in Long Beach.

In addition, AWE and CalWEP collaborated with Metropolitan to release Version 4 of AWE's *Water Conservation Tracking Tool* in 2021. This tool helps water agencies plan, evaluate and track their water conservation programs across metrics like costs, water savings, greenhouse emission reductions, and more. The Tool has been used by more than 400 water agencies in California and elsewhere. Version 4 includes a California-specific version to help communities comply with state requirements. It also updated the library of water conservation strategies to include 50 distinct measures and added a water loss control feature.

We also want to thank Metropolitan for being a founding AWE member and charter sponsor, and providing organizational leadership support. Metropolitan staff serve as Treasurer of the AWE board, co-Chair of AWE's Water Sense/Water Efficient Products Committee, and participate in AWE's Research Committee. Moreover, Metropolitan staff sit on the board of CalWEP, serve as Vice-Chair of CalWEP's Program Committee, and participate in CalWEP's Research and Evaluation Committee. Metropolitan Water district has also been an ongoing sponsor of CalWEP's annual training event, *Peer to Peer*, and has provided critical support to tools and resources that help water agencies throughout the Metropolitan service area maximize urban water efficiency.

In conclusion, we would like to thank Metropolitan for its leadership, support, and collaboration in advancing water efficiency and conservation in southern California and beyond. Please let us know if you have any questions.

Sincerely,

Ron Burke  
President and CEO  
Alliance for Water Efficiency

Tia Fleming  
Executive Director, External Affairs  
California Water Efficiency Partnership





Mr. Adel Hagekhalil, General Manager  
Metropolitan Water District of Southern California  
700 N. Alameda St.  
Los Angeles, CA 90012

RE: Comments on the SoCal Water\$mart Rebate Program

Dear Mr. Hagekhalil,

By our Homeowner's Association participation in the MWD Rebate program, we were able to install the UgMO (Underground moisture optimization) system here at Four Seasons HOA in Murrieta, CA. We are serviced by EMWD and do not have access to a Recycled water source.

Our relationship with UgMO has been to control our 10 acres of fully landscaped main common areas known as The Lodge. We have monthly records on all meters here on the property (five) going back to about 2009 as we are very aware of our usage of water and want to do all we can to conserve.

The rebate program allowed UgMO and Four Seasons to install three smart controllers and 96 sensors to measure moisture, temperature, and salinity. We have received the first of two rebates of about \$4,000 and are now expecting a second one after the full two years of service by the system and the actual savings recorded by MWD/EMWD.

As our part in the process, one of the hard parts is the actual measurement of the dollar savings as with the cost of water and weather it is very hard to meet all aspects of control. It is very clearly moving from a pure timer system to UgMO smart controllers and sensors. We have had a major cost avoidance and that is measured in gallons not needed as detected by the sensors.

But I would like to point one major shift we found here in just the measurement and cooperation of the local landscapers and the UgMO team. Pre UgMO, meter readings were taken every day and reported monthly after the bill came in and pointed out we did good or we did badly again, pay the bill, and move on. We now have a very proactive team of a local landscaper who is on-site and the UgMO management team who proactively communicate many times a week or more to look at where we can save water. We adjusted our contract to make it a joint responsibility of the local landscaper and UgMO and they are paying dividends. We have actual data reported live and with the EMWD website have a great view of our usage near real-time.

In conclusion, we have enjoyed using many times over the years the rebate program offered but see this single project with UgMO as the most cost-effective and true results provided to both Four Seasons and true water conservation.

If, you are your staff have any questions about our project, please feel free to contact me at (951) 813-5773 or russ.guidrysr@gmail.com

Russ Guidry Sr. PMP

Past CFO and Past President and Project manager for the UgMO project

K. Hovnanian's Four Seasons Homeowners' Association

ATTACHMENTS: system and pictures to support the project





[www.dignitymemorial.com](http://www.dignitymemorial.com)

Orange County/ Major San Diego

Bob Dowson / [bob.dowson@sci-us.com](mailto:bob.dowson@sci-us.com)



Adel Hagekhalil, General Manager  
Metropolitan Water District of Southern California  
700 N. Alameda Street  
Los Angeles, California 90012

Dear Mr. Hagekhalil,

On behalf of Westminster Memorial Park and Eternal Hills Memorial Park, I am writing to first thank MWD for supporting our projects and to provide my comments with our experience with the SoCal Water\$mart rebate program.

By participating in the program, Westminster Memorial Park has saved more than 38 million gallons of water per year and received \$57,190 in incentives. Eternal Hills has saved more than 7.7 million gallons of water per year and received \$46,636 in incentives.

Our Westminster location alone used 313.4 acre-feet of water for the assessment period of July 2018-June 2019. After we began our program in April 2019, we used 233 acre-feet of water for the assessment period of July 2019 to June 2020. A reduction of 80 acre-feet of water. And the results since that time have improved even more significantly.

In summary, the SoCal Water\$mart rebate program allows us to save one of California's most precious resources – water – while maintaining the beautiful, manicured, serene environment our clients expect when they visit our memorial parks to pay their respects to a loved one.

In conclusion, I would like to thank the Metropolitan Water District and the SoCal Water\$mart Rebate Program for contributing to our successful irrigation conversion.

If you have any questions about our water project, please contact me at 949-842-7965 or [Robert.dowson@sci-us.com](mailto:Robert.dowson@sci-us.com)

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Dowson".

Robert Dowson  
Vice President  
SCI California Funeral Services, Inc

# **THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA**

## **MINUTES**

### **WATER PLANNING AND STEWARDSHIP COMMITTEE**

**November 8, 2021**

Chair Atwater called the teleconference meeting to order at 2:23 p.m.

Members present: Chair Atwater, Vice Chair Kurtz, Directors Abdo, Ackerman, Cordero, De Jesus, Dick, Goldberg, Lefevre, Morris, Peterson, Pressman (entered after rollcall) and Record.

Member absent: Directors Hogan, Luna, and Petersen.

Other Board Members present: Chairwoman Gray, Directors Blois, Butkiewicz, Dennstedt, Erdman, Faessel, Fellow, Jung, Ortega, Quinn, Ramos, Repenning, Smith, and Tamaribuchi

Committee staff present: Coffey, Hagekhalil, Hasencamp, Munguia, Schlotterbeck, and Upadhyay.

#### **1. OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE COMMITTEE ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION (AS REQUIRED BY GOV. CODE SECTION 54954.3(a))**

Public Speaker included:

1. Mr. Jack Bebee, General Manager, Fallbrook Public Utility District, expressed gratitude to Metropolitan for the work and LRP Programs, and he addressed a letter from Fallbrook related to agenda item 6c.

#### **CONSENT CALENDAR OTHER ITEMS – ACTION**

#### **2. CONSENT CALENDAR OTHER ITEMS – ACTION**

- A. Approval of the Minutes of the Water Planning and Stewardship Committee held October 11, 2021

Chair Atwater announced that the committee would proceed to other Consent Calendar Action items, and he requested recusal statements from committee members representing Municipal Water District of Orange County.

Directors Ackerman, Ortega, and Dick provided recusal statements.

Other non-committee members who also provided recusal statements were Directors Erdman and Tamaribuchi.

Director Pressman joined the meeting.

Chair Atwater announced that item 6a would be heard ahead of Consent Calendar items. He also announced that Metropolitan received a letter from San Diego County Water Authority (SDCWA) related to item 7-8.

Brad Coffey provided brief background information and introduced item 6a.

## **6. COMMITTEE ITEMS**

- a.     Subject:                 Update on Water Surplus and Drought Management
- Presented by:       Tiffany Tran, Assistant Resource Specialist II, Water Resource Management

Ms. Tran gave an oral report that included updates on current conditions and described a scenario for 2022.

Director Butkiewicz announced that he would abstain from voting on item 7-9. Though, he is not a member of this committee.

Chair Atwater announced that the committee would resume the Consent Calendar items.

## **3. CONSENT CALENDAR ITEMS – ACTION**

- 7-8     Subject:                 Adopt resolution declaring a Regional Drought Emergency, calling on Member Agencies to reduce use of State Water Project supplies, and granting the General Manager certain additional authorities; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA
- Presented by:       Brad Coffey, Manager, Water Resource Management
- Motion:               Adopt the Resolution Declaring a Regional Drought Emergency as revised at committee subject to further review at Board.

Mr. Coffey also acknowledged a letter from SDCWA regarding this item, and he gave a presentation that explained staff's recommendation that the Board adopt a Drought Emergency Resolution calling on local agencies to immediately reduce their use of State Water Project supplies.



General Manager, Hagekhalil also provided comments related to this item.

7-9      Subject:      Authorize implementation of modifications to the Turf Replacement Program, the Member Agency Administered Funds Program, the Pre-1994 Multi-Family Property Toilet Replacement Program, and the Southern California Gas Company Direct Install Program; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Presented by:      None.

Motion:      1. Authorize changes to the Turf Replacement Programs.  
                         a) Authorize increase of the Turf Replacement Program incentive for public agencies from \$2 to \$3 per square foot.  
                         b) Authorize increase of the square footage maximum to 200,000 square feet for public agency projects.  
                         c) Authorize turf replacement public agency assistance program.  
                         2. Authorize changes to the Member Agency Administered Funds Program to include a public agency local project category.  
                         3. Authorize expansion and changes to the Pre-1994 Multi-Family Property Toilet Replacement Program.  
                                 a) Authorize one additional funding cycle for the installation of 20,000 toilets.  
                                 b) Authorize change to eliminate tiered incentive and offer flat incentive of \$250 for all eligible toilets.  
                         4. Authorize expansion of SoCal Gas Direct Install Program.

7-10      Subject:      Authorize implementation of a new Municipal Leak Detection and Repair Grant Pilot Program; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Presented by:      None.

Motion:      Authorize implementation of the Municipal Leak Detection and Repair Grant Pilot Program.

7-11      Subject:      Adopt resolution to support Metropolitan's application for the United States Bureau of Reclamation's Water and Energy Efficiency FY 2022 Grant Program of \$2 million to supplement funding for public agency landscapes within the Turf Replacement Program; authorize the General Manager to accept grant funds, if awarded; and authorize the General Manager to enter into a contract with United States Bureau of Reclamation for the grant funds, if awarded; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Presented by: None.

Motion: Adopt the resolution to support Metropolitan’s application for United States Bureau of Reclamation grant funding of \$2 million to provide supplemental funding for public agency landscapes in the Turf Replacement Program;

- a. Authorize the General Manager to accept grant funds, if awarded; and
- b. Authorize the General Manager to enter into a contract with United States Bureau of Reclamation for the grant funds, if awarded

7-12 Subject: Authorize the General Manager to enter into agreements with the Quechan Tribe of the Fort Yuma Indian Reservation and farmers within Quechan tribal land to provide incentives for land fallowing related to the Metropolitan/Quechan Tribe Seasonal Fallowing Pilot Program, for up to \$1.6 million in 2022 and 2023; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Presented by: None.

Motion: Authorize the General Manager to enter into a Program agreement with the Quechan Tribe and seasonal fallowing agreements with farmers within the Quechan tribal land. Additionally, approve payment of up to \$1.6 million for the 2022 and 2023 fallowing seasons.

7-13 Subject: (1) Rescind the Board’s June 8, 2021 action authorizing the General Manager to enter into a Local Resources Program (LRP) agreement with the Municipal Water District of Orange County (MWDOC) and Santa Margarita Water District (SMWD) for the Las Flores Recycled Water Expansion Project (Las Flores Project); review and consider SMWD’s approved Final Mitigated Negative Declaration and Addendum for the Las Flores Project and take related CEQA actions; and, after the disclosure of a remote financial interest under Government Code Section 1090 (Section 1090) and director recusal, consider and authorize an LRP agreement with MWDOC and SMWD for the Las Flores Project.

(2) Rescind the Board’s December 13, 2016 actions authorizing the General Manager to enter into LRP agreements with MWDOC and SMWD for the Lake Mission Viejo Advanced Purification Water Treatment Facilities (Lake Mission Viejo Facilities) and with MWDOC and the El Toro Water District (ETWD) for the

El Toro Recycled Water System Expansion Phase II Project (El Toro Project); after the disclosure of a remote financial interest under section 1090 and director recusal, consider and authorize LRP agreements with MWDOC and SMWD for the Lake Mission Viejo Facilities and with MWDOC and ETWD for the El Toro Project; and authorize retroactive LRP payments in the amounts of \$522,000 and \$110,000 for the Lake Mission Viejo Facilities and El Toro Project, respectively, as credit against returned payments in the same amount. The General Manager has determined these proposed actions are exempt or otherwise not subject to CEQA

Presented by: None.

Motion: (1) Rescind the Board's June 8, 2021 action authorizing the General Manager to enter into a Local Resources Program (LRP) agreement with the Municipal Water District of Orange County (MWDOC) and Santa Margarita Water District (SMWD) for the Las Flores Recycled Water Expansion Project (Las Flores Project); review and consider SMWD's approved Final Mitigated Negative Declaration and Addendum for the Las Flores Project and take related CEQA actions; and, after the disclosure of a remote financial interest under Government Code Section 1090 (Section 1090) and director recusal, consider and authorize an LRP agreement with MWDOC and SMWD for the Las Flores Project;

(2) Rescind the Board's December 13, 2016 actions authorizing the General Manager to enter into LRP agreements with MWDOC and SMWD for the Lake Mission Viejo Advanced Purification Water Treatment Facilities (Lake Mission Viejo Facilities) and with MWDOC and the El Toro Water District (ETWD) for the El Toro Recycled Water System Expansion Phase II Project (El Toro Project); after the disclosure of a remote financial interest under Section 1090 and director recusal, consider and authorize LRP agreements with MWDOC and SMWD for the Lake Mission Viejo Facilities and with MWDOC and ETWD for the El Toro Project; and authorize retroactive LRP payments in the amounts of \$522,000 and \$110,000 for the Lake Mission Viejo Facilities and El Toro Project, respectively, as credit against returned payments in the same amount.

The following Directors provided comments or asked questions:

1. Smith
2. Kurtz
3. Record
4. Pressman
5. Cordero
6. Repenning
7. Peterson
8. Quinn
9. Ortega
10. Goldberg



Deven Upahyay, Assistant General Manager added additional comments.

After a discussion between board members and staff, Director Goldberg made a motion, seconded by Director Kurtz to approve the consent calendar consisting of items 2A and 7-8, 7-9, 7-10, 7-11, 7-12, and 7-13.

Director Ackerman recused herself from voting on item 7-13.

Director Dick was disqualified from voting on item 7-13.

The vote was:

Ayes:	Directors Abdo, Ackerman, Atwater, Cordero, De Jesus, Dick , Goldberg, Kurtz, Lefevre, Morris, Peterson, Pressman, and Record.
Noes:	Director Peterson for item 7-8 only
Abstentions:	None
Recusals:	Director Ackerman for item 7-13 only.
Not voting:	Director Dick for item 7-13 only.
Absent:	Directors Hogan, Luna, and Petersen.

The motion for items 2A, 7-9, 7-10, 7-11, and 7-12 passed by a vote of 13 ayes, 0 noes, 0 abstentions, and 3 absent.

The motion for item 7-8 passed by a vote of 12 ayes, 1 noes, 0 abstentions, and 3 absent.

The motion for item 7-13 passed by a vote of 11 ayes and 2 noes, 0 abstentions, 1 recusal, 1 not voting, and 3 absent

## **END OF CONSENT CALENDAR ITEMS**

### **4. OTHER BOARD ITEMS – ACTION**

None

### **5. BOARD INFORMATION ITEMS**

None

### **6. COMMITTEE ITEMS**

- |    |               |   |
|----|---------------|---|
| b. | Subject:      | Report on Lower Basin Drought Contingency Plan Implementation |
|    | Presented by: | Shanti Rossett, Program Manager                               |

Ms. Rossett gave an update on Lower Basin Drought Contingency Plan Implementation. She provided background information and explained recent activity, plans for going forward, and Metropolitan's preparedness.

- c.      Subject:                      Update on Proposed Reorganization of Fallbrook Public Utility District and Rainbow Municipal Water District before the San Diego Local Agency Formation Commission  
Presented by:                      Brad Coffey, Manager, Water Resource Manager

Mr. Coffey gave presentation that reviewed the proposed reorganization applications of both Fallbrook Public Utility District and Rainbow Municipal Water District that are both agencies of SDCWA. They both request detachment from SDCWA and request annexation to Eastern Municipal Water District.

The following Directors provided comments or asked questions:

1.      Goldberg
2.      Quinn
3.      Ortega
4.      Record
5.      Dick
6.      Peterson
7.      Repenning
8.      Atwater
9.      Chairwoman Gray

Staff responded to the Directors questions and comments.

## **7.      MANAGEMENT REPORTS**

- a.      Subject:                      Colorado River Matters  
Presented by:                      None

This item was deferred due to time limitations

- b.      Subject:                      Water Resource Management Manager's Report  
Presented by:                      None

This item was deferred due to time limitations.

## **8.      FOLLOW-UP ITEMS**

None

**9. FUTURE AGENDA ITEMS**

None

**10. ADJOURNMENT**

Next meeting will be held on December 13, 2021.

Meeting adjourned at 4:23 p.m.

Richard Atwater  
Chair



• **Board of Directors**  
***Water Planning and Stewardship Committee***

12/14/2021 Board Meeting

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7-4

**Subject**

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Authorize the General Manager to enter into a Memorandum of Understanding to facilitate near-term actions to maintain the elevation of water in Lake Mead above elevation 1,020 feet, and to provide up to 20 percent of the non-federal cost share of any such actions, not to exceed \$10 million per year in 2022 and 2023, and delegate authority to the General Manager to enter into additional agreements as needed to implement the Memorandum of Understanding; the General Manager determined that the proposed actions are exempt or otherwise not subject to CEQA

**Executive Summary**

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Authority is requested for Metropolitan to enter into a Memorandum of Understanding (MOU) with the United States, the State of Arizona, the Central Arizona Water Conservation District, the State of Nevada, and the Southern Nevada Water Authority known as the “500+ Plan MOU” (see **Attachment 1**) and agreements necessary to implement the 500+ Plan MOU to facilitate near-term actions necessary to maintain the elevation of water in Lake Mead above elevation 1,020 feet. The 500+ Plan MOU is a commitment by water managers in Arizona, Nevada, and California to facilitate actions that could add 500,000 acre-feet (AF) of water to Lake Mead in both 2022 and 2023. The sources of water for the 500+ Plan MOU could include the creation of additional Intentionally Created Surplus and additional system conservation throughout the Colorado River Lower Basin. The 500+ Plan MOU would include a request for a federal funding match. Modeling shows that implementation of the 500+ Plan MOU significantly reduces the risk of Lake Mead declining below the critical reservoir elevation of 1,020 feet through 2026, the end of the interim period.

**Timing and Urgency**

Metropolitan is a party to the 2019 Lower Basin Drought Contingency Plan Agreement (DCP) that includes a provision that if “any 24-month Study for the minimum probable inflows projects that Lake Mead elevations will be at or below 1,030 feet anytime within the succeeding two years, the Secretary and Lower Division States shall consult and determine what additional measures will be taken by the Secretary and Lower Division States to avoid and protect against the potential for Lake Mead to decline below 1,020 feet.” In August 2021, the 24-Month Study minimum probable inflows projected that Lake Mead will be at or below 1,030 feet in 2023. Implementation of the 500+ Plan MOU is designed to reduce the risk of Lake Mead declining to elevation 1,020 feet or below through 2026, the end of the interim period.

