



● **Water Surplus and Drought Management Update** *Conditions as of 4/13/2023*

Summary

This report provides an accounting for water supply, demand, and storage conditions for calendar year (CY) 2023 as of April 13, 2023. This report also tracks the hydrologic conditions for water year (WY) 2022-2023. Updated supply and hydrologic information will be provided during the oral report in May.

On March 24, 2023, the California Department of Water Resources (DWR) increased the State Water Project (SWP) Table A allocation to 75 percent reflecting the improved hydrologic conditions and the record-breaking Sierra snowpack accumulation. DWR is also making additional water available to any SWP contractor that can take delivery of supply beyond scheduled Table A deliveries, known as Article 21 supply. Metropolitan's total SWP supply to manage is estimated at 1.57 million acre-feet (MAF) and shown in detail on page 3.

Metropolitan's Colorado River supply is currently estimated to be 962 thousand acre-feet (TAF). This reflects the United States Bureau of Reclamation's (USBR) daily forecast of water use for California's Colorado River water users for this year. Water usage by the higher priority water users impacts Metropolitan's supply. Metropolitan's combined SWP and Colorado River supplies are estimated to be 2.532 MAF for CY 2023 at the 75 percent SWP allocation.

The current trend demand on Metropolitan for CY 2023 is estimated to be 1.575 MAF. This includes a consumptive demand estimate of 1.18 MAF with the remaining demand reflecting replenishment deliveries, obligations, losses, and cyclic pre-deliveries, details shown on page 4. Metropolitan will deliver water to member agencies who deferred deliveries through the Reverse Cyclic Program and return water to DWR for human health and safety supply received in CY 2022. In addition, Metropolitan will pre-deliver water to local storage managed by its member agencies through the Cyclic Program. These pre-deliveries are sold on an agreed-upon schedule over five years. All of these actions are tracked in **Attachment 2**. Given the current CY 2023 estimate for supply and demand, Metropolitan is anticipating a net increase to its total storage balance of 957 TAF by the end of the year.

Additional increases to the SWP allocation are possible as DWR continues to assess snowpack runoff in future allocation studies. Increases to the SWP allocation may result in more supply available than Metropolitan's ability to manage. To manage as much water as possible, Metropolitan is coordinating with member agencies to assess delivery capabilities throughout the service area. To that end, and pursuant to the Board's April 2019 authorization, Metropolitan's General Manager implemented the Cyclic Cost-Offset Program effective April 15, 2023 to help member agencies offset the additional costs incurred from capturing increased volumes of water into their cyclic accounts. Maximizing the amount of water stored along with continued water-use efficiency from the region will help prepare the region against future dry years and the uncertainties on our imported water supply.

Purpose

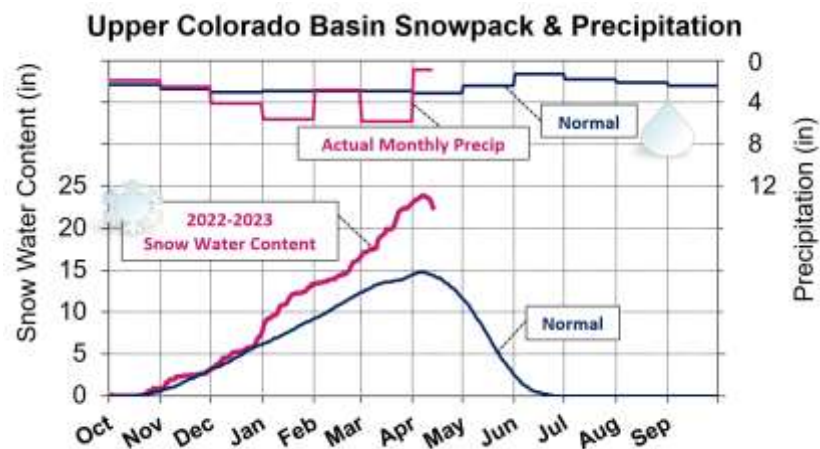
Informational

Attachments

- Attachment 1: Projected 2023 WSDM Storage Detail (75 percent SWP Table A allocation)
- Attachment 2: Future Contributions and Obligations and Cyclic Program
- Attachment 3: Future Supply and Demand Gaps

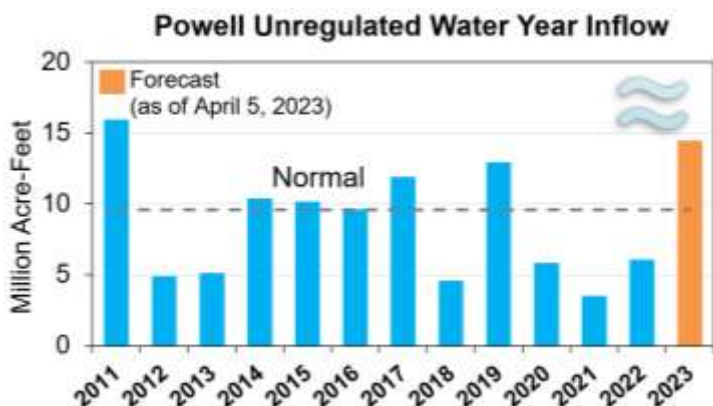
Detailed Report

This Water Surplus and Drought Management (WSDM) report provides the water supply and demand estimates for CY 2023 and hydrologic conditions for WY 2022-2023.



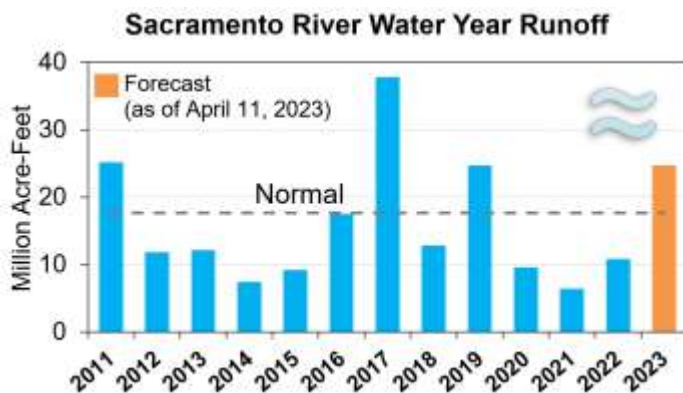
Upper Colorado River Basin

- ✱ Peak snowpack water content to date: 23.9 inches or 165% of April 1 normal.
- ◆ Above normal precipitation to date: 23.6 inches or 131% of normal for this date.
- ≈ Runoff into Lake Powell for WY 2023 is forecasted at 151% of normal.



Sacramento River Basin

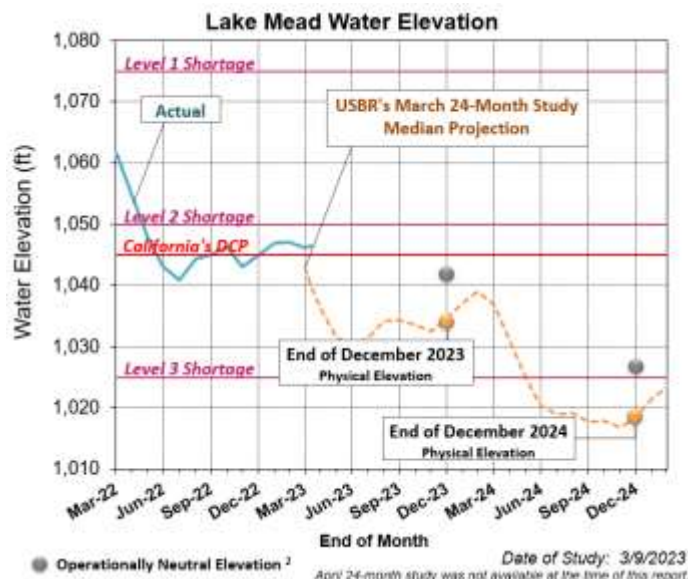
- ✱ Peak snowpack water content to date: 59.1 inches or 199% of April 1 normal.
- ◆ Above normal precipitation: 60.6 inches 113% of the water year normal.
- ≈ Runoff into the Sacramento River for WY 2023 is forecasted at 140% of normal.



CRA Supplies	Acre-Feet
Basic Apportionment	550,000
IID/ MWD Conservation Program	105,000
CVWD - 2nd Amendment, Exchange of Additional Water	23,000
PVID Fallowing Program	38,000
Exchange w/ SDCWA (IID/Canal Lining)	278,000
Exchange w/ USBR (San Luis Rey Tribe)	16,000
Lower Colorado Water Supply Project	9,000
Bard Seasonal Fallowing Program	6,000
Quechan Diversion Forbearance	0
Quechan Seasonal Fallowing Program	0
Higher Priority Water Use Adjustment	-63,000
Total CRA Supplies ^{1,2}	962,000

¹ Per USBR Forecast (4/10/23).

² Total may not sum due to rounding.



¹ Metropolitan would be required to make DCP contributions in 2024 if the August 2023 24-month Study projects Lake Mead's operatively neutral elevation is at or below 1,045 feet on 1/1/2024.