**Details**

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**Background**

The Colorado River Basin entered a historic drought in 2000. In response, the Department of Interior and water managers in California, Arizona, and Nevada have taken a number of actions, including adoption of the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (2007 Interim Guidelines), and the approval of the DCP. The DCP includes a provision that requires the Department of Interior and the Colorado River Lower Division States, Arizona, California, and Nevada, to consult if any 24-Month Study shows that Lake Mead would decline to elevation 1,030 feet or below at any point in the next two years. After this risk appeared in the August 2021 24-Month Study, water managers in Arizona, Nevada, and California considered options for reducing the risk of Lake Mead declining to elevation



1,020 feet or below through 2026, the period of Interim Guidelines. Modeling shows that the addition of 500,000 AF or more of water during calendar years 2022 and 2023 significantly reduces the risk of the elevation of Lake Mead declining to levels below 1,020 feet as contemplated in the DCP.

Implementation of the 500+ Plan MOU could add or retain at least 500,000 AF of water in Lake Mead in both 2022 and 2023. Under this plan, water managers in Arizona, Nevada, and California would commit to work together towards this goal. Potential actions may involve creation of additional Intentionally Created Surplus as allowed by the 2007 Interim Guidelines and DCP, and creation of new system water, which may include agreements with other water users in the Lower Basin. The Lower Basin water managers in Arizona, Nevada, and Metropolitan in California would commit to fund additional water projects that would meet the goal of adding or retaining at least 500,000 AF per year in Lake Mead in 2022 and 2023. Metropolitan would provide up to twenty percent of the non-federal funds, not to exceed \$10 million per year in 2022 and 2023. Contributed funds may be used to fund agreements for additional water in any of the Lower Division States. Entities that contribute funds would be able to decide which projects to financially support.

A combination of factors, including the effects of climate change, increasing temperatures in the Colorado River Basin, decreased snow accumulation, and reduced runoff, have all contributed to decreasing inflows into the Colorado River's mainstem reservoirs. This decline in runoff and inflow into the system has been more severe than what was expected at the time the Guidelines were developed or when the DCP was executed. Allowing the continued decline in system storage is not sustainable and presents Metropolitan and all Colorado River water users with risks.

Metropolitan also receives a portion of the power generated at both Hoover and Parker Dams. Declining elevations in Lake Mead significantly reduces the ability to generate power at Hoover Dam, which will reduce the amount of energy Metropolitan receives.

#### **Potential Risk to Metropolitan Without 500+ Plan MOU**

While California holds certain senior Colorado River water rights among the Lower Division States, if Lake Mead elevations continue to fall, there is a risk that California's full Colorado River allocation may not be delivered due to either: (1) physical limitations on the ability to release sufficient water from Hoover Dam; or (2) the Secretary's use of discretion to reduce deliveries to protect Lake Mead from declining below critical reservoir elevations. These risks to Metropolitan are increased by Metropolitan's junior priority to Colorado River supplies within the state of California. Although the allocation of a shortage within California has not been established, Metropolitan faces risks if such shortage decisions are made.

Staff recommends that the Board authorize the General Manager to enter into the 500+ Plan MOU and to provide funding for action taken under the 500+ Plan MOU not to exceed \$10 million per year in 2022 and 2023. Staff further recommends the Board delegate authority to the General Manager to enter into agreements necessary to facilitate the 500+ Plan MOU consistent with the terms described in this board letter, and in a form approved by the General Manager and General Counsel. For purposes of this delegation of authority, the General Manager would be the designated decision-making body for any actions taken, agreements entered, or permits and approvals in support of the 500+ Plan MOU. In consultation with the General Counsel, the General Manager shall conduct any review and prepare, approve or certify any documentation that may be required under the California Environmental Quality Act.

#### **Policy**

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Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 51512, dated March 12, 2019, the Board authorized participation in the Lower Basin Drought Contingency Plan.

By Minute Item 51427, dated December 11, 2018, the Board authorized entering into seven agreements (Lower Basin Drought Contingency Plan Agreement, DCP Contributions and ICS Accumulation Limits Sharing Agreement, Companion Agreement, agreements with PVID, CVWD, and IID, an amendment to the California ICS Agreement) that would implement the Lower Basin Drought Contingency Plan (Lower Basin DCP) Agreement, as set forth in Agenda Item 8-11 board letter.

By Minute Item 41222, dated January 10, 1995, the Board adopted a set of Colorado River Basin Management Policy Principles that include continuing to seek ways to increase the reliability of Metropolitan's Colorado River supplies and collaborate with the other Colorado River Basin States and the Department of the Interior on innovative strategies requiring interstate cooperation.

## **California Environmental Quality Act (CEQA)**

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### **CEQA determination for Option #1:**

The proposed actions of authorizing and entering into the MOU to (1) facilitate near-term actions necessary to maintain the elevation of water in Lake Mead above elevation 1,020 feet and (2) provide up to 20 percent of the non-federal cost share of any such future actions not to exceed \$10 million per year in 2022 and 2023, and (3) delegate authority to the General Manager to enter into additional agreements as needed to implement the Memorandum of Understanding are not subject to CEQA because they involve the creation of government funding mechanism and other government fiscal activities that do not involve any commitment to any specific project that may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines).

In addition, the potential environmental impacts associated with any federal actions necessary to implement the MOU were analyzed in the 2007 Environmental Impact Statement (2007 EIS) for continued implementation of the 2007 Interim Guidelines. The 2007 EIS is posted at <http://www.usbr.gov/lc/region/programs/strategies/FEIS/index.html>. The proposed actions are within the scope of actions that were previously analyzed in that document and will be subject to further environmental review under the NEPA as necessary. Thus, to the extent the proposed actions involve or may affect areas outside of California, such as at Lake Mead or on the portions of the Colorado River in Nevada and Arizona, they are exempt from CEQA under a Statutory Exemption (Public Resources Code Section 21080(b)(14) and State CEQA Guidelines Section 15277).

Lastly, with respect to any future actions undertaken pursuant to the MOU, a separate CEQA review will be carried out, and the appropriate environmental documentation will be prepared as necessary.

### **CEQA determination for Option #2:**

None required

## **Board Options**

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### **Option #1**

Authorize the General Manager to enter into the 500+ Plan MOU to facilitate near-term actions necessary to maintain the elevation of water in Lake Mead above elevation 1,020 feet and to provide up to 20 percent of the non-federal cost share of any such actions, not to exceed \$10 million per year in 2022 and 2023, and delegate authority to the General Manager to enter into additional agreements as needed to implement the MOU.

**Fiscal Impact:** \$10 million in aggregate over FY 2022-23 and 2023-24

**Business Analysis:** Participation in the 500+ Plan MOU would assist in reducing the risk of Lake Mead's elevation declining to 1,020 feet through 2026, reducing the potential of water curtailments to California agencies, including Metropolitan.

### **Option #2**

Do not authorize the General Manager to enter into the 500+ Plan MOU.


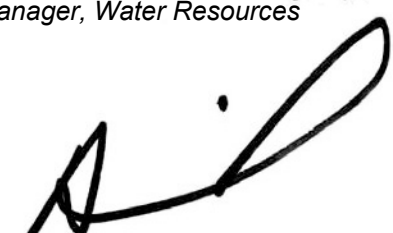
**Fiscal Impact:** None

**Business Analysis:** Not participating in the 500+ Plan MOU increases the risk of Lake Mead declining to elevation 1,020 feet or below through 2026, which may make deliveries of Colorado River water to California less reliable.

**Staff Recommendation**

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Option #1

 _____ Devan N. Upadhyay Executive Officer and Assistant General Manager, Water Resources	12/7/2021 _____ Date
 _____ Adel Hagekhalil General Manager	12/7/2021 _____ Date

**Attachment 1 – Memorandum of Understanding among the United States of America acting through the Department of the Interior, Bureau of Reclamation, the State of Arizona acting through the Arizona Department of Water Resources, the Central Arizona Water Conservation District, The Metropolitan Water District Of Southern California, the State Of Nevada acting through the Colorado River Commission of Nevada, and the Southern Nevada Water Authority to Facilitate Near-Term Actions Necessary to Maintain the Elevation of Water in Lake Mead**

Ref# eo12687635

## MEMORANDUM OF UNDERSTANDING

--AMONG--

THE UNITED STATES OF AMERICA ACTING THROUGH  
THE DEPARTMENT OF THE INTERIOR, BUREAU OF  
RECLAMATION, THE STATE OF ARIZONA ACTING  
THROUGH THE ARIZONA DEPARTMENT OF WATER  
RESOURCES, THE CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT, THE METROPOLITAN WATER  
DISTRICT OF SOUTHERN CALIFORNIA, THE STATE OF  
NEVADA ACTING THROUGH THE COLORADO RIVER  
COMMISSION OF NEVADA, AND THE SOUTHERN  
NEVADA WATER AUTHORITY

TO FACILITATE NEAR-TERM ACTIONS NECESSARY TO  
MAINTAIN THE ELEVATION OF WATER IN LAKE MEAD

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This Memorandum of Understanding, (hereinafter referred to as "2021 MOU"), is made and entered into this \_\_\_\_\_ day of December, 2021 ("Effective Date"), by and between the UNITED STATES OF AMERICA ("United States") represented by the Secretary of the Interior ("Secretary") acting through the Bureau of Reclamation ("Reclamation"), the STATE OF ARIZONA acting through the Director of the Arizona Department of Water Resources ("ADWR"), the CENTRAL ARIZONA WATER CONSERVATION DISTRICT, a multi-county water conservation district duly organized and existing under the laws of the State of Arizona ("CAWCD"), THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, duly organized under California law ("MWD"), and the STATE OF NEVADA acting through the Colorado River Commission of Nevada ("CRCNV") and the SOUTHERN NEVADA WATER AUTHORITY, a political subdivision of the State of Nevada ("SNWA"), each of which is at times referred to individually as "Party" and collectively as "Parties."



### BACKGROUND

A. WHEREAS, the Colorado River basin began suffering from a meaningfully warmer and drier climate more than twenty years ago, leading to substantially diminished inflows into the system and decreased water elevation levels in both Lakes Mead and Powell;

B. WHEREAS, in response to the emerging climate reality, the Secretary adopted, and with the support and agreement of the Colorado River Basin Upper Division States of Colorado, New Mexico, Utah, and Wyoming, and the Lower Division States of Arizona, California, and Nevada, implemented the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead ("2007 Interim Guidelines") to, among other things, provide incentives and tools for the storage of water in Lake Mead and for Lake Mead elevation dependent shortages reducing annual allocations to the States of Arizona and Nevada beginning at 1075 feet;

C. WHEREAS, in 2014, to further help maintain the elevation of Lake Mead, the United States acting through Reclamation, Denver Water, CAWCD, MWD, and SNWA funded a Pilot System Conservation Program to reduce diversions from the Colorado River System through the voluntary, compensated, and temporary reduction in use by water users ("System Conservation");

D. WHEREAS, also in 2014, the Parties, together with the Colorado River Board of California, entered into a Memorandum of Understanding pursuant to which additional "protection volumes" were generated through conservation and other means and left in Lake Mead between 2014 and 2017 to help maintain Lake Mead elevation;

E. WHEREAS, in 2019, the Parties entered into a Lower Basin Drought Contingency Plan Agreement that further incentivized conservation and storage in Lake Mead and established elevation dependent contributions to Lake Mead's sustainability, including required contributions by each Lower Basin State. Federal legislation, the Colorado River Drought Contingency Plan Authorization Act, Pub. L. No. 116-14 (2019) directed the Secretary to implement a number of

agreements, including specifically an agreement applicable in the Lower Basin that implemented a Lower Basin Drought Contingency Operations rule set known as the LBOps;

F. WHEREAS, through Minute Nos. 318 (2010), 319 (2012), and 323 (2017) to the "United States-Mexico Treaty on Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande," signed February 3, 1944 ("1944 Water Treaty"), and in furtherance of the 1944 Water Treaty, the Parties incentivized the conservation of water in Mexico for subsequent delivery thereby benefitting storage in the United States (together "Mexican Water Reserve");

G. WHEREAS, as a result of the collective impact of the programs set forth above (approximately 4.0 million acre-feet), Lake Mead's elevation at the end of 2020 was approximately 50 feet higher than it would have been in their absence;

H. WHEREAS, despite the successes of implementing programs designed to meet the challenge brought about by a warmer, drier climate discussed above, Reclamation's August 2021 24-Monthly Study projected Lake Mead's elevation would be below 1,075 feet on January 1, 2022, and consistent with the provisions of the 2007 Interim Guidelines, a shortage declaration limiting deliveries of Colorado River water to Arizona and Nevada will be in effect in Calendar Year 2022. Furthermore, the August 2021 24-Month Study using the minimum probable inflow projected Lake Mead would fall below elevation 1,030 feet in July of 2023. That projection was sustained in the September and October 2021 24-Month studies using the minimum probable inflow;

I. WHEREAS, the LBOps provide that "If any 24-month Study for the minimum probable inflows projects that Lake Mead elevations will be at or below 1,030 feet anytime within the succeeding two Years, the Secretary and Lower Division States shall consult and determine what additional measures will be taken by the Secretary and Lower Division States to avoid and protect against the potential for lake Mead to decline below 1,020 feet";

J. WHEREAS, the Parties have engaged in initial and ongoing discussions and consultations regarding the foregoing, and technical workgroups have participated in Colorado River Mid-term Modeling System ("CRMMS") exercises to identify additional volumes of water

during Calendar Years 2022 and 2023 that are designed to avoid and protect against the elevation of Lake Mead declining to levels below 1,020 feet as contemplated in the LBOps;

K. WHEREAS, recognizing both the recent history of low runoff conditions and the variability of flows in the Colorado River Basin and without predetermining what additional measures may be appropriate or necessary through 2026, generally, these technical workgroups concluded that 500,000 or more acre-feet per year of additional reductions in water use or augmentation of system water may be required to meet this goal;

L. WHEREAS, the Parties recognize that facilitating reductions in use or augmentation of system water in the magnitude described above will require substantial funds. The United States, ADWR, CAP, MWD, and SNWA (collectively "Funding Parties") agree, pursuant to the terms, conditions, and limitations set forth below, to work in a coordinated fashion to identify and fund projects that result in measurable benefits to Lake Mead's elevation through Calendar Year 2023; AND

M. WHEREAS, the Parties enter this 2021 MOU with a collective understanding that while this effort addresses an acute short-term need to support Lake Mead elevations, future climate projections for the Colorado River Basin suggest worsening conditions. Accordingly, the Parties intend to regularly evaluate conditions throughout the term of this 2021 MOU and to use the information gained in any process developed to address longer term operations.

NOW, THEREFORE, in consideration of the mutual promises set forth herein, and other valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

#### AGREEMENT

1. Additional Parties. The Parties recognize that adding additional entities to this 2021 MOU may increase the extent to which the undertaking succeeds in sustaining Lake Mead elevations to avoid and protect against the potential for Lake Mead to decline below 1,020 feet.

To that end, additional entities may be added to this 2021 MOU as parties with the written consent of all existing Parties.

2. Additional Water. Additional Water means water remaining in Lake Mead that is either (a) not attributable to shortage volumes under the 2007 Guidelines or any DCP Contributions required in the LBOps; or (b) attributable to a net positive change in Intentionally Created Surplus ("ICS") behavior assumed in Reclamation's June 2021, 24-month study Most Probable projection.

3. Additional Water Sources. Provided such sources meet the definition of Additional Water in Paragraph 2 above, Additional Water Sources may include, but are not necessarily limited to: Creation of ICS, creation of system water (through increases in system efficiencies, conservation not inuring to an ICS account, augmenting system supply, not taking delivery of water authorized by an entitlement, or other means acceptable to the Parties), and decreasing ICS releases assumed in Reclamation's June 2021, 24-month study Most Probable projection.

4. Additional Water Minimum Target. The Parties are targeting a combined minimum of 1,000,000 acre-feet of Additional Water in 2022 and 2023, and such additional water as may be achievable in this timeframe. At the time of execution of this MOU, the Parties have identified potential Additional Water Sources to create approximately 500,000 acre-feet of Additional Water in 2022 and approximately 500,000 acre-feet of Additional Water in 2023.

5. Non-Federal Funding. The non-federal Funding Parties, subject to the availability of budgeted funds and any necessary board approvals, agree to fund participation in Additional Water projects up to, but not exceeding, the following amounts for 2022-2023:

- a. ADWR: \$40,000,000
- b. CAWCD: \$20,000,000
- c. MWD: \$20,000,000



d. SNWA:            \$20,000,000

Total:                \$100,000,000

The non-federal Funding Parties anticipate that their overall contribution for Additional Water will be in proportion to the commitment set forth above, though their contributions for any specific project may vary.

6.     Federal Funding Match. The United States, subject to the availability of budgeted funds, will work to match the cumulative non-federal funding commitment above, with a goal of a total federal funding commitment of up to \$100,000,000, such that the total commitment by the Funding Parties, subject to all necessary approvals, availability of appropriations and available Additional Water Sources, is an aggregate of \$200,000,000 for 2022-2023.

7.     Additional Water Sources Project Selection. As soon as practicable after the Effective Date, the Parties will work together to establish appropriate means and methods for Additional Water projects identification, consideration, selection, funding, administration, and validation, with the key considerations being the total quantity of Additional Water that can be created in support of Lake Mead elevations, the cost of such water quantities, and the timing of implementation of any projects for Additional water. This 2021 MOU shall not obligate any Funding Party to any specific contribution of funds or otherwise support any particular Additional Water project.

8.     Adaptation. The Parties agree that conditions in the Colorado River Basin may improve or further deteriorate before the conclusion of 2023. Accordingly, the Parties agree to consult with each other at least semi-annually to evaluate current hydrologic conditions and may make reasonable and prudent adaptations to this 2021 MOU to meet such conditions.

9. Environmental Compliance. The Parties will comply with applicable law regarding implementation of this MOU.

10. Notice. To the extent that written notices and/or requests are undertaken under the terms of this 2021 MOU, the Parties may be contacted at the following addresses:

**Reclamation:**

Bureau of Reclamation  
Attn: Deputy Regional Director  
P.O. Box 61470  
Boulder City, NV 89006-1470  
Email: slwade@usbr.gov

**ADWR:**

Arizona Department of Water Resources  
Attn: Director  
P.O. Box 36020  
Phoenix, AZ 85067  
Email: tbuschatzke@azwater.gov

With copy to:

Nicole Klobas  
Deputy Chief Counsel  
P.O. Box 36020  
Phoenix, AZ 85067  
Email: ndklobas@azwater.gov

**CAWCD:**

Central Arizona Water Conservation District  
Attn: General Manager  
P.O. Box 43020  
Phoenix, AZ 85080-3020  
Email: tcooke@cap-az.com

With copy to:

Jay M. Johnson  
General Counsel  
P.O. Box 43020  
Phoenix, AZ 85080-3020  
jjohnson@cap-az.com

**MWD:**

The Metropolitan Water District of Southern California  
Attn: General Manager

700 North Alameda Street  
Los Angeles, CA 92363-2933  
Email: AdelH@mwdh2o.com

**CRCNV:**

Colorado River Commission of Nevada  
Attn: Executive Director  
555 East Washington Avenue, Suite 3100  
Las Vegas, NV 89101  
Email: ewitkoski@crc.nv.gov

With a copy to:

Sara Price  
Senior Assistant Director  
555 East Washington Avenue, Suite 3100  
Las Vegas, NV 89101  
sprice@crc.nv.gov

**SNWA:**

Southern Nevada Water Authority  
Attn: General Manager  
1001 South Valley View Boulevard  
Las Vegas, NV 89153  
Email: john.entsminger@lvvwd.com

With copy to:

Gregory J. Walch  
General Counsel  
1001 South Valley View Boulevard  
Las Vegas, NV 89153  
greg.walch@lvvwd.com

The Parties agree that for purposes of complying with this section, notice through electronic mail is acceptable. A Party may update its contact information in this section without need to amend this 2021 MOU by providing notice to the Parties consistent with this section.

11. General Provisions.

- a) **Term.** This 2021 MOU shall be effective from the Effective Date until December 31, 2024 ("Term").
- b) **Reservation of Rights.** Nothing in this 2021 MOU shall be construed to

diminish or waive the rights of any Party to this MOU.

c) **Party Authorities.** Nothing in this 2021 MOU is intended to or shall be construed to limit or affect in any way the authority or legal responsibilities of any Party or to require any Party to perform beyond its respective authorities.

d) **Budget Limitations.** Nothing in this 2021 MOU may be construed to obligate any Party to any current or future expenditure of resources in advance of the availability of appropriations. Nor does this 2021 MOU obligate any Party to spend funds on any particular project or purpose, even if funds are available.

e) **Mission Influence.** The mission requirements, funding, personnel, and other priorities of the Parties may affect the Parties' ability to undertake actions to achieve the goals identified in this 2021 MOU.

f) **Separate Agreements Required for Transfer of Consideration.** Specific activities that involve the transfer of money, services, or property between Parties are not included in the scope of this 2021 MOU. To the extent that any such activities are subsequently considered between or among any of the Parties, execution of separate agreements or contracts will be required.

g) **Actions not Exclusive.** Nothing in this 2021 MOU is intended to or shall be construed to restrict the Parties from participating in similar activities or arrangements with other public or private agencies, organizations, or individuals.

h) **No Third Party Beneficiaries.** This 2021 MOU is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any person or entity against any Party, including any Party board member, department, agency, entity, officer, employee, or agent.



i) **Freedom of Information Act and State Open Records.** Any information furnished between the Parties under this 2021 MOU may be subject to the Freedom of Information Act, 5 U.S.C. § 552, et seq. (“FOIA”) and/or respective state authorities. The Parties agree to consult each other regarding any such relevant requests and prior to releasing potentially privileged or exempt documents.

j) **Choice of Law.** This 2021 MOU is subject, as applicable, to the laws of the United States of America.

k) **Anti-Discrimination.** All work under the provisions of this 2021 MOU will be accomplished without discrimination against any employee because of race, sex, creed, color, national origin, or any other legally protected class as identified in Federal or applicable state law.

l) **Renewals.** This 2021 MOU shall remain in effect for the Term as set forth above and may be renewed if the Parties agree.

m) **Media/Notice.** The Parties will consult with each other in a timely manner to ensure coordination prior to release of any statements referring to this 2021 MOU intended for widespread publication.

n) **No Endorsement.** Nothing in this 2021 MOU may be interpreted to imply that a Party endorses any product, service, or policy of the other Parties, except as specifically set forth in this 2021 MOU. No Party will take any action or make any statement that suggests or implies any such type of endorsement.

o) **No Waiver.** No participant in this 2021 MOU will be considered to have waived any policy, administrative or legal right hereunder.

p) **Amendments.** This 2021 MOU may be amended, modified, or

supplemented only by the written, signed agreement of the Parties.

q) **Conflicts of Interest.** No Member of or Delegate to the Congress, or Resident Commissioner, or official of the United States, Reclamation, ADWR, CAWCD, MWD, SNWA, or CRCN or any Elector or Electors may benefit from this 2021 MOU other than as a water user or landowner in the same manner as other water users or landowners. The Parties are hereby notified of A.R.S. section 38-511.

r) **Execution in Counterparts.** This 2021 MOU may be executed in counterparts, each of which will be an original and all of which, together, constitute only one 2021 MOU.

IN WITNESS WHEREOF, the Parties hereto have executed this 2021 MOU on the day and year written above.

**[SIGNATURES ON FOLLOWING PAGES]**

**THE UNITED STATES OF AMERICA**

By: \_\_\_\_\_  
Camille C. Touton  
Commissioner  
Bureau of Reclamation

Date: \_\_\_\_\_

Approved as to form:

**THE STATE OF ARIZONA ACTING  
THROUGH THE DIRECTOR OF THE ARIZONA  
DEPARTMENT OF WATER RESOURCES**

By: \_\_\_\_\_  
Nicole D. Klobas  
Deputy Chief Counsel

By: \_\_\_\_\_  
Thomas Buschatzke  
Director



Approved as to form:

**CENTRAL ARIZONA WATER  
CONSERVATION DISTRICT**

By: \_\_\_\_\_  
Jay M. Johnson  
General Counsel

By: \_\_\_\_\_  
Theodore C. Cooke  
General Manager

Approved as to form:

**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**

By: \_\_\_\_\_  
Marcia L. Scully  
General Counsel

By: \_\_\_\_\_  
Adel Hagekhalil  
General Manager

Approved as to form:

**COLORADO RIVER COMMISSION OF NEVADA**

By: \_\_\_\_\_  
Christine Guerci-Nyhus  
Special Counsel Attorney General

By: \_\_\_\_\_  
Eric Witkoski  
Executive Director

Approved as to form:

**SOUTHERN NEVADA WATER AUTHORITY**

By: \_\_\_\_\_  
Gregory J. Walch  
General Counsel

By: \_\_\_\_\_  
John J. Entsminger  
General Manager





Seek authorization to enter into Memorandum of Understanding and agreements to facilitate near-term actions to maintain the elevation of water in Lake Mead above elevation 1,020 feet

Water Planning and Stewardship Committee

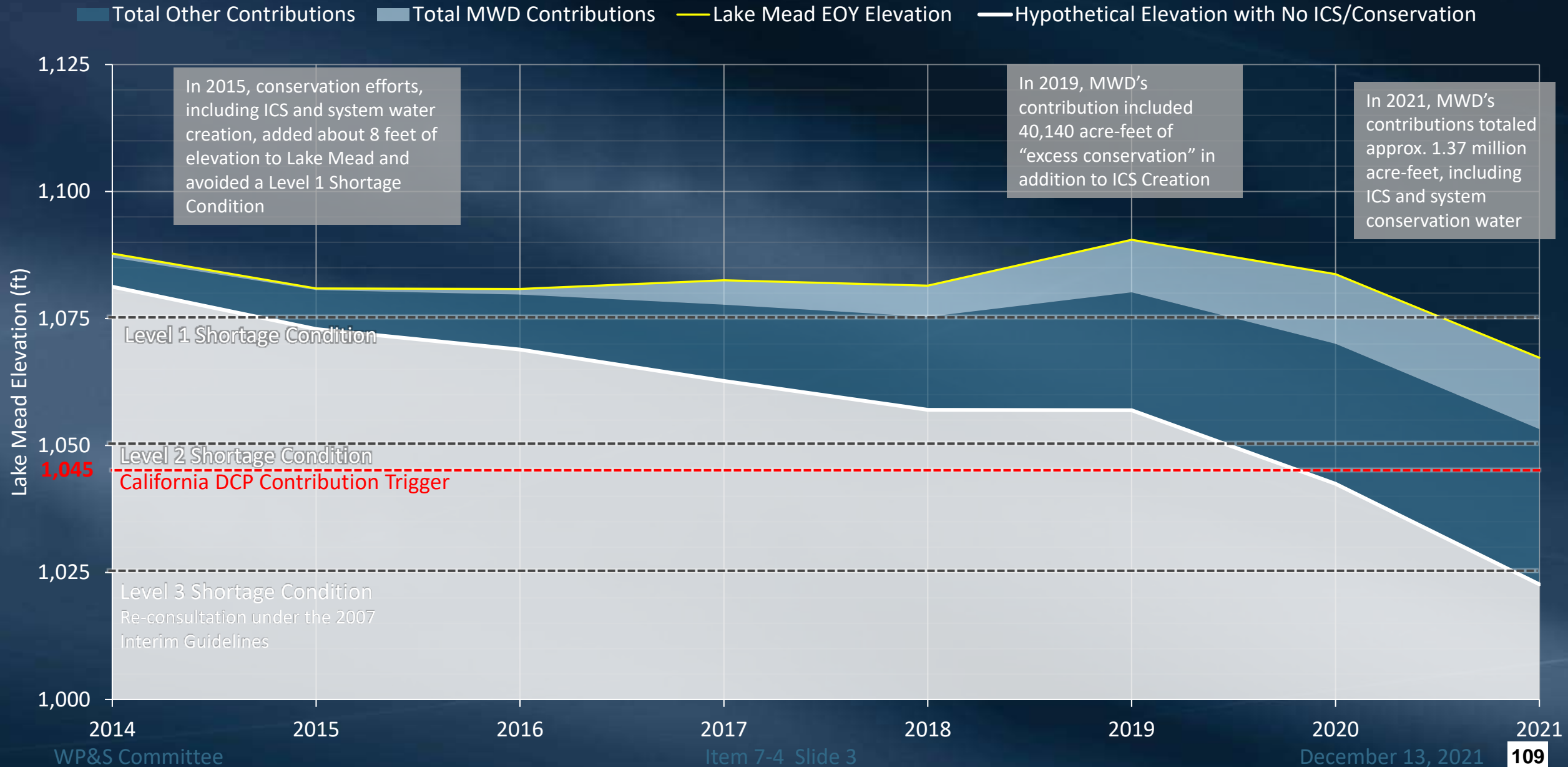
Item 7-4

December 13, 2021

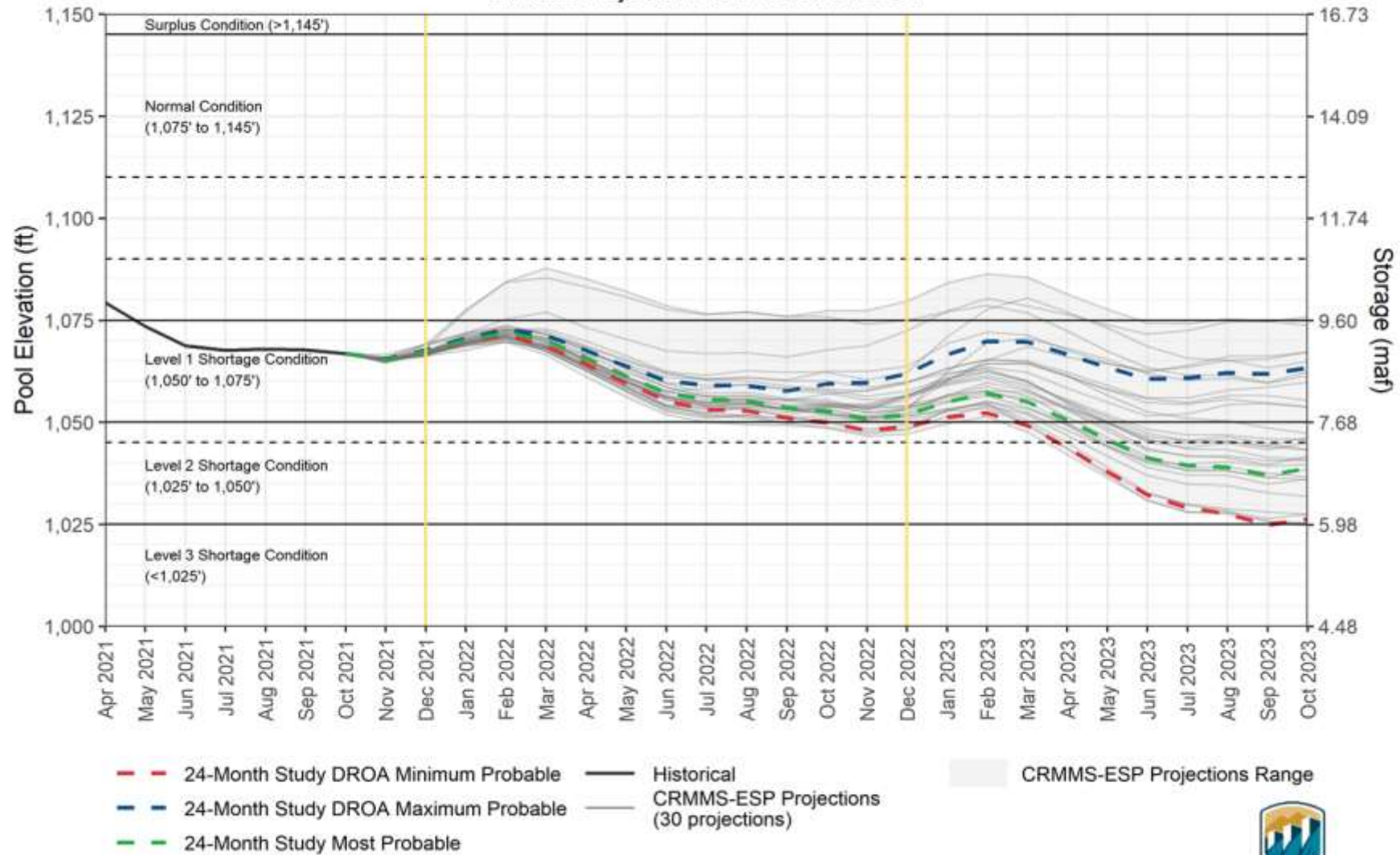
# 500+ Plan

- Interstate and federal effort to keep Lake Mead above the critical elevation of 1,020 feet
  - Target 500,000 AF to add to Lake Mead in 2022 and 2023
  - Contribute to funding additional water
- Actions in response to Lower Basin Drought Contingency Plan requirement to consult when the 24-Month Study shows that Lake Mead would fall to elevation 1,030 feet in the minimum probable scenario any time in the next two years

# Metropolitan's Contribution Lake Mead Elevation



# **Lake Mead End-of-Month Elevations** CRMMS Projections from November 2021



# End of Year 2022 - Lake Mead Elevation Projection

Elevation (ft)

Not to Scale

Lake Mead

1,219.6

Maximum Storage

1,075

Level 1 Shortage Condition

1,058 ft

1,052 ft

Proposed 500 TAF Plan Contribution

1,050

Level 2 Shortage Condition

1,045

California DCP Contribution Trigger

1,025

Level 3 Shortage Condition

Re-consultation under the 2007  
Interim Guidelines

895

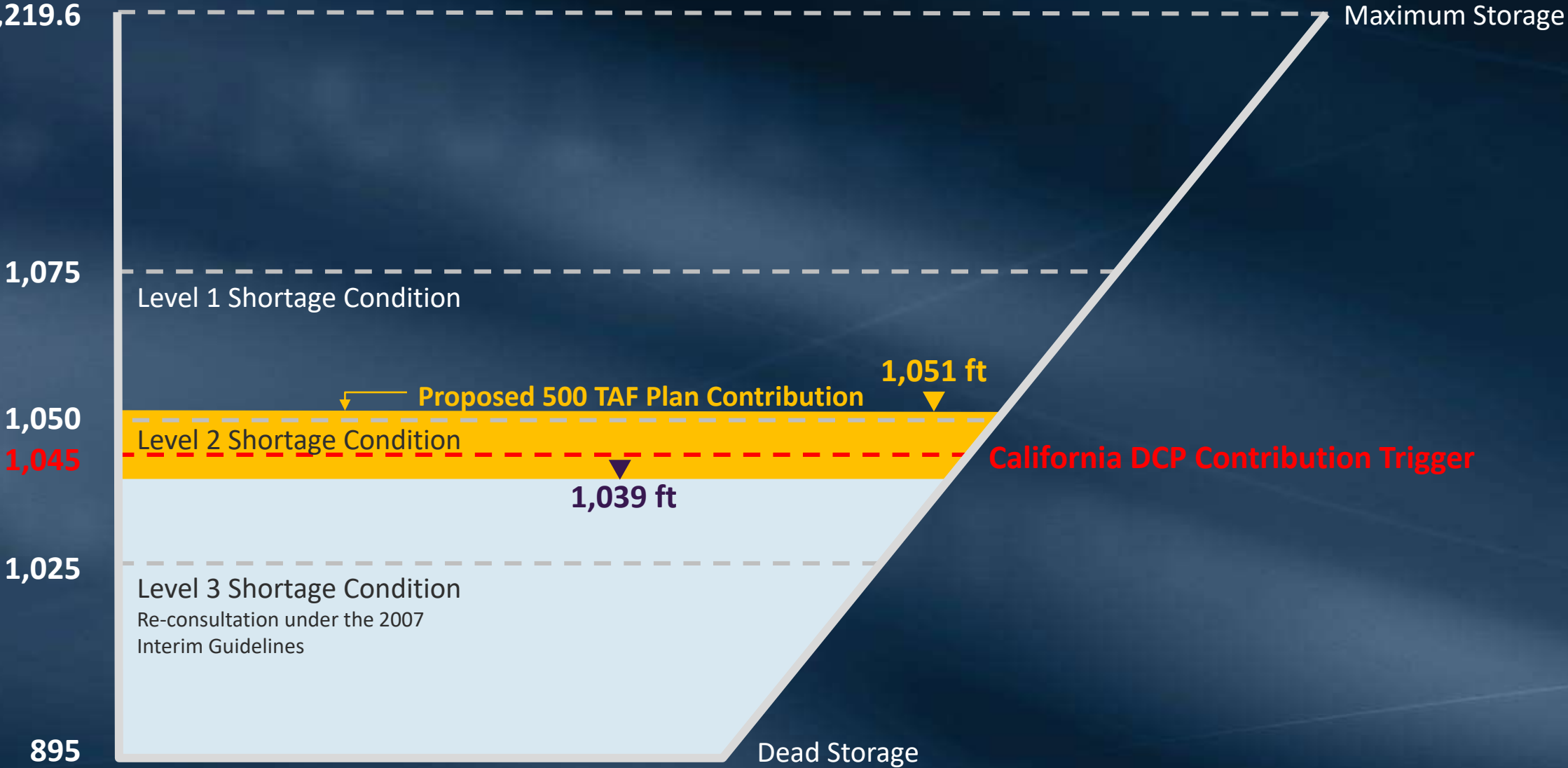
Dead Storage



# End of Year 2023 - Lake Mead Elevation Projection

Elevation (ft)  
*Not to Scale*

Lake Mead



# 500+ Plan Partners

- Parties to 500+ Plan MOU
  - US – Secretary of Dept of Interior and Bureau of Reclamation
  - AZ – Arizona Department of Water Resources and Central Arizona Project
  - NV – Southern Nevada Water Authority and Colorado River Commission of Nevada
  - CA - Metropolitan
- Other parties/partners may join later

# Potential for Partnership with Mexico

- The Commissioners for the US and Mexico sections of the International Boundary and Water Commission (IBWC) exchanged letters in November 2021 affirming the agreement to establish a small work group to address unprecedented reservoir conditions
- On December 2, 2021, the Minute 323 Binational Work Group on Proactive Measures held its first meeting at the U.S. Section San Diego Field Office. The IBWC Commissioners will provide a report on this group's activities at the Colorado River Water Users Association.