² This is the estimated water level had USBR not reduced releases from Lake Powell in WY 2022 to protect from dropping below power pool level. In WY 2022, USBR reduced releases from Lake Powell to Lake Mead by 480 TAF.

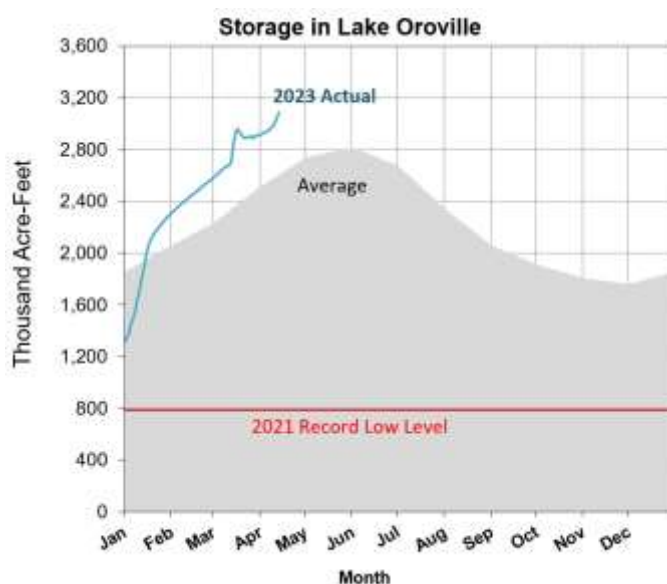
- Lake Mead storage is currently 7.43 MAF or elevation 1,046.5 feet (28 percent of total capacity).
- The Lower Basin is at a Level 2a shortage in CY 2023. Under this level, Metropolitan is not impacted.
- Due to the potential need to modify short-term operations to protect Lake Mead and Lake Powell, USBR initiated a fast-track process to modify the 2007 Interim Guidelines for operations through 2026. USBR released the draft Supplemental Environmental Impact Statement (SEIS) for public comment on April 11, 2023 which considers two action alternatives and a no action alternative for identifying shortages from the Lower Basin water users in 2024, 2025, and 2026. A final SEIS and Record of Decision is expected to be released Summer 2023.
- Metropolitan may use ICS to meet future DCP contributions.

SWP Supplies	Acre-Feet
Table A (75% SWP allocation)	1,434,000
Port Hueneme ¹	1,000
Unbalanced Exchange ²	3,000
Article 21	132,000
Total SWP Supplies ³	1,571,000
Total Supplies (CRA + SWP) (Prior to storage actions) ³	2,532,000

¹ Rounded to the nearest thousand.

² Unbalanced exchange with the Santa Clarita Valley Water Agency.

³ Total may not sum due to rounding.



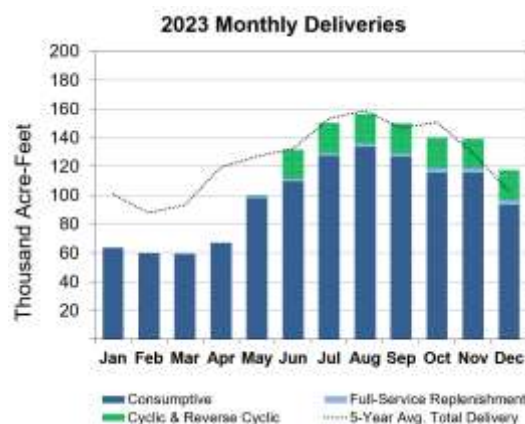
- Additional increases to the SWP Table A allocation are expected as DWR's subsequent allocation studies continue to incorporate forecasted runoff from the snowpack.
- Lake Oroville is currently at 3.08 MAF (87 percent of total capacity) or 118 percent of historical average as of the date of this report.

Current Demand	Acre-Feet
Member Agency Consumptive ¹	1,184,000
Member Agency Replenishment	20,000
Coachella Valley Water District Agreement	15,000
Imperial Irrigation District Return ²	0
Exchange w/ San Luis Rey Tribe	16,000
System and Storage Losses	60,000
Cyclic Deliveries	122,000
2022 Reverse Cyclic Deliveries	25,000
2022 Human Health & Safety Water Return	134,000
Total Demands ³	1,575,000

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

² Per USBR Forecast (4/10/23).

³ Total may not sum due to rounding.