# Water To Be Added To Lake Mead

- Additional Water means water remaining in Lake Mead
  - Not due to shortage volumes under the 2007 Guidelines or any DCP Contributions; or
  - A net positive change in Intentionally Created Surplus (ICS) behavior assumed in Reclamation's June 2021, 24-month study Most Probable projection.
- Sources of Additional Water include
  - Additional ICS
  - System conservation
  - System efficiency

# Funding Commitments

Subject to availability of funds and board approvals:

- Non-federal Funding Parties agree to fund participation in Additional Water projects up to:
  - ADWR: \$40,000,000
  - CAWCD: \$20,000,000
  - MWD: \$20,000,000
  - SNWA: \$20,000,000
- Total: \$100,000,000
- The United States will work to match the non-federal funding commitment, with a goal of a total federal funding commitment of up to \$100,000,000, such that the total commitment by the Funding Parties, is an aggregate of \$200,000,000 for 2022-2023



# 2014 System Conservation Agreement

- The Parties to the 500+ Plan MOU partnered together to add system water to Lake Mead in the 2014 System Conservation Agreement
- In the System Conservation Agreement, water users could apply to the program and if selected would be compensated to conserve specific amounts of water
- Each Party to the System Conservation Agreement could decide whether to fund any specific conservation project

# Board Approvals & Next Steps

- If the Metropolitan Board approves this proposed action, Parties will develop implementation agreements regarding funding of system conservation projects
- The Southern Nevada Water Authority and Central Arizona Water Conservation District boards approved participation in the 500+Plan MOU
- Additional parties may join this effort including Mexico, Tribes and NGOs

# Board Options

## Option #1

- Authorize the General Manager to enter into the 500+ Plan MOU to facilitate near-term actions necessary to maintain the elevation of water in Lake Mead above elevation 1,020 feet and to provide up to 20 percent of the non-federal cost share of any such actions, not to exceed \$10 million per year in 2022 and 2023, and delegate authority to the General Manager to enter into additional agreements as needed to implement the MOU.

# Board Options

## Option #2

- Do not authorize the General Manager to enter into the 500+ Plan MOU.

# Staff Recommendations

- Option #1







- **Board of Directors**  
***Water Planning and Stewardship Committee***

12/14/2021 Board Meeting

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7-5

## **Subject**

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Authorize the General Manager to enter into agreements with San Bernardino Valley Municipal Water District and the California Department of Water Resources to improve the management of State Water Project supplies, including the exchange of water; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

## **Executive Summary**

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Staff requests authorization for the General Manager to enter into agreements with San Bernardino Valley Municipal Water District (Valley District) and the California Department of Water Resources (DWR) to enhance Metropolitan's capability of delivering supplies to areas dependent on State Water Project (SWP) supplies. The agreements include exchanging supplies, delivering Valley District's local supplies to the Rialto Pipeline, shifting from Valley District's SWP supplies to its local supplies, and delivering Diamond Valley Lake supplies to the Rialto Pipeline and to Valley District. The proposed agreements provide for reimbursement of operating costs and provide a payment to encourage Valley District's member agencies to shift to local supplies to make additional Valley District SWP supplies available to Metropolitan.

## **Details**

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### **Background**

On March 9, 2021, Metropolitan's Board authorized the General Manager to enter into a Coordinated Operating Agreement (COA) with Valley District to allow Metropolitan to purchase surplus SWP supplies from Valley District and to provide for mutual aid in emergencies. However, the COA does not provide for exchanges of supplies or for the payment of costs. The new agreements will provide Metropolitan additional flexibility in managing supplies for the SWP reliant areas of the service area.

On November 9, 2021, Metropolitan's Board adopted a resolution declaring a drought emergency. The resolution provided the General Manager with additional authorities and directed him to identify and implement measures to improve reliability against multi-year, severe droughts. While the proposed agreements with Valley District would advance this goal, staff is seeking Board authorization in this case because the proposed agreements would provide benefits for a period that would extend beyond the current emergency and the agreements could also be used to provide benefits to Valley District.

### **Agreement to Exchange Supplies between Metropolitan and Valley District**

Exchanging supplies between Metropolitan and Valley District provides both districts an additional tool to manage their supplies. In 2022, staff estimates up to 8,000 acre-feet of Valley District's SWP carryover would be available. The actual amount available will be determined by Valley District based on its water supply and demand needs. Metropolitan can use Valley District's water earlier in the year when staff expects the SWP allocation to be low and can return water later in the year, or future in a year, to meet Valley District's surface water needs. Metropolitan and Valley District would exchange water equally within a calendar year. However, the districts would retain discretion to negotiate exchange terms up to a ratio of two-to-one for the return of water beyond a calendar year. In other words, for every acre-foot Metropolitan receives, Metropolitan would return up to two acre-feet in a future year when SWP supplies improve. Under alternate conditions where Metropolitan's supply conditions are good, Valley District could request an exchange of supplies from Metropolitan under the

same terms. Valley District and Metropolitan will retain discretion on whether to participate in an exchange based on each district's water supply and demand conditions.

#### **Agreement to Reimburse Valley District to shift from SWP Supplies and provide Local Supplies**

Metropolitan would reimburse Valley District for direct costs associated to produce local water for either delivery to Metropolitan or for usage in Valley District's service area as a shift from Valley District's SWP supplies. Staff estimates the amount of local supply available to be around 1,000 acre-feet per month. The shift enhances Metropolitan's exchange capability of SWP supplies. The current COA does not allow Metropolitan to reimburse Valley District for its costs to deliver additional local water for Metropolitan's benefit, or the production costs of local water and associated operation, maintenance, and repair costs. Metropolitan would pay Valley District up to \$300/AF, for its retail agencies to shift from SWP water to local groundwater. The payment will be based on an estimate of the actual costs incurred by retail agencies to reduce direct deliveries of SWP water or, upon agreement, for the cost of any new facilities that may be required.

#### **Agreement to Reimburse Valley District for Conveying Metropolitan's Diamond Valley Lake Supplies**

Metropolitan would reimburse Valley District for costs to convey Metropolitan's Diamond Valley Lake supplies for delivery to Metropolitan or for usage in Valley District's service area as a shift from Valley District's SWP supplies. The program could provide around 100,000 acre-feet of additional supply when fully developed. The shift enhances Metropolitan's exchange capability of SWP supplies. The current COA does not allow Metropolitan to reimburse Valley District for the conveyance costs for moving Diamond Valley Lake supplies to Metropolitan or to Valley District for Metropolitan's benefit. The agreement would allow for reimbursement to Metropolitan should reversed conditions prevail, and Valley District needs Diamond Valley Lake supplies during an emergency or outage.

#### **Summary**

Metropolitan's capability of delivering supplies to areas that are reliant on SWP supplies improves with entering into a series of agreements with Valley District, and any necessary related agreements with DWR, consistent with the terms outlined in **Attachment 1**. Agreements with DWR are needed to exchange and deliver supplies using SWP facilities under Metropolitan's existing State Water Contract. The agreements allow for the production and delivery of water based on actual costs. Staff estimates that the cost for Valley District to shift from SWP supplies to local supplies is up to \$300/AF. Valley District and Metropolitan will each retain discretion on the level of participation in the exchange and operation of their distribution systems based on each district's water supply, water demand, and distribution system needs. The agreements will be limited to ten years, through December 31, 2031, to provide additional flexibility during future emergencies and outages.

#### **Policy**

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Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 44357, February 13, 2001, the Board approved a water quality policy governing the introduction of new water sources into conveyance facilities.

By Minute Item 52304, March 9, 2021, the Board approved a Coordinated Operating Agreement with Valley District that provided for mutual aid.

By Minute Item 52581, November 9, 2021, the Board recognized a statewide drought emergency, declared specified emergency conditions within the Metropolitan service area, and directed specified actions.

#### **California Environmental Quality Act (CEQA)**

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##### **CEQA determination for Option #1:**

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378(b)(4)) because it involves organizational or administrative activities such as the creation of government funding mechanisms or other governmental fiscal activities which do not involve any commitment to any specific project which may result in a direct or indirect physical impact on the environment. Additionally, where it can be seen with certainty that there is no possibility that the proposed action in question may have a significant effect on the environment, the proposed action is not subject to CEQA (Section

15061(b)(3) of the State CEQA Guidelines). Finally, the proposed project involves minor alterations to the operation of existing facilities with negligible or no expansion of use and with no possibility of significantly impacting the physical environment. Accordingly, the proposed action qualifies under a Class 1 Categorical Exemption (Section 15301) of the State CEQA Guidelines.

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Authorize the General Manager to execute agreements with San Bernardino Valley Municipal Water District and the Department of Water Resources consistent with the key terms outlined herein and in **Attachment 1**, and in a form approved by the General Counsel.

**Fiscal Impact:** Should Metropolitan incur costs in a given year, the cost will be managed first using board-approved funds allocated to the Water Supply Program and then the State Water Project Program if needed. Metropolitan will cover actual costs to move local or Diamond Valley Lake water that would benefit the region's reliability. Metropolitan will also reimburse San Bernardino Valley Municipal Water District up to \$300 per acre-foot towards actual costs to increase the shift to local groundwater supplies instead of State Water Project supplies. The amount of shift available will be dependent upon Valley District's State Water Project supplies. With a zero percent State Water Project Allocation, the upper limit will be the amount in carryover estimated at 8,000 AF.

**Business Analysis:** Increases the water supply reliability to areas served by State Water Project supplies.

**Option #2**

Do not enter into agreements with San Bernardino Valley Municipal Water District and the California Department of Water Resources.

**Fiscal Impact:** May increase costs by requiring Metropolitan to purchase higher-cost transfers and further reduce water supply reliability in areas served by State Water Project supplies.

**Business Analysis:** Does not improve Metropolitan's water supply reliability in Metropolitan's State Water Project areas and reduces the ability to respond to the current drought conditions.

**Staff Recommendation**

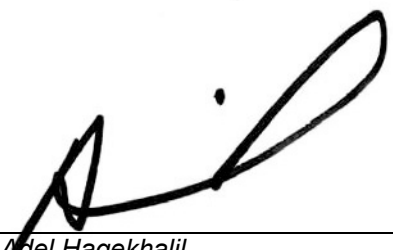
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**Option #1**

  
\_\_\_\_\_  
Brad Coffey  
Manager, Water Resource Management

11/29/2021

Date

  
\_\_\_\_\_  
Adel Hagekhalil  
General Manager

12/2/2021

Date

**Attachment 1 – Metropolitan and San Bernardino Valley Municipal Water District Terms – Agreement to Improve Management of State Water Project Supplies**

**Metropolitan and  
San Bernardino Valley Municipal Water District  
Terms  
Agreements to Improve Management of State Water Project Supplies**

## **Exchange**

### ***Metropolitan Initiated Exchange***

- Ratio 1:1: For every acre-foot Metropolitan receives, Metropolitan will return one acre-foot in the calendar year.
- Exchange schedule by mutual agreement. Metropolitan anticipates needing the supply early in calendar year and will return the water to meet Valley District's State Water Project (SWP) supply needs later in the calendar year.
- Metropolitan will backstop the exchange, should its SWP supplies be insufficient, with a combination of its supplies stored in Diamond Valley Reservoir or its other various SWP Storage Programs at Metropolitan's cost.
- Valley District, at its sole discretion may agree to an unbalanced exchange ratio should Metropolitan want to return water in a subsequent calendar year. The parties may negotiate a ratio, up to 2:1, for any exchange beyond the same calendar year.

### ***Valley District Initiated Exchange***

- Ratio 1:1: For every acre-foot Valley District receives, Valley District will return one acre-foot.
- Exchange schedule by mutual agreement.
- Metropolitan, at its sole discretion may agree to an unbalanced exchange ratio should Valley District want to return water in a subsequent calendar year. The parties may negotiate a ratio, up to 2:1, for any exchange beyond the same calendar year.

## **Enhanced Valley District Local Production Capability for Metropolitan**

### ***Valley District pumps groundwater into the Inland Feeder or Valley District's Distribution System***

- Metropolitan will pay Valley District the energy, operations and maintenance costs, to pump groundwater into the Inland Feeder or Valley District's distribution system for Metropolitan. The parties will meet and confer on these costs prior to any delivery.
- For every one acre-foot provided to Metropolitan, Metropolitan will return one acre-foot to Valley District in the same calendar year.
- Valley District, at its sole discretion may agree to an unbalanced exchange ratio should Metropolitan want to return water in a subsequent calendar year. The parties may negotiate a ratio, up to 2:1, for any exchange beyond the same calendar year.



***Valley District retail agencies shift from SWP water to stored groundwater***

- Metropolitan will pay Valley District a mutually agreed upon sum, up to \$300/AF, for its retail agencies to shift off of SWP water and onto groundwater. The payment will reflect an estimate of the actual cost incurred by retail agencies to reduce direct deliveries of SWP water or a portion of the cost of any new facilities that may be required.
- The amount of production shifted off of SWP water and onto groundwater will be quantified using the actual meter data for the well(s) pumped in lieu of SWP water direct deliveries.
- The SWP water preserved by shifting to stored groundwater would be provided for exchange with Metropolitan.

**Diamond Valley Lake Operation****Metropolitan provides Valley District water from Diamond Valley Lake in exchange for Valley District's SWP supplies**

- Metropolitan will pay the energy, operations, and maintenance costs to deliver water from Diamond Valley Lake to Valley District in-lieu of Valley District using SWP water when initiated by Metropolitan. For every acre-foot provided to Valley District, Metropolitan will receive an acre-foot in return during the same calendar year. Metropolitan, at its sole discretion may agree to an unbalanced exchange ratio should Valley District want to return water in a subsequent calendar year. The parties may negotiate a different ratio, up to 2:1, for any exchange beyond the same calendar year.
- Valley District will pay the energy, operations, and maintenance costs to deliver water from Diamond Valley Lake to Valley District when initiated by Valley District. For every acre-foot provided to Valley District, Metropolitan will receive an acre-foot in return during the same calendar year. Valley District, at its sole discretion may agree to an unbalanced exchange ratio should Metropolitan want to return water in a subsequent calendar year. The parties may negotiate a ratio, up to 2:1, for any exchange beyond the same calendar year.

***Metropolitan moves Diamond Valley Lake supplies to Devil Canyon Afterbay/Rialto Pipeline***

- Metropolitan will pay the energy, operations, and maintenance costs to deliver water from Diamond Valley Lake to Devil Canyon Afterbay/Rialto Pipeline.

**Term**

- Through December 31, 2031.



# Partnership with San Bernardino Valley MWD to Improve Reliability

Water Planning and Stewardship Committee

Item 7-5

December 13, 2021

# San Bernardino Valley MWD (Valley District)

- Valley District
  - State Water Contractor – 102,600 AF Table A
  - San Bernardino Basin Area
  - Santa Ana River Watershed
- Past Litigation
- 2000 Coordinated Operating Agreement
  - Mutual Aid – Helped fill DVL with 600,000 AF
  - Water Transfer - 200,000 AF
  - Expired 2016, but new agreement in 2021



# Current & Proposed

## ● Current Agreement

- Allows the transfer of surplus supplies to Metropolitan
- Coordinate use of facilities during emergencies and outages
- Capable of moving Metropolitan supplies using their Foothill Pipeline
- Capable of moving Valley District's supplies using Metropolitan's Inland Feeder

## ● Proposed New Agreements

- Authorize an exchange of supplies
- Authorize reimbursement of actual costs for shifting supplies and conveying local or Diamond Valley Lake supplies

# Exchange Terms

- Exchange
  - One-to-One Exchange – water within a calendar year
  - Up to Two-to-One Exchange – water returned after the calendar year
- Exchange Examples
  - Metropolitan receives 5,000 AF in January 2022 and returns 5,000 AF during the summer of 2022 to meet Valley District demands
  - Metropolitan receives 5,000 AF in January 2022 and returns 10,000 AF in 2023
- Exchange amounts and timing based on each district's supply and demand situation
- Term: 10 years



# Valley District Shift Terms

- Direct correlation between local production and demand on Valley District SWP supplies
- Increasing local production will reduce demand on Valley District SWP supplies
- Reimburse of costs up to \$300/AF to shift from Valley District SWP supplies
- All preserved SWP supplies from the shift would be available to Metropolitan for an exchange
  - Shift supports the exchange but is not additive
  - Shift limited by available SWP supplies

# Groundwater to Devil Canyon

- Deliver local groundwater to Devil Canyon Second Afterbay
- Redlands pumps water through Valley District Central Feeder and Inland Feeder
- Maximum: 16 cfs or 1,000 AF/month
- Start: March 2022
- Groundwater that is pumped meets drinking water standards
- Pump-in plan and regular testing
- Metropolitan reimburses for costs



# Metropolitan DVL water to Devil Canyon

- Deliver Diamond Valley Lake water to Devil Canyon Afterbay
- Alternatives
  - Valley District Foothill Pump Station
  - DWR Citrus Reservoir Pump Station
- Flow: 60 cfs to 160 cfs
- Start: ~2025
- Metropolitan reimburses for actual costs



# Summary

Program Element	2022	2025
SWP Exchange / Shift	up to 7,000 AF	Depends on Valley District's SWP Supplies
Local Groundwater	up to 10,000 AF	up to 12,000 AF
DVL to Devil Canyon or Rialto Pipeline	Not Applicable	up to 43,000 AF to 116,000 AF



# Board Options

- Option #1
  - Authorize the General Manager to execute an agreement with San Bernardino Valley Municipal Water District and the California Department of Water Resources consistent with the terms outlined in the Board letter and in a form approved by the General Counsel.



# Board Options

- Option #2
  - Do not enter into agreements with San Bernardino Valley Municipal Water District.

# Staff Recommendation

- Option #1





● **Board of Directors**  
***Water Planning and Stewardship Committee***

12/14/2021 Board Meeting

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**7-6**

**Subject**

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Authorize General Manager to enter into agreements with San Diego County Water Authority, Semitropic Water Storage District, and the California Department of Water Resources to purchase water, lease groundwater return capacity, exchange water, and to convey water in the State Water Project facilities; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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In November 2021, Metropolitan's Board declared a regional drought emergency and directed staff to identify and implement measures to ensure all portions of the service area attain a high level of reliability against multi-year, severe droughts. Staff seeks authorization to enter into an agreement with San Diego County Water Authority (SDCWA) to access 4,200 acre-feet (AF) of water supply and 5,000 AF per year (AFY) of contractual return capacity to the California Aqueduct from SDCWA's groundwater storage program with Semitropic Water Storage District (Semitropic). Metropolitan and SDCWA negotiated a purchase price for water delivered under this agreement at \$893 per AF. This price is consistent with the price for north-of-Delta transfers authorized by the Board in April 2021. For the use of SDCWA's contractual return capacity, Metropolitan and SDCWA negotiated a price of \$100 per AFY. By partnering with SDCWA in this agreement, Metropolitan's water supply reliability for deliveries to the East and West branches of the California Aqueduct will be increased by 9,200 AF in 2022.

**Details**

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**Background**

Metropolitan is encountering a significant reduction of supply from the State Water Project (SWP) given the current five percent SWP Allocation and the expected zero percent allocation to begin in 2022. Staff is seeking additional supplies to improve SWP system reliability.

SDCWA developed a groundwater storage program in partnership with Semitropic in Kern County. Staff seeks authorization to enter into an agreement with SDCWA to access its water supply and contractual return capacity to the California Aqueduct from the Semitropic program. Staff also seeks authorization to enter into any additional agreements with Semitropic and the California Department of Water Resources (DWR) necessary to convey the water to the East and West branches of the California Aqueduct. Metropolitan has partnered with SDCWA in the past related to the Semitropic storage program. In 2008, SDCWA acquired transfer supplies when Metropolitan was recovering water from Metropolitan's Semitropic Storage Program. Metropolitan and SDCWA implemented an exchange of 16,117 AF to enhance water available to Metropolitan's service area. SDCWA provided Metropolitan the transfer supplies in the California Aqueduct, and Metropolitan provided to SDCWA supplies previously stored with Semitropic. SDCWA has since maintained this same supply for its reliability but now offers up to 4,200 AF of the reserve to Metropolitan given the drought emergency. In addition, SDCWA has also offered contractual return capability of 5,000 AF that Metropolitan would use to return its own water stored with Semitropic and deliver the water to the California Aqueduct. The combined total benefit to Metropolitan's service area could be 9,200 AF in 2022.

The purchase price for the 4,200 AF of water stored in SDCWA's Semitropic program and delivered to the California Aqueduct would be \$893 per AF. The price is consistent with the board-authorized price for north-of-Delta transfers when factoring in conveyance losses of 30 percent. The water sale would reduce SDCWA's account balance from 16,117 AF to 11,917 AF.

SDCWA has also offered to provide 5,000 AF of contractual return capacity from the Semitropic Stored Recovery Unit (above and beyond the return capacity needed for the 4,200 AF supply purchase). Metropolitan would use the freed-up return capacity to recover Metropolitan's own stored water and deliver the water to the California Aqueduct. Metropolitan would pay SDCWA \$100 per AF of return capacity. Metropolitan would also be responsible for all the costs to Semitropic related to returning Metropolitan's stored water, including regulation fees, energy, and treatment costs. Metropolitan would also receive any unused capacity of other banking partners that would otherwise be allocated to SDCWA at no additional charge. Metropolitan's payment to SDCWA will help offset actual costs SDCWA has incurred in managing its Semitropic Program.

As part of the purchase, Metropolitan would exchange the balance of the water SDCWA has in storage (after purchasing up to 4,200 AF) on an equal basis (one AF to one AF) to help SDCWA manage its remaining stored supply. Because the SDCWA supplies were held prior to February 2021, the current stored water can only be delivered to Metropolitan's service area under the recent Water Management Amendment to the State Water Contract. Exchanging the remaining supplies with Metropolitan for newly received SWP water would provide SDCWA additional flexibility in managing and marketing its stored water outside of Metropolitan's service area. The exchange would only occur when Metropolitan is in surplus conditions and delivering water into the Semitropic Program, so there will be no impact on Metropolitan's regional reliability due to the exchange. Any new exchanged water would take the place of the assigned water in the 2008 exchange and conveyance agreement with SDCWA. The 2008 agreement refers explicitly to the pre-set wheeling rate in Metropolitan's Administrative Code, which has subsequently been repealed by the Metropolitan Board. Therefore, it will be necessary to separately amend that term of the agreement in a future Board action to implement future SDCWA deliveries from its storage.

The Metropolitan water purchase and use of SDCWA's contractual return capacity enhances the region's water supply reliability for areas that are heavily dependent on Metropolitan's SWP supplies. These additional supplies will be used to meet demands in calendar year 2022 and, should water supply conditions improve later in the year; the extra water would enhance Metropolitan's SWP carryover supplies for 2023.

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## **Policy**

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute item 47640, dated September 9, 2008, the Board authorized a wheeling and exchange agreement with San Diego County Water Authority.

By Minute item 52273, dated February 9, 2021, the Board approved the State Water Project Contract Amendment for Water Management.

By Minute item 52329, dated April 13, 2021 to secure one-year water transfers with various water districts north of the Sacramento-San Joaquin River Delta.

By Minute Item 52581, November 9, 2021, the Board recognized a statewide drought emergency, declared specified emergency conditions within the Metropolitan service area, and directed specified actions.

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## **California Environmental Quality Act (CEQA)**

### **CEQA determination for Option #1:**

The proposed action of entering into agreements is not defined as a project under CEQA because it involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines) and because it involves other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines). The exchange and conveyance of water is exempt from CEQA as it consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor



alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use (Section 15301 of the State CEQA Guidelines).

**CEQA determination for Option #2:**

None required

**Board Options**

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**Option #1**

Authorize the General Manager to enter into agreements with San Diego County Water Authority, Semitropic Water Storage District, and the California Department of Water Resources to purchase water, lease groundwater return capacity, exchange water, and to convey water in the State Water Project facilities consistent with the terms outlined herein and in **Attachment 1**, and in a form approved by the General Counsel.

**Fiscal Impact:** Metropolitan will pay the costs first using funds allocated to the Water Supply Program and then any unused funds from the State Water Project, if needed. Metropolitan will pay \$893/AF for 4,200 AF amounting to \$3,750,600 and lease return capacity at \$100/AFY for 5,000 AFY of return capability amounting to \$500,000. The combined cost is projected to be \$4,250,600 and improve supplies to the SWP dependent areas by 9,200 AF.

**Business Analysis:** Increases the water supply reliability to areas served by State Water Project supplies. The cost is expected to be at or below water transfers supplies.

**Option #2**

Do not enter into the described agreements with San Diego County Water Authority, Semitropic Water Storage District, and the California Department of Water Resources.

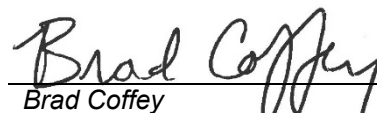
**Fiscal Impact:** May increase costs by requiring Metropolitan to purchase higher-cost transfers and further reduce water supply reliability in areas served by State Water Project supplies.

**Business Analysis:** Does not improve Metropolitan's water supply reliability in State Water Project dependent areas and reduces the ability to respond to the current drought conditions.

**Staff Recommendation**


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Option #1



Brad Coffey  
Manager, Water Resource Management

12/6/2021  
Date



Adel Hagekhalil  
General Manager

12/7/2021  
Date

**Attachment 1 – Metropolitan and SDCWA Water Purchase and Return Capacity Terms**

Ref# wrm12684431

**Metropolitan and  
San Diego County Water Authority  
Water Purchase and Semitropic Program Return Capacity Lease Terms**

**Water Purchase (2022)**

- The San Diego County Water Authority (SDCWA) will make available to Metropolitan 4,200 acre-feet of stored water in the Semitropic Original Water Bank during 2022.
- SDCWA shall be responsible for all the costs to Semitropic Water Storage District (Semitropic) related to providing the water to Metropolitan.
- Metropolitan shall pay SDCWA \$893 for each acre-foot of water provided to Metropolitan.
- Delivery Point: Semitropic turnout location before the California Aqueduct.
- Metropolitan shall be responsible for the State Water Project conveyance costs to deliver the water purchased from the location of the Semitropic turnout location to Metropolitan's service area.
- Purchase, and below Lease and Exchange, all subject to approval by Semitropic.

**Return Capacity Lease (2022)**

- SDCWA will make available to Metropolitan 5,000 acre-feet of return capacity from the Semitropic Stored Water Recovery Unit in 2022.
- Metropolitan shall use the additional return capacity to recover Metropolitan's stored water.
- Metropolitan shall pay the SDCWA \$100 for each acre-foot of return capacity provided by SDCWA up to 5,000 acre-feet in 2022.
- Metropolitan shall be allocated any unused capacity of other banking partners that would otherwise be allocated to SDCWA at no additional cost.
- Metropolitan shall be responsible for all the costs to Semitropic related to returning to Metropolitan's stored water, including regulation fees, energy, and treatment costs.
- Metropolitan shall be responsible for the State Water Project conveyance costs to deliver Metropolitan's stored water using the SDCWA's Semitropic return capacity.

**Exchange of SDCWA Stored Supplies**

- Metropolitan shall exchange supplies with the SDCWA when Metropolitan is storing water in Metropolitan's Semitropic Storage Program, so that SDCWA's remaining 11,917 acre-feet of Semitropic stored water is replaced by newly stored water from Metropolitan. Metropolitan shall prioritize storage in its Semitropic bank over its other storage programs in the Central Valley until the remaining SDCWA stored water is fully exchanged. For every acre-foot SDCWA provides Metropolitan of its previously stored water, Metropolitan will provide one acre-foot of Metropolitan's newly stored water. This will allow all of SDCWA's remaining 11,917 acre-feet of stored water to be 2022 (or later) water. Metropolitan and SDCWA shall work together to effectuate the above Exchange.



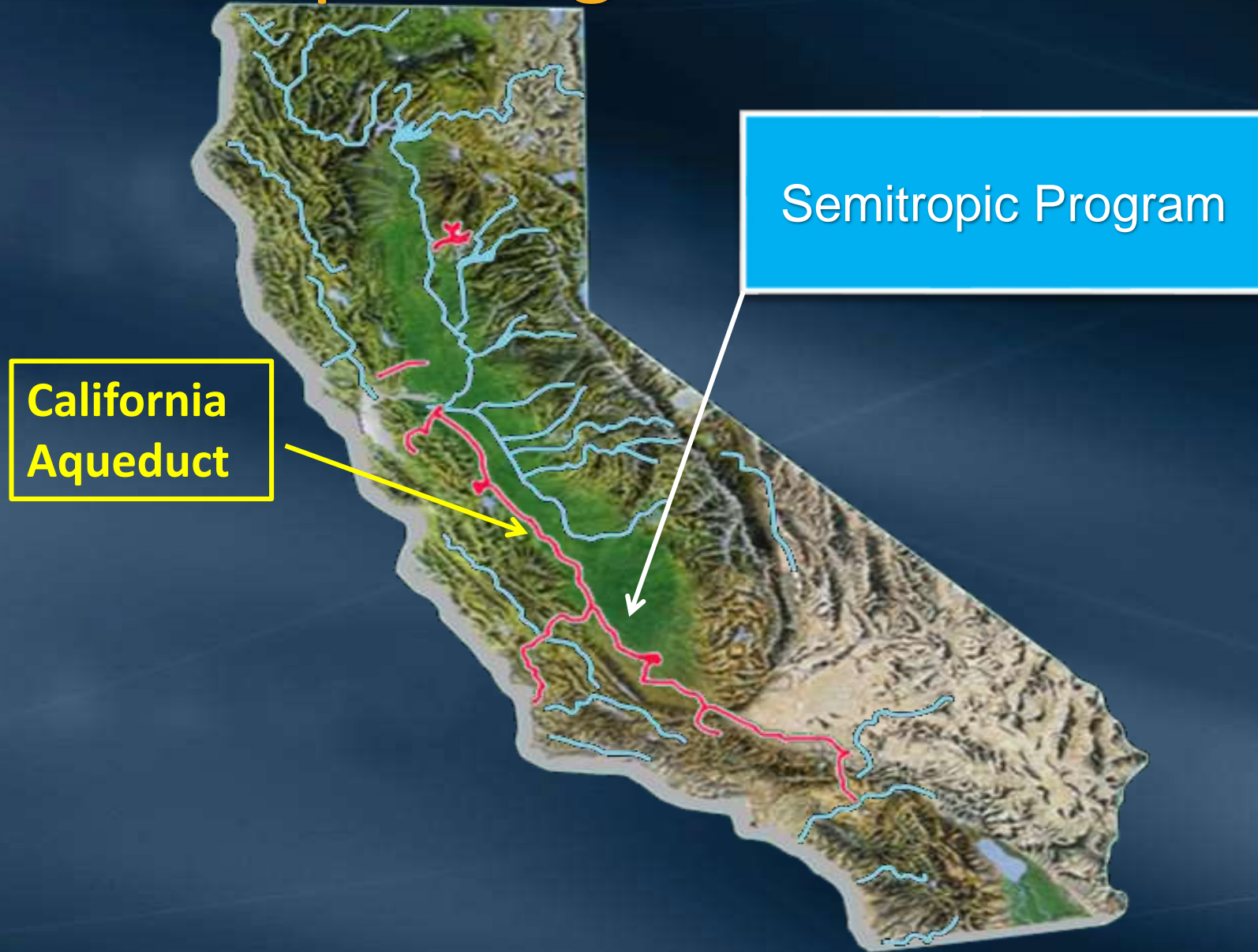
# SDCWA Water Purchase, Use of Capacity, and Exchange Water

Water Planning and Stewardship Committee

Item 7-6

December 13, 2021

# Semitropic Program Location



# SDCWA Semitropic Program Background

- SDCWA invested in Semitropic Program to improve their reliability
  - 70,000 AF storage capacity acquired in 2008
  - Storage program expires in 2035 unless renewed
- Current amount in storage: 16,117 AF
- 9,200 AFY Direct Return Capacity under low SWP Allocations
  - 4,200 AFY of direct return capacity in the Semitropic Water Bank
  - 5,000 AFY of direct return capacity in the Stored Water Recovery Unit



# SDCWA Semitropic Program Background

- SDCWA acquired north of Delta water transfers in 2008
- Metropolitan and SDCWA entered into an exchange and conveyance agreement in 2008
  - Metropolitan was recovering water from storage at the same time SDCWA was planning on storing water
  - Metropolitan exchanged its previously stored water with SDCWA water transfer to enhance the recovery of water
- Partnership benefited both SDCWA and Metropolitan
  - SDCWA saved put costs
  - Metropolitan saved take costs
  - Region improved water supply reliability

# Proposed SDCWA Water Purchase and Lease

- Water Purchase

- Purchase 4,200 AF south of Delta at \$893/AF at Semitropic turnout
- Price consistent with \$625/AF SWC Dry Year Transfers and estimated 30% conveyance loss

- Capacity

- Use 5,000 AFY of return capacity from SDCWA's Semitropic Program
- Pay \$100/AFY for return capacity

- Exchange

- Under surplus conditions Metropolitan will exchange future stored water with SDCWA stored water to provide additional flexibility for SDCWA to manage and market their stored water

# Board Options

- Option #1
  - Authorize the General Manager to execute agreements with San Diego County Water Authority, Semitropic Water Storage District, and the California Department of Water Resources consistent with the terms outlined in the Board letter and in a form approved by the General Counsel.

# Board Options

- Option #2
  - Do not enter into agreement with San Diego County Water Authority

# Staff Recommendation

- Option #1







• **Board of Directors**  
***Water Planning and Stewardship Committee***

12/14/2021 Board Meeting

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7-8

**Subject**

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Adopt resolutions to support Metropolitan's applications for the California Department of Water Resources 2021 Urban and Multi-benefit Drought Relief Program of \$7.5 million to supplement funding for residential and commercial landscapes within the Turf Replacement Program and \$2.5 million to supplement funding for the Residential Direct Install Program in partnership with the Southern California Gas Company; authorize the General Manager to accept grant funds, if awarded; and authorize the General Manager to enter into a contract with the California Department of Water Resources for the grant funds, if awarded; the General Manager has determined that the proposed action is exempt of otherwise not subject to CEQA

**Executive Summary**

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As Metropolitan prepares to mitigate challenges imposed by impending drought conditions, staff accelerated local conservation efforts and identified alternative funding sources to enhance regional programming.

One potential opportunity for grant funding is the California Department of Water Resources (DWR) 2021 Urban and Multi-benefit Drought Relief Program. Metropolitan requested \$7.5 million to increase the financing of turf replacement of residential and commercial landscapes eligible under the Turf Replacement Program and \$2.5 million to increase funding available for the Residential Direct Install Program. If approved, this action authorizes two different resolutions for Metropolitan's applications to the DWR 2021 Urban and Multibenefit Drought Relief Program (**Attachments 1 and 2**). If awarded, this action also authorizes the General Manager to accept up to \$7.5 million in grant funding for the Turf Replacement Program, \$2.5 million for the Residential Direct Install Program, and enter into a contract with DWR the 2021 Urban and Multibenefit Drought Relief Program.

**Timing and Urgency**

The Department of Water Resources requires the inclusion of a board resolution supporting grant applications. DWR will be evaluating applications and making awards on a phased schedule. DWR accepted applications submitted by November 19, 2021, for the first round of funding.

**Details**

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**Background**

On October 19, 2021, Governor Gavin Newsom issued an Executive Order that expanded California's drought declaration to include Metropolitan's service area. Metropolitan's Board declared a regional drought emergency in November 2021 and, in part, directed staff to expand regional conservation programs to ensure all portions of the service area attain a high level of reliability against multi-year, severe drought.

The Budget Act of 2021 (Stats. 2021, ch. 240, § 80) allocated \$300 million to DWR to deliver interim and immediate drought relief grants to urban communities and multi-benefit projects. These grants provide assistance to communities that face the loss or contamination of their water supplies, address immediate impacts on human health and safety, protect fish and wildlife resources, or address an immediate drought response.

### **Turf Replacement Incentive**

Metropolitan incentivizes improvements to outdoor water-use efficiency by offering a variety of rebates for irrigation system devices and conversions from turf to more California-friendly landscapes. These incentives are integral components of Metropolitan's efforts to sustain momentum toward achieving the Integrated Resources Plan goals for urban water conservation. In coordination with those efforts, an analysis by staff that was facilitated through discussions with the Board and member agencies determined that increasing resources for residential and commercial landscape transformation would be a multi-benefit approach to achieving urban water conservation and would help mitigate the impacts of the current declared drought.

If awarded, Metropolitan will use the grant funds to increase the incentive for residential and commercial recipients that apply for the Turf Replacement Program by an additional \$1 per square foot. Metropolitan will provide funding to member agencies through the existing Conservation Credits Program. If awarded, staff anticipates the grant funding would give member agencies a greater ability to tailor outdoor water efficiency improvements for non-functional turf in the residential and commercial sectors. Cost-sharing is encouraged but not required for grant applications. Because of increased activity that an additional \$1 per square foot rebate would generate, staff anticipates an additional spending of up to \$11.5 million on residential and commercial turf replacement projects through the entire three-year grant period if the grant was awarded. These additional expenditures would represent Metropolitan's cost share.

### **Residential Direct Install Program**

Since 2014, Metropolitan and the Southern California Gas Company (SoCal Gas) partnered to provide water and energy efficiency programming to consumers within Metropolitan's service area and to customers of SoCal Gas. The two parties continue to develop collaborative programming measures through a Memorandum of Understanding that is in effect through December 31, 2024. On November 9, 2021, the Board authorized the expansion of the Residential Direct Install Program in partnership with SoCalGas to provide no-cost direct installations of clean energy and water-saving measures to income-qualified residences. Through the Residential Direct Install Program, eligible consumers receive no-cost energy upgrades funded by SoCal Gas and high-efficiency toilets, showerheads, faucet aerators, and weather-based irrigation controllers through financial support from Metropolitan. This initiative enhances Metropolitan's suite of indoor and outdoor incentives to consumers within underserved communities.

If awarded, Metropolitan would use the grant funds to increase Metropolitan's share of program funding to provide direct installation services for more water-efficiency devices in the Residential Direct Install Program with SoCalGas. Metropolitan will partner with SoCal Gas to enhance their installation of water-efficient devices and appliances. Staff anticipates \$1.5 million to be expended per year for the direct installation of water efficiency devices in the Residential Direct Install Program for the upcoming biennial budget, which may also be provided as a cost share by Metropolitan from the Conservation budget.

### **Required Resolution**

DWR requires the inclusion of a board resolution supporting grant proposals along with the program applications. The Board resolution documents the governing body's support of the application. The Board resolution: acknowledges the support of the applications, authorizes the General Manager to accept funding, delegates authority to the General Manager to enter into a contract, and commits Metropolitan to work with DWR to meet established deadlines. The resolution does not obligate Metropolitan to accept funding. Metropolitan has the discretion to accept or decline potential funding after award. **See Attachments 1 and 2.**

### **Policy**

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Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities.

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter into Contracts.

By Minute Item 52582, dated November 8, 2021 the Board authorized the expansion of the Residential Direct Install Program.

By Minute Item 52581, November 9, 2021, the Board recognized a statewide drought emergency, declared specified emergency conditions within the Metropolitan service area, and directed specified actions.

By Minute Item 51166, dated April 10, 2018, the Board authorized funding for the Turf Replacement Program, and the Member Agency Administered Program.

By Minute Item 48772, dated August 16, 2011, the Board adopted the Long-Term Conservation Plan and revisions to the water conservation policy principles.

## **California Environmental Quality Act (CEQA)**

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### **CEQA determination for Option #1:**

The proposed action is not defined as a project under CEQA because it involves the creation of government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project, which may result in a potentially significant impact on the environment (State CEQA Guidelines Section 15378(b)(4)).

### **CEQA determination for Option #2:**

None required

## **Board Options**

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### **Option #1**

1. Adopt the resolutions to support Metropolitan's application to the California Department of Water Resources 2021 Urban and Multi-benefit Drought Relief Program grant funding of \$7.5 million to provide supplemental funding for residential and commercial landscapes in the Turf Replacement Program and \$2.5 million for the direct installation of water efficiency devices for the Residential Direct Install Program.
2. Authorize the General Manager to accept grant funds, if awarded.
3. Authorize the General Manager to enter into a contract with the California Department of Water Resources for the grant funds, if awarded.

**Fiscal Impact:** The addition of grant funds to existing Metropolitan funding would allow for more member agency local projects to be implemented to increase both indoor and outdoor water efficiency. Increasing program incentives would likely increase program activity and spending, which staff has accounted for in our projected expenditures.

**Business Analysis:** This Turf Replacement grant proposal would allow Metropolitan's funding to reach more participants by enhancing Metropolitan's incentive for residential and commercial turf replacement projects and increasing participation in income-qualified programs supported by the SoCal Gas Direct Install Program.

### **Option #2**

Do not support or accept grant funding.

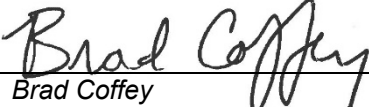
**Fiscal Impact:** None

**Business Analysis:** Without the grant funds, Metropolitan would reach fewer participants in the conservation program.

**Staff Recommendation**

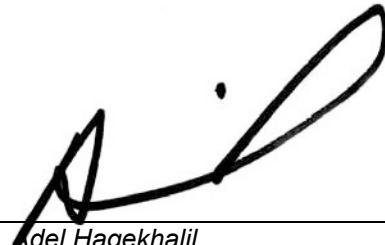
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Option #1

  
\_\_\_\_\_  
Brad Coffey  
Manager, Water Resource Management

12/6/2021

Date

  
\_\_\_\_\_  
Adel Hagekhalil  
General Manager

12/7/2021

Date

**Attachment 1 – Resolution NO. [xxxx] A Resolution of the Board of Directors of The Metropolitan Water District of Southern California Authorizing the Grant Application, Acceptance, and Execution for the Turf Replacement Program**

**Attachment 2 – Resolution NO. [xxxx] A Resolution of the Board of Directors of The Metropolitan Water District of Southern California Authorizing the Grant Application, Acceptance, and Execution for the Residential Direct Install Program**

Ref# wrm12683131



RESOLUTION NO. [xxxx]  
A RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN  
CALIFORNIA  
AUTHORIZING THE GRANT APPLICATION, ACCEPTANCE, AND EXECUTION  
FOR THE TURF REPLACEMENT PROGRAM

WHEREAS, the Metropolitan Water District of Southern California proposes to implement the Turf Replacement Program;

WHEREAS, the Metropolitan Water District of Southern California has the legal authority and is authorized to enter into a funding agreement with the State of California; and

WHEREAS, the Metropolitan Water District of Southern California intends to apply for grant funding from the California Department of Water Resources for the Turf Replacement Program;

THEREFORE, BE IT RESOLVED by the Board of Directors of the Metropolitan Water District of Southern California as follows:

1. That pursuant and subject to all of the terms and provisions of Budget Act of 2021 (Stats. 2021, ch.240, § 80), the General Manager of the Metropolitan Water District of Southern California, or designee is hereby authorized and directed to prepare and file an application for funding with the Department of Water Resources, and take such other actions necessary or appropriate to obtain grant funding.
2. The General Manager of the Metropolitan Water District of Southern California, or designee is hereby authorized and directed to execute the funding agreement with the Department of Water Resources and any amendments thereto.
3. The General Manager of the Metropolitan Water District of Southern California, or designee is hereby authorized and directed to submit any required documents, invoices, and reports required to obtain grant funding.

CERTIFICATION I hereby certify that the foregoing Resolution was duly and regularly adopted by the Board of Directors of the Metropolitan Water District of Southern California at the meeting held on [date], motion by [member name] and seconded by [member name], motion passed by the following vote:

AYES:            NOES:

ABSTAIN:       ABSENT:

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Authorized Representative, Metropolitan Water  
District of Southern California

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ATTEST: Secretary, Board of Directors of the  
Metropolitan Water District of Southern  
California

RESOLUTION NO. [xxxx]  
A RESOLUTION OF THE BOARD OF DIRECTORS OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN  
CALIFORNIA  
AUTHORIZING THE GRANT APPLICATION, ACCEPTANCE, AND EXECUTION  
FOR THE RESIDENTIAL DIRECT INSTALL PROGRAM

WHEREAS, the Metropolitan Water District of Southern California proposes to implement the Residential Direct Install Program;

WHEREAS, the Metropolitan Water District of Southern California has the legal authority and is authorized to enter into a funding agreement with the State of California; and

WHEREAS, the Metropolitan Water District of Southern California intends to apply for grant funding from the California Department of Water Resources for the Residential Direct Install Program;

THEREFORE, BE IT RESOLVED by the Board of Directors of the Metropolitan Water District of Southern California as follows:

1. That pursuant and subject to all of the terms and provisions of Budget Act of 2021 (Stats. 2021, ch.240, § 80), the General Manager of the Metropolitan Water District of Southern California, or designee, is hereby authorized and directed to prepare and file an application for funding with the Department of Water Resources, and take such other actions necessary or appropriate to obtain grant funding.
2. The General Manager of the Metropolitan Water District of Southern California, or designee, is hereby authorized and directed to execute the funding agreement with the Department of Water Resources and any amendments thereto.
3. The General Manager of the Metropolitan Water District of Southern California, or designee, is hereby authorized and directed to submit any required documents, invoices, and reports required to obtain grant funding.

CERTIFICATION I hereby certify that the foregoing Resolution was duly and regularly adopted by the Board of Directors of the Metropolitan Water District of Southern California at the meeting held on [date], motion by [member name] and seconded by [member name], motion passed by the following vote:

AYES:            NOES:

ABSTAIN:       ABSENT:

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Authorized Representative, Metropolitan Water  
District of Southern California

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ATTEST: Secretary, Board of Directors of the  
Metropolitan Water District of Southern  
California



# Adopt Resolution Supporting DWR Grant Applications for Turf Replacement and the Residential Direct Install Program

Water Planning and Stewardship Committee

Item 7-8

December 13, 2021

# DWR Urban & Multibenefit Drought Relief Grant Program

- \$190 million available in current solicitation
- Matching funds encouraged, but not required
- Eligible Projects include those that
  - Deliver drinking water
  - Construct or rehabilitate wells
  - Establish permanent connections between adjacent water systems
  - Rescue, protect and relocate fish and wildlife
  - Otherwise support an immediate drought response

# DWR Urban & Multibenefit Drought Relief Grant Application

- \$10 million request to DWR submitted on November 19, 2021
  - \$7.5 million for Turf Replacement
  - \$2.5 million for SoCalGas Residential Direct Install Program
- Board Resolution of support required to complete application
- Turf Replacement funding available to all Member Agencies
- Residential Direct Install funding available to all qualified customers jointly served by MWD and SoCalGas



# Turf Replacement Program

- In November, Board authorized modifications to the Turf Replacement Program for public agency landscapes
  - Incentive: increased from \$2 to \$3/sq. ft.
  - Maximum Square Footage: increased from 50,000 to 200,000 sq. ft.
- Staff proposed increasing incentive for residential and commercial turf should external funds become available
- If awarded, staff would return to Board to authorize temporary increase from \$2 to \$3/sq. ft for residential and commercial turf replacement applicants

# Residential Direct Install Program

- In November, Board authorized expansion to the SoCal Gas Residential Direct Install Program to include additional water savings measures:
  - Toilets
  - Showerheads
  - Aerators
  - Irrigation Controllers
- If awarded, grant would provide supplement the existing program budget with \$2 million to be used for additional installations

# Board Options

## ● Option #1

- Adopt the resolutions to support Metropolitan's applications to the Department of Water Resources 2021 Urban and Multibenefit Drought Relief Program grant funding of \$7.5 million to supplement funding for residential and commercial landscapes within the Turf Replacement Program and \$2.5 million for the direct installation of water efficiency devices for the Residential Direct Install Program in partnership with the Southern California Gas Company;
- Authorize the General Manager to accept grant funds, if awarded; and
- Authorize the General Manager to enter into a contract with the Department of Water Resources for the grant funds, if awarded.

## ● Option #2

- Do not support or accept grant funding

# Staff Recommendation

- Option #1









### ● **Water Surplus and Drought Management Update** *Conditions as of 11/29/2021*

#### **Summary**

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This report provides an accounting of water supply, demand, and storage conditions for calendar year (CY) 2021 as of November 29, 2021. In addition, this report is tracking the hydrologic conditions for water year (WY) 2021-2022.

The CY 2021 supply/demand gap is currently estimated to be 565 thousand acre-feet, given the projected demand, the 5 percent State Water Project (SWP) allocation for 2021, and the Colorado River Aqueduct supply estimate. To satisfy this supply/demand gap, Metropolitan is withdrawing water from its dry-year storage programs and purchasing north of Delta water transfers. To preserve limited SWP supplies, Metropolitan made operational adjustments to maximize use of Colorado River supplies, implemented the Operational Shift Cost-Offset Program, and is currently developing additional drought actions. To increase drought awareness, Metropolitan declared a Water Supply Alert in August. In addition, Metropolitan declared a Drought Emergency in November, calling on its member agencies dependent on state project water to use increased conservation measures or other means to reduce their use of these limited supplies.

On December 1, 2021, the Department of Water Resources (DWR) announced its initial SWP allocation for 2022. Given the unprecedented drought conditions and limited water supply, DWR is currently not able to allocate in a traditional manner. Instead, DWR's initial allocation is based on deliveries for health and safety water needs for the first time in the history of the SWP. DWR may return to a more traditional allocation process if the hydrologic and reservoir conditions improve. As for the Colorado River supplies, the Lower Basin will experience its first-ever shortage in 2022. While Metropolitan's supplies are not reduced in a Level 1 shortage, if Lake Mead's water level continues to drop, Metropolitan will be required to make contributions under the 2019 Lower Basin Drought Contingency Plan (DCP) Agreement as early as 2023.

#### **Purpose**

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Informational

#### **Attachments**

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Attachment 1: Projected 2021 WSDM Storage Detail (5 percent SWP allocation)

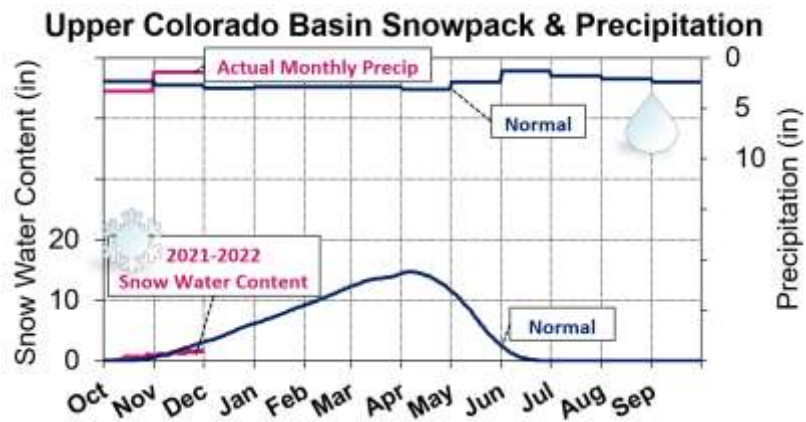
Attachment 2: Agreements to Exchange or Return Stored Water, Potential Magnitude of California's Drought Contingency Plan Contribution, and Cyclic Program Balances

#### **Detailed Report**

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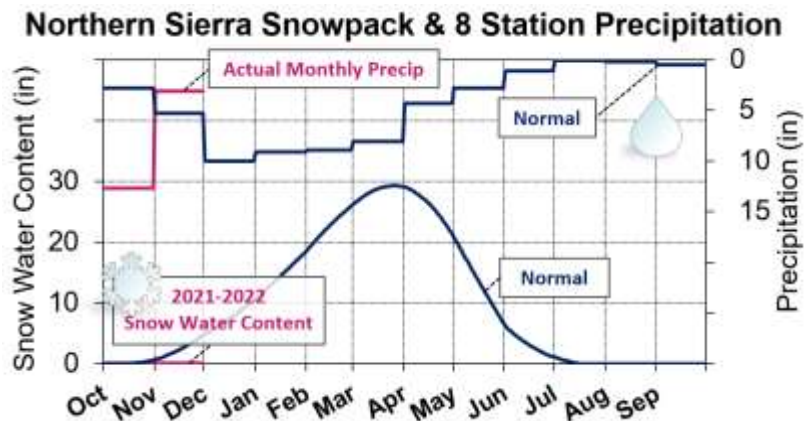
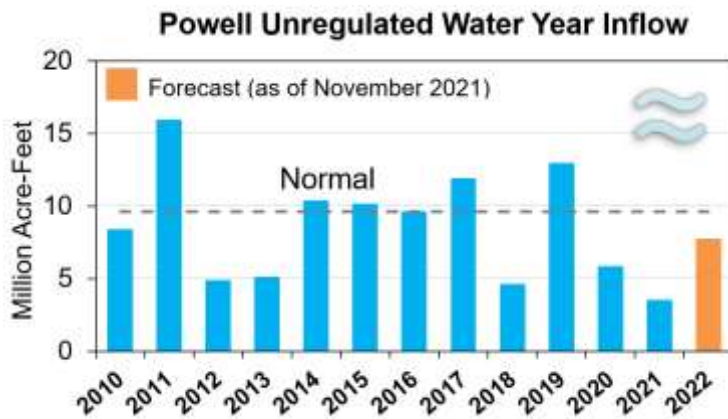
This Water Surplus and Drought Management (WSDM) report provides an update on water supply and demand conditions for CY 2021 and developing hydrologic conditions for WY 2021-2022.

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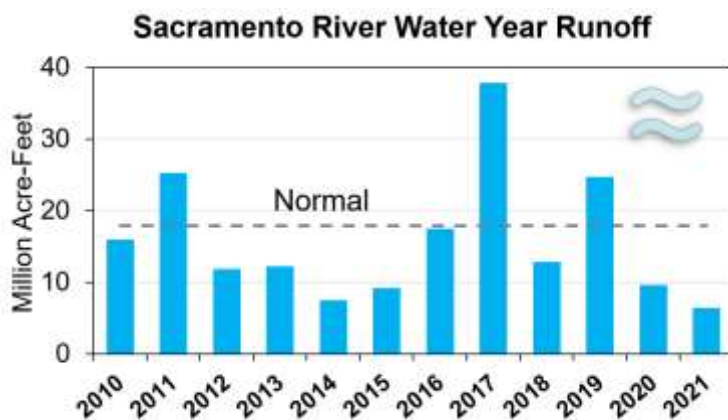
### Upper Colorado River Basin

- \* Below normal snowpack water content to date (1.6 inches).
- ◆ Near normal precipitation for October and November (4.6 inches).
- ≈ Runoff into Lake Powell for WY 2022 is forecasted at 81% of normal.



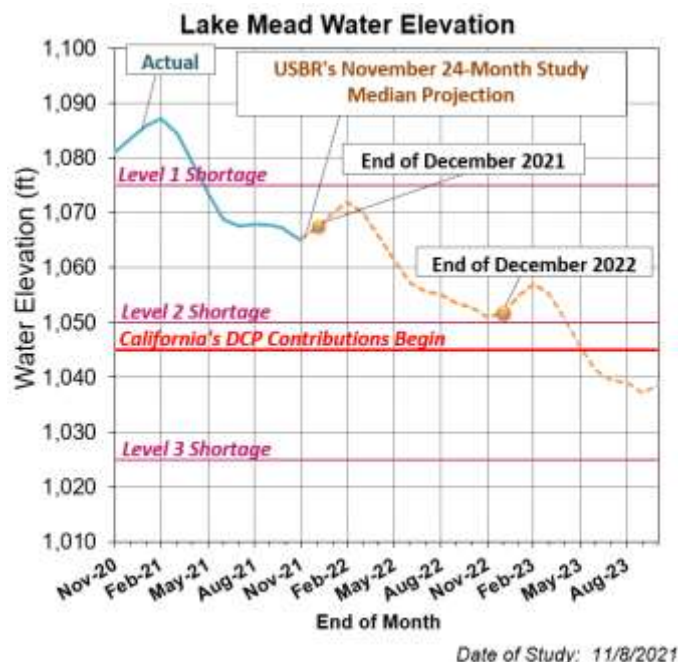
### Sacramento River Basin

- \* No snow reported.
- ◆ Nearly double precipitation to date as result of the October atmospheric river (15.8 inches).
- ≈ Runoff forecast for WY 2022 unavailable at the time of this report.



<b>CRA Supplies</b>	<b>Acre-Feet</b>
<i>Basic Apportionment</i>	550,000
<i>IID/ MWD Conservation Program</i>	105,000
<i>PVID Fallowing Program</i>	40,000
<i>Exchange w/ SDCWA (IID/Canal Lining)</i>	283,000
<i>Exchange w/ USBR (San Luis Rey Tribe)</i>	16,000
<i>Lower Colorado Water Supply Project</i>	9,000
<i>Bard Seasonal Fallowing Program</i>	6,000
<i>Quechan Diversion Forbearance</i>	6,000
<i>Higher Priority Water Use Adjustment <sup>1</sup></i>	66,000
<b>Total CRA Supplies</b>	<b>1,081,000</b>

<sup>1</sup> Per USBR Forecast (11/29/21). Does not include up to 25 TAF of water requested to be stored in IID's subaccount within Metropolitan's ICS account.



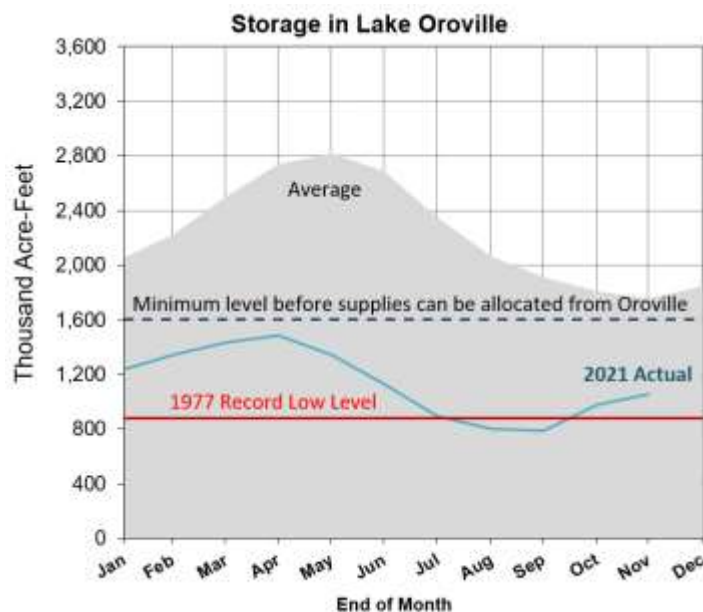
- The higher priority water users are using less water than their water orders to date. Through the priority system, water not used by the higher priority water users becomes a supply to Metropolitan.
- Lake Mead storage is currently at 8.80 MAF (elevation 1064.9 feet).
- The Lower Basin will be in a Level 1 shortage in CY 2022. Supplies to Metropolitan will not be curtailed and Metropolitan will have full access to its Intentionally Created Surplus (ICS) in CY 2022. However, water levels in Lake Mead are projected to decline, increasing the likelihood of Metropolitan making contributions in future years.

<b>SWP Supplies</b>	<b>Acre-Feet</b>
<i>Table A (5% SWP allocation)</i>	96,000
<i>Article 21</i>	0
<i>Port Hueneme <sup>1</sup></i>	0
<i>SWC Buyers Group Transfers <sup>2</sup></i>	4,000
<i>Yuba Accord Dry-Year Purchase Program <sup>2</sup></i>	23,000
<b>Total SWP Supplies <sup>3</sup></b>	<b>123,000</b>
<b>Total Supplies (CRA + SWP)</b>	<b>1,204,000</b>
<b>(Prior to storage actions)</b>	

<sup>1</sup> Rounded to the nearest thousand. Supply is 92.5 AF.

<sup>2</sup> Current estimates subject to change based on buyer/seller participation and losses.

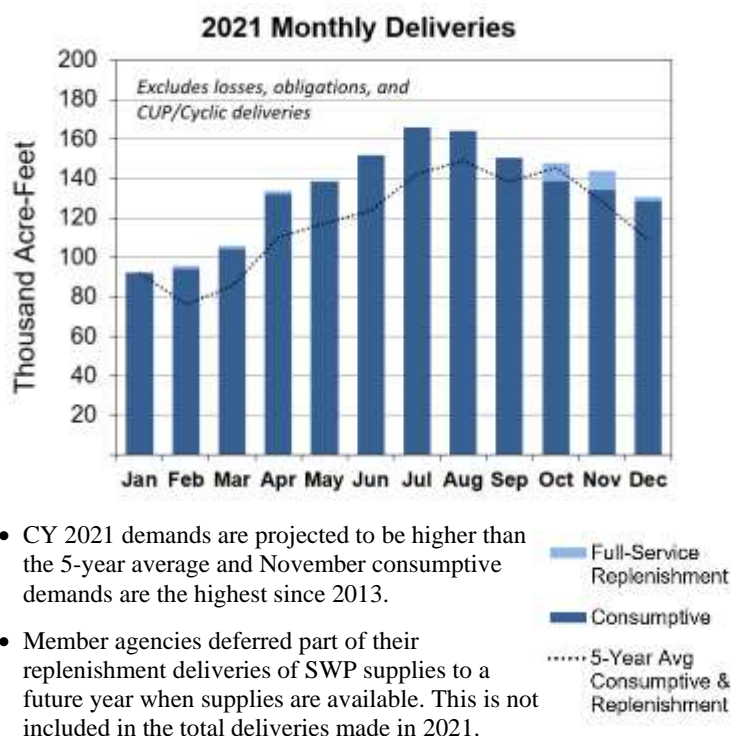
<sup>3</sup> Staff is aware of two member agency-managed SWP storage programs. Neither are moving water into MWD service area in 2021.



- Storage in Lake Oroville is currently at 1,054 TAF (30 percent of total capacity) or 60 percent of historical average as of the date of this report.
- For the first time in the history of the SWP, the initial SWP allocation for 2022 will be based on minimum unmet water demands for health and safety as authorized by Article 18(a) of the long-term water supply contract. This is a departure from the traditional allocation process where each member of the State Water Contractors (SWC), Inc. receives the same percent of their requested amount.

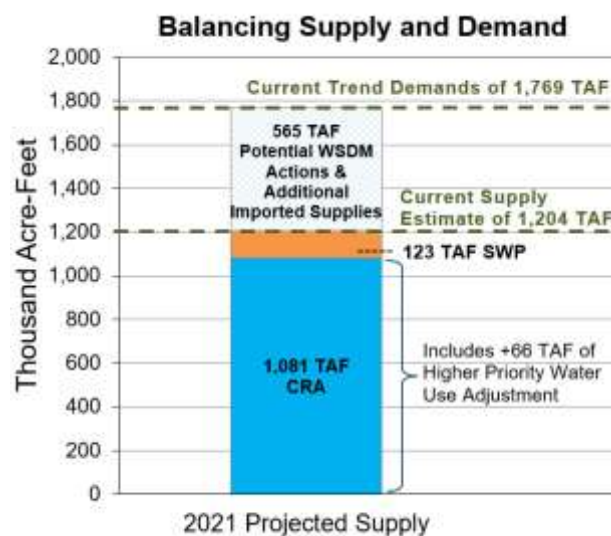
Current Demand	Acre-Feet
Member Agency Consumptive <sup>1</sup>	1,625,000
Member Agency Replenishment	27,000
Coachella Valley Water District Agreement	50,000
Exchange w/ San Luis Rey Tribe	16,000
System and Storage Losses	51,000
Cyclic Deliveries	0
<b>Total Demands</b>	<b>1,769,000</b>

<sup>1</sup> Includes exchange w/ SDCWA (IID/Canal Lining) and CUP sales.



## MANAGING SUPPLIES AND DEMANDS

Supply/Demand Balance	Acre-Feet
Total Supplies	1,204,000
Total Demands	1,769,000
<b>Current Balance Estimate</b>	<b>-565,000</b>



## Dry-Year WSDM Strategies/Actions

The following summarizes actions taken in 2021 to satisfy the estimated supply/demand gap and to preserve SWP storage for a potentially dry 2022.

- Withdrew water from dry-year storage reserves.
- Purchased north of Delta transfers through the Yuba Accord and the State Water Contractors Buyers Group.
- Adjusted distribution system operations to preserve SWP supplies and maximize use of Colorado River or stored supplies. These operations include pumping at the Greg Avenue pump station to move Colorado River and stored supplies into the SWP dependent areas and drafting water from Diamond Valley Lake to serve the Lakeview Pipeline and for the first time, the Mills Plant.
- Worked with member agencies to switch from service connections providing SWP supplies to alternate connections that use Colorado River supplies, both within and outside of the Operational Shift Cost-Offset Program.
- Continued coordination with member agencies to identify new drought actions targeted at Metropolitan's SWP dependent areas. These drought actions fall under system and operations, shifting timing of deliveries, increasing local supplies, increasing conservation, and expanding WSDM programs.
- Continued partnerships with non-member agencies such as the San Bernardino Valley Municipal Water District, a SWP Contractor, to identify opportunities to enhance Metropolitan's capability of delivering supplies to Metropolitan's SWP dependent areas.
- All of these actions preserve SWP supplies in SWP storage for future use by potentially all member agencies.

## 2021 WSDM Storage Detail

WSDM Storage	1/1/2021 Estimated Storage Levels	Projected Storage Action <sup>1</sup> Put (+) / Take (-)	Projected End of Year 2021 Balance <sup>2</sup>	2021 Total Storage Capacity
<b>Colorado River Aqueduct Delivery System</b>	<b>1,293,000</b>	<b>6,000</b>	<b>1,299,000</b>	<b>1,657,000</b>
Lake Mead ICS	1,293,000 <sup>3</sup>	6,000	1,299,000	1,657,000
<b>State Water Project System</b>	<b>1,052,000</b>	<b>-432,000</b>	<b>620,000</b>	<b>1,879,000</b>
MWD SWP Carryover <sup>4</sup>	207,000	-186,000	21,000	350,000
DWCV SWP Carryover <sup>4</sup>				
MWD Articles 14(b) and 12(e)	0	0	0	N/A
Castaic Lake (DWR Flex Storage)	154,000	-154,000	0	154,000
Lake Perris (DWR Flex Storage)	65,000	-16,000	49,000	65,000
Arvin Edison Storage Program	142,000	-5,000 <sup>5</sup>	137,000	350,000
Semitropic Storage Program	261,000	-43,000	218,000	350,000
Kern Delta Storage Program	177,000	-28,000	149,000	250,000
Mojave Storage Program	19,000	0	19,000	330,000
AVEK Storage Program	27,000	0	27,000	30,000
<b>In-Region Supplies and WSDM Actions</b>	<b>872,000</b>	<b>-85,000</b>	<b>787,000</b>	<b>1,246,000</b>
Diamond Valley Lake	704,000	-106,000	598,000	810,000
Lake Mathews and Lake Skinner	127,000	51,000	178,000	226,000
Conjunctive Use Programs (CUP) <sup>6</sup>	41,000	-30,000	11,000	210,000
<b>Other Programs</b>	<b>694,000</b>	<b>-54,000</b>	<b>640,000</b>	<b>1,181,000</b>
Other Emergency Storage	381,000	0	381,000	381,000
DWCV Advanced Delivery Account	313,000	-54,000	259,000	800,000
<b>Total</b>	<b>3,911,000</b>	<b>-565,000</b>	<b>3,346,000</b>	<b>5,963,000</b>
Emergency	750,000	0	750,000	750,000
<b>Total WSDM Storage (AF) <sup>7</sup></b>	<b>3,161,000</b>	<b>-565,000</b>	<b>2,596,000</b>	<b>5,213,000</b>

<sup>1</sup> Storage program losses included where applicable.

<sup>2</sup> Preliminary end of year balances, subject to DWR adjustments and USBR final accounting in May 2022.

<sup>3</sup> Reflects USBR's final accounting for 2020, released in May 2021.

<sup>4</sup> Total storage capacity varies year to year based on prior year remaining balance added to current year contractual limits.

<sup>5</sup> Take amounts dependent on exchange capabilities. Began receiving exchange of surface water supplies in August.

<sup>6</sup> Total of all CUP programs including IEUA/TVMWD (Chino Basin); Long Beach (Central Basin); Long Beach (Lakewood); Foothill (Raymond and Monk Hill); MWDOC (Orange County Basin); Three Valleys (Live Oak); Three Valleys (Upper Claremont); and Western.

<sup>7</sup> Total WSDM Storage level subject to change based on accounting adjustments.



## Agreements to Exchange or Return Stored Water

	<b>Future Returns <sup>1</sup></b>
California ICS Agreement – IID <sup>2</sup>	243,000
Storage and Interstate Release Agreement with Southern Nevada Water Authority <sup>3</sup>	330,000
<b>Total (AF)</b>	<b>573,000 <sup>4</sup></b>

<sup>1</sup> Rounded to the nearest thousand.

<sup>2</sup> IID can request return in any year, conditional on whether or not Metropolitan is implementing a Water Supply Allocation Plan.

<sup>3</sup> Up to 30,000 AF per year beginning no earlier than 2022.

<sup>4</sup> Subject to change based on accounting adjustments.

## Potential Magnitude of California's Drought Contingency Plan Contribution

	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>
Likelihood of Required California Drought Contingency Plan Contribution <sup>1</sup>	0%	3%	66%	72%	63%
Average Metropolitan DCP Contribution When Contributions Are Required (AF)	0	180,000	259,000	282,000	308,000

<sup>1</sup> Results from USBR's August 2021 Colorado River Simulation System (CRSS) model run which is the latest study at the time of this report. Study assumes no drought response activities; any new water added to Lake Mead would reduce the probabilities in the table.

## Cyclic Program Activity

<b>CY</b>	<b>Starting Balance (AF)</b>	<b>CY Actions (AF)</b>				<b>Ending Balance (AF)</b>
		Cyclic Pre-Delivery	Cyclic Cost-Offset Pre-Delivery	Total Pre-Delivery	Sale Out of Cyclic	
2019	50,000	147,000	19,000	166,000	91,000	125,000
2020	125,000	2,000	0	2,000	50,000	77,000
2021 <sup>1</sup>	77,000	0	0	0	28,000	49,000

<sup>1</sup> Projected Cyclic program activity for the year. Subject to change.



# Update on Water Surplus and Drought Management

Water Planning and Stewardship Committee

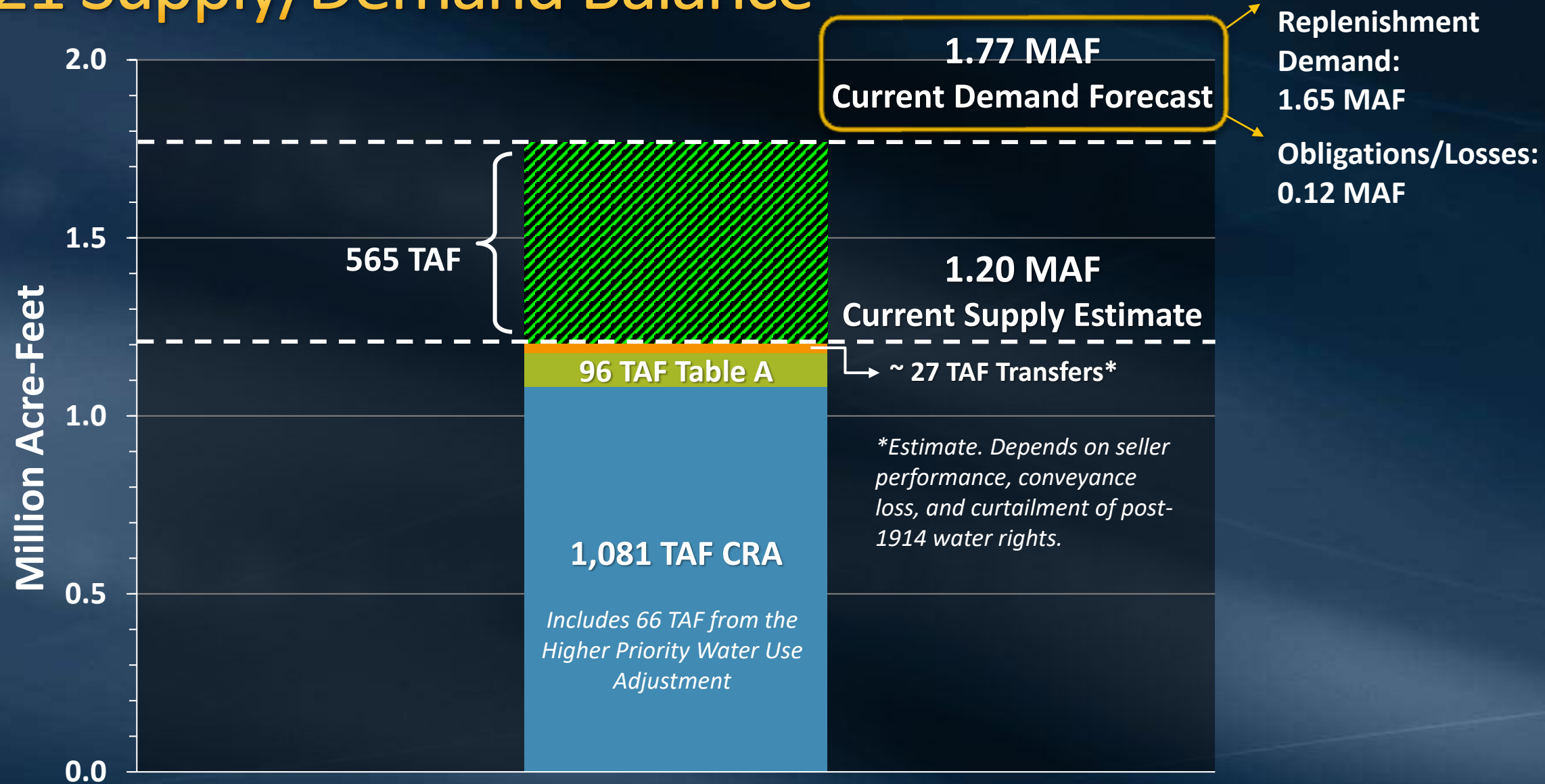
Item 6a

December 13, 2021

# Outline

- 2021 supply/demand balance
- Preparing for 2022
  - Initial SWP allocation
  - State's actions to prepare for a potential third dry year
  - Metropolitan's actions to meet SWP dependent area demands

# 2021 Supply/Demand Balance



# DWR releases initial SWP allocation for 2022

- DWR expects to deliver health & safety water to the SWP Contractors
  - Authorized by Article 18(a) of the long-term water supply contract
  - Based on meeting minimum health & safety demand unmet by local supply and other available water supplies
  - Collaborative process between DWR and Contractors to determine a consistent health and safety calculation methodology
- Health & safety water deliveries are unique to each contractor
  - Health & safety deliveries may be needed by March if dry conditions persist
    - Metropolitan will utilize stored water prior to receiving health & safety water



# Reclamation returns all borrowed water to DWR

- Reclamation and DWR may exchange water per written agreement and a Consolidated Place of Use (CPOU) Order from the State Water Resources Control Board
  - Borrowed 100 TAF in July and August
  - Returned 100 TAF November and December



# DWR's actions to prepare for a potential third dry year

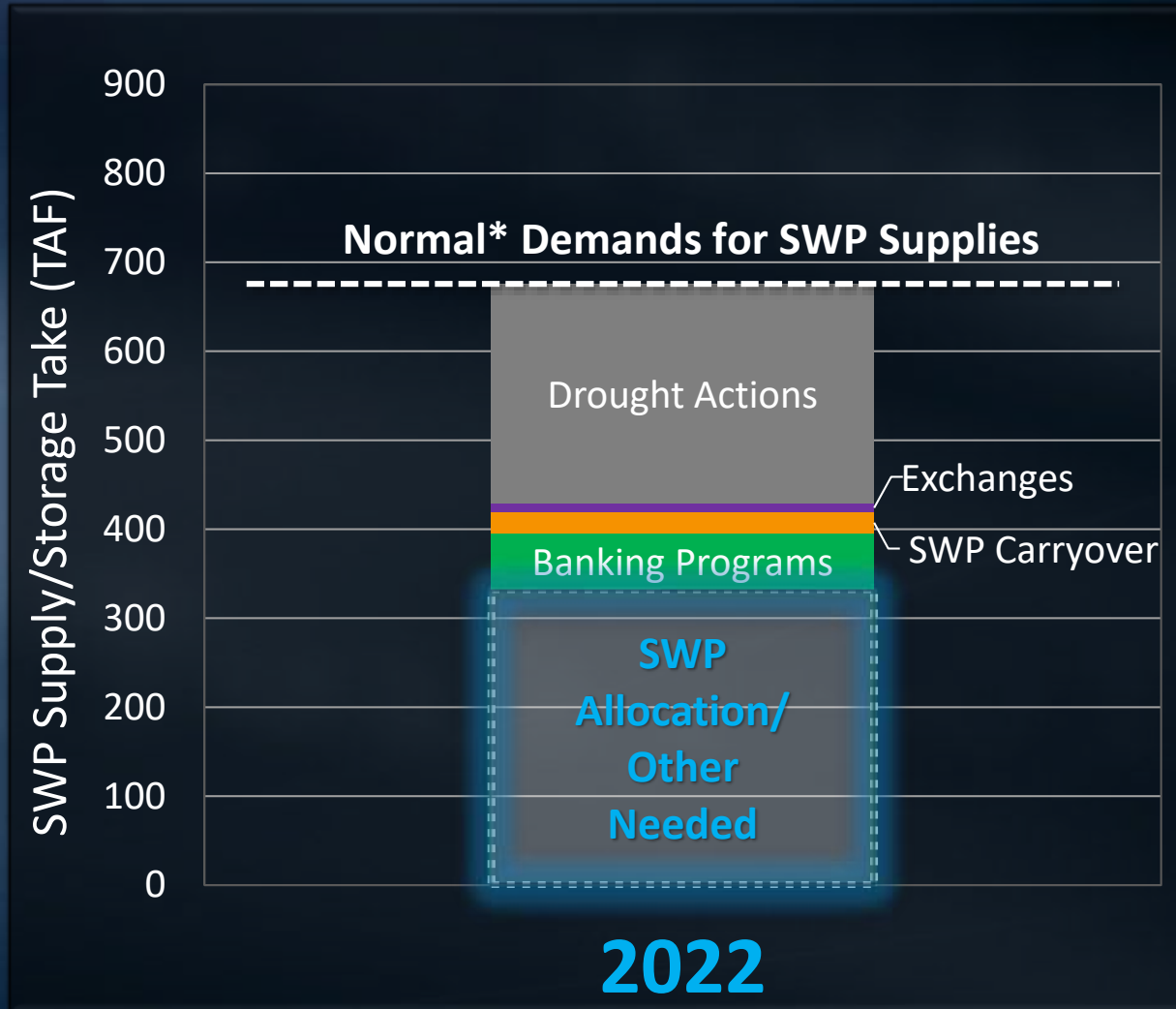
- Actions intend to preserve water in upstream reservoirs
  - Submitted request to delay removal of the Emergency Drought Salinity Barrier
    - Additional barrier locations under consideration
  - DWR and Reclamation submitted Temporary Urgency Change Petition request



# State Board's Proposed Drought Conservation Emergency Regulation

- Prohibit certain wasteful water uses
  - Watering outdoor landscapes resulting in visible runoff
  - Washing vehicles with a running hose
  - Washing hardscapes with potable water
  - Using potable water without recirculation pumps for decorative water fixtures
  - Using potable water for irrigating turf on public street medians
  - Watering turf and ornamental landscapes during and within 48 hours after measurable rainfall
- State Board will consider a proposed resolution adopting emergency regulations on January 4, 2022

# Plausible near-term planning scenario for Metropolitan's SWP Dependent Area

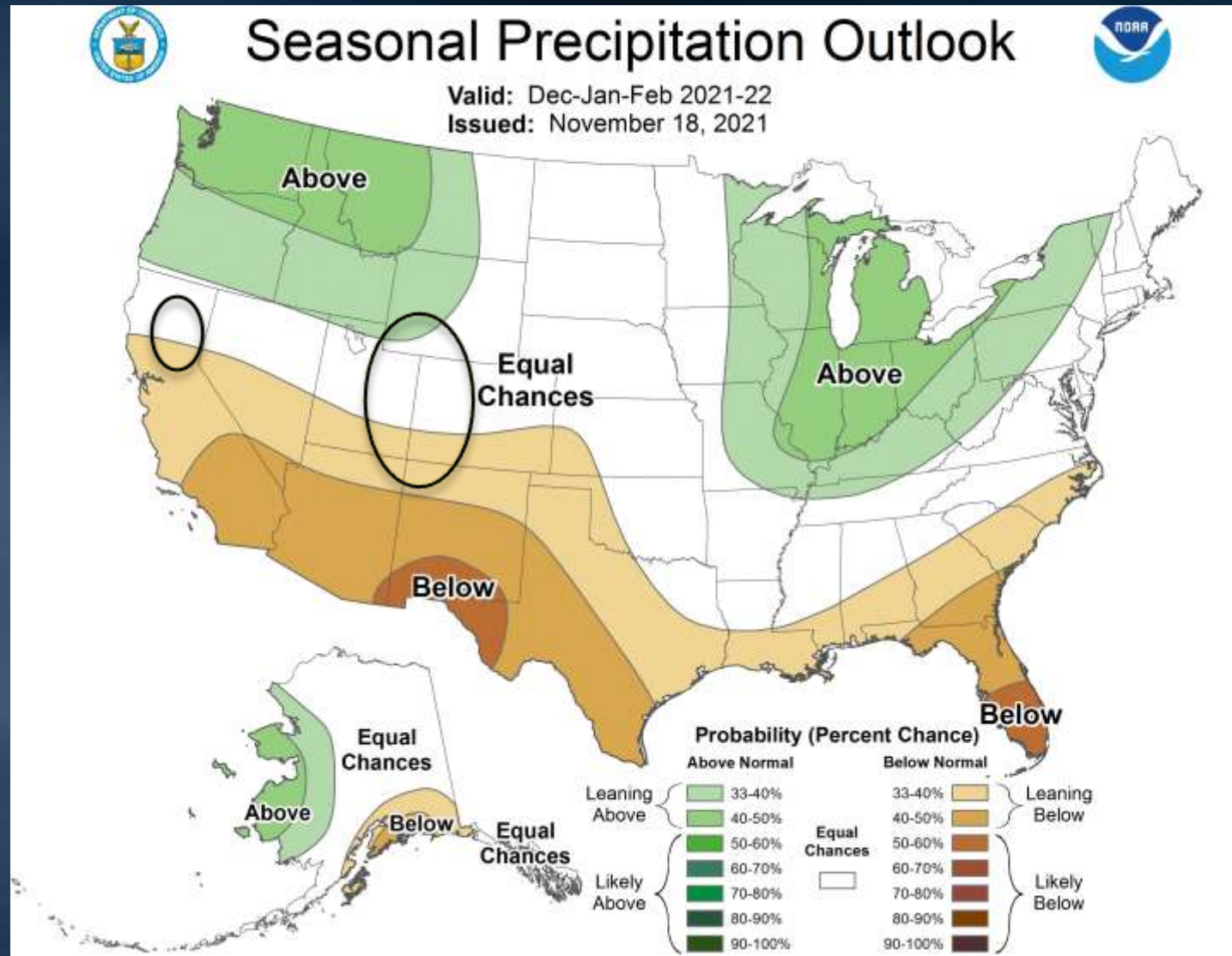


## Potential actions to satisfy the supply/demand gap

- SDCWA water purchase & use of SDCWA's Semitropic capacity
- Exchange opportunities with SBVMWD
- More OSCOP opportunities
- Additional USGV replenishment delivery options
- AVEK groundwater storage
- Borrow from IRWD Banking Program
- Transfers and storage withdrawals

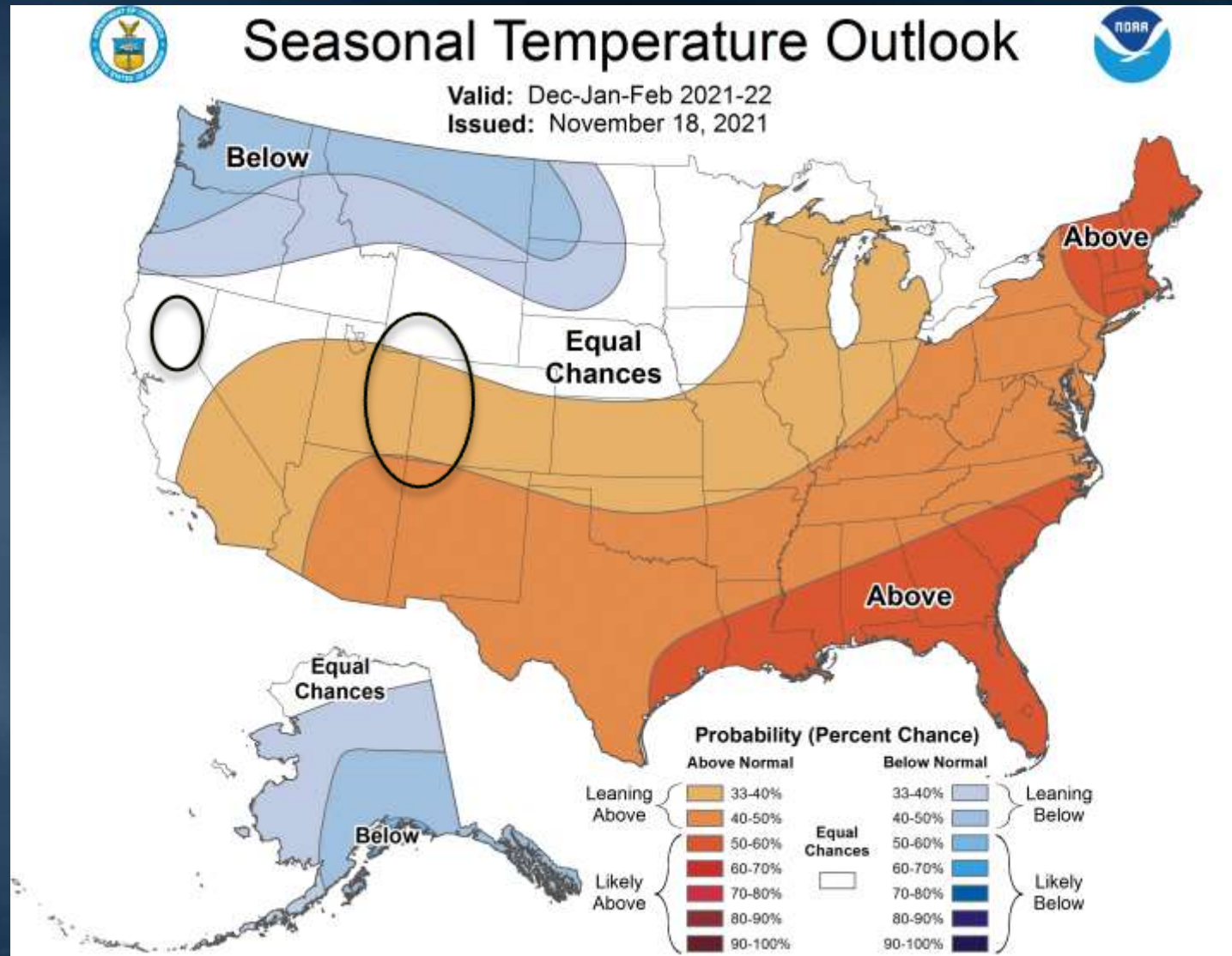


# Leaning towards below normal precipitation





# Above normal temperatures in the Colorado River Watershed



# Next steps

- Continue to monitor and report out on
  - Hydrologic conditions
  - Development of drought actions
  - Supply/demand balances
- Seek Board action to declare a water shortage emergency pursuant to California Water section 350, if needed

# Summary

- Metropolitan is satisfying the 2021 supply/demand gap through WSDM actions
- DWR is allocating supplies to meet health and safety demands
- Reclamation returns all borrowed water to DWR
- State is preparing for a third consecutive dry year with offramps should conditions improve
- Metropolitan actions are reducing the 2022 supply/demand gap for the SWP dependent area
- Metropolitan is prepared to take additional actions to conserve water supplies for the greatest public benefit should drought conditions persist or worsen in the coming months







## ● Colorado River Management Report

### Summary

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This report provides a summary of activities related to management of Metropolitan's Colorado River resources for the month of November 2021.

### Purpose

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Informational

### Detailed Report

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#### Colorado River Basin States Coordination Update

Representatives of the seven Colorado River Basin States met to discuss the aspects of Drought Contingency Plan implementation that have been triggered by recent 24-Month Study projections. In the Upper Basin Drought Contingency Plan, 24-Month Study projections that Lake Powell fall to be at elevation 3,525 feet trigger additional actions. The Upper Basin States provided an update on their work to develop an implementation agreement for Drought Response Operations in Colorado River Storage Project reservoirs above Lake Powell. Under the plan, water is moved from upstream reservoirs into Lake Powell to help keep the reservoir at a level where power generation can continue.

The U.S. Bureau of Reclamation hosted a public webinar on November 5 to discuss the approach and responsive actions being considered in response to the 1,030 Consultation provision in the Lower Basin Drought Contingency Plan. Arizona, Nevada, and California began discussing options for keeping Lake Mead from declining below elevation 1,030 feet in August, after the 24-Month Study minimum probable scenario showed the risk of Lake Mead reaching elevation 1,030 feet with the next two years triggered the provision in the Lower Basin Drought Contingency Plan called the 1,030 Consultation. The webinar included information on reservoir conditions, modeling done by Nevada and Arizona, and options for additional actions being considered by Lower Basin managers in the 1,030 Consultation.

Modeling done by Arizona and Nevada showed that adding an additional 500,000 acre-feet per year to Lake Mead through 2026 would significantly increase the likelihood of keeping lake levels above elevation 1,020 feet. Based on this modeling, the Lower Basin States have been working to develop options to add at least 500,000 acre-feet to Lake Mead in 2022 and 2023. This is being called the 500+ Plan. Metropolitan has worked with water managers in Arizona and Nevada to discuss options for potential supply and funding for a 500+ Plan. Potential sources of water supply generally would come from creation of additional system water and ICS. The Southern Nevada Authority Water Authority and Central Arizona Water Conservation District both took board action authorizing their general managers to enter into agreements and spend money to implement a 500+ Plan. A related board action item will be brought to the Metropolitan board in December.

#### Outreach Trip to Imperial Irrigation District and Palo Verde Irrigation District

On November 18, Metropolitan's Chairwoman, several directors, and some staff members traveled to the offices of Imperial Irrigation District and Palo Verde Irrigation District to meet with new directors from those agencies and explore opportunities to expand our existing partnerships. Discussions included options to enhance the local farming communities in those regions and explore opportunities to highlight needs to protect the Salton Sea. Both agencies expressed appreciation for Metropolitan making this trip and look forward to further dialogue about options to enhance our partnership with those agricultural communities.





# Water Resource Management Manager's Report

Water Planning and Stewardship Committee

Item 7b

December 13, 2021

# Conservation Expenditures

FY 20/21-21/22 <sup>(1)</sup>

	Paid <sup>(2)</sup>	Committed <sup>(3)</sup>
Regional Devices	\$5.5M	\$3.8M
Member Agency Administered	\$2.0M	\$9.2M
Turf Replacement	\$10.7M	\$14.1M
Advertising	\$0.1M	\$1.0M
Other	\$2.0M	\$1.2M
<b>TOTAL</b>	<b>\$20.3M</b>	<b>\$29.3M</b>

(1) The Conservation Program biennial expenditure authorization was \$86M and expected expenditures for rate setting purposes were \$50M.

(2) As of 7/1/2020 –10/31/2021.

(3) Committed dollars as of November 10, 2021.

# Conservation Activity

FY20/21-21/22



## **Turf Replacement Rebates:**

October: 182,611 ft<sup>2</sup> removed

**FY2020/21-FY2021/22: 5,493,356 ft<sup>2</sup> removed**



## **Clothes Washers:**

October: 704 units rebated

**FY2020/21-FY2021/22: 21,751 units rebated**



## **Sprinkler Nozzles:**

October: 1,107 units rebated

**FY2020/21-FY2021/22: 35,234 units rebated**

**Lifetime Water Savings to be achieved by all rebates in October 2021: 1,795 AF**

**FY2020/21-FY2021/22: 52,189AF lifetime water savings**

# Timeline for Conservation Drought Response Programs

## December 2021

- Expand SoCalGas Residential Direct Install

## January 2022

- Release Pre-1994 Multifamily Property Toilet Replacement funding
- Begin Municipal Leak Detection & Repair Program
- Modify MAAP funding for public agency projects
- Aid public agencies interested in turf removal projects

## February/March 2022

- Increase incentive for Public Agency Turf Removal projects from \$2 to \$3

# Energy Utility Partnership Follow Up

- Metropolitan staff met with San Diego County Water Authority (SDCWA) conservation team
- SDCWA prefers to work directly with San Diego Gas & Electric (SDG&E) and local contractors on direct installation activity for income qualified participants
- Activity funded by Metropolitan through the Member Agency Administered Program (MAAP)



# State Water Project Dependent Area Outreach

- Outreach to big-box retail stores, landscape irrigation suppliers
- Point of Purchase materials to drive rebate program participation
- QR coding on materials takes consumers to device specific microsite
- Incorporated drought messaging to strengthen call for action
- Social media campaign to support instore materials



The poster features the SoCal WaterSmart logo at the top right and a circular seal at the top left. Below the seal is a graphic of a water meter. The text "SMART IRRIGATION CONTROLLERS" is prominently displayed in a red banner. Below this, instructions for claiming a rebate are provided: "Check to see if products qualify for a rebate by scanning the QR code and texting **REBATE** to **484848** or by visiting **socalwatersmart.com**." A QR code is located in a red box labeled "QUALIFYING PRODUCTS". A small disclaimer states "Only EPA WaterSense Qualified products are eligible." The bottom section of the poster features the text "REBATES START AT" above a large "\$80" in a red outline. At the very bottom, a red banner reads "SAVE WATER, **SAVE MONEY**".

# Legislative Framework Indoor Standard

- MWD sent comment letter on draft indoor standard on June 4<sup>th</sup>
- DWR reviewed comment letters – no changes made to recommended standard
- DWR recommendation sent to State Legislature on Nov 30

Year	Proposed Standard
2023	55 GPCD
2025	47 GPCD
2030	42 GPCD

# Legislative Framework Outdoor Standard

- DWR published draft outdoor standard recommendation on November 15th
- MWD submitted comment letter on November 23rd
- Final recommendations will be sent to SWRCB in December
- Supporting documentation on variances, CII, and technical appendices will be sent in Jan/Feb