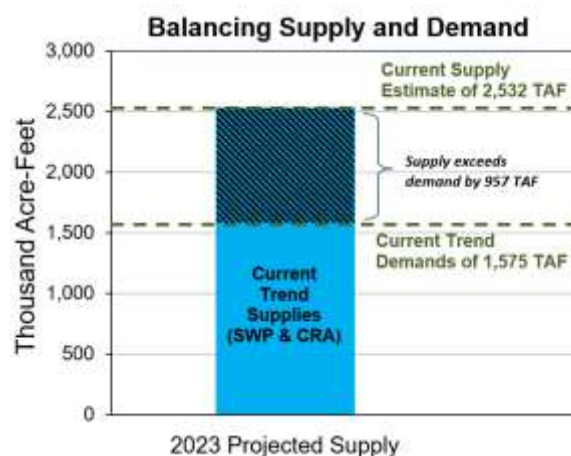


The current trend consumptive and replenishment demand CY 2023 is projected to be below the 5-year average due to ongoing conservation and the improving local supply conditions. Cyclic and Reverse Cyclic deliveries are estimated from June through December.

MANAGING REGIONAL SUPPLY AND DEMAND

Supply/Demand Balance	Acre-Feet
Total Supplies	2,532,000
Total Demands	1,575,000
Current Balance Estimate ¹	957,000

¹ Total may not sum due to rounding.



WSDM Strategies/Actions

The following WSDM actions are being pursued or are underway to address the estimated supply/demand balance in 2023, enhance Metropolitan's capability of delivering supplies to the SWP Dependent Areas, and reduce storage withdrawals in 2023.

- Storing surplus supplies in a manner to achieve equitable reliability across the region.
- Balance use of available imported supplies from both the SWP and Colorado River.
- Continue to utilize and manage storage assets to satisfy current and future year demands, with special emphasis on rebuilding storage for SWP Dependent Area.
- Incorporate new drought actions into existing suite of WSDM actions.
- Maximize deliveries of Article 21 supply.
- Initiate the Cyclic Cost-Offset Program starting April 15, 2023, to help manage surplus supply by offsetting member agency cost associated with taking additional Metropolitan deliveries.

2023 WSDM Storage Detail

	1/1/2023 Estimated Storage Levels ¹	CY 2023 Put Capacity ²	2023 Total Storage Capacity
WSDM Storage			
Colorado River Aqueduct Delivery System	1,139,000	400,000	1,657,000
Lake Mead ICS	1,139,000 ³	400,000	1,657,000
State Water Project System	502,000	720,000	1,897,000
MWD SWP Carryover ⁴	39,000	297,000	350,000
DWCV SWP Carryover ⁴			
MWD Articles 14(b) and 12(e)	0	0	N/A
Castaic and Perris DWR Flex Storage	3,000	216,000	219,000
Arvin Edison Storage Program	119,000	0 ⁵	350,000
Semitropic Storage Program	158,000	131,000	350,000
Kern Delta Storage Program	137,000	45,000	250,000
Mojave Storage Program	19,000	10,000	330,000
AVEK Storage Program	27,000	3,000	30,000
AVEK High Desert Water Bank Program	0	18,000 ⁶	18,000 ⁷
In-Region Supplies and WSDM Actions	698,000	404,000	1,246,000
Diamond Valley Lake	494,000	316,000	810,000
Lake Mathews and Lake Skinner	194,000	32,000	226,000
Conjunctive Use Programs (CUP) ⁸	10,000	56,000	210,000
Other Programs	662,000	189,000	1,181,000
Other Emergency Storage	381,000	0	381,000
DWCV Advanced Delivery Account	281,000	189,000	800,000
Total	3,001,000	1,713,000	5,981,000
Emergency	750,000	0	750,000
Total WSDM Storage (AF) ⁹	2,251,000	1,713,000	5,231,000

¹ Preliminary start of year balances, subject to DWR adjustments and USBR final accounting in May 2023.

² Put capacity assumed under a 75 percent SWP Table A Allocation. Storage program losses included where applicable.

³ This amount is net of the water Metropolitan stored for IID in Lake Mead in an ICS sub-account.

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

⁵ Puts are limited due to water quality considerations.

⁶ Includes the early recharge in the High Desert Water Bank Program expected to commence in the summer.

⁷ Represents a portion of the total storage capacity. Total storage capacity is 280,000 AF once the program is fully constructed. Anticipated to be fully operational by the end of 2025.

⁸ 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.

⁹ Total WSDM Storage level subject to change based on accounting adjustments.

Future Contributions and Obligations and Cyclic Programs

Table 1: Future Obligations

	Future Returns ¹
Water Stored for IID under the California ICS Agreement and its Amendment or the 2021 Settlement Agreement with IID	276,000 ²
Storage and Interstate Release Agreement with Southern Nevada Water Authority	330,000 ³
Coachella Valley Water District Agreement	210,000 ⁴
DWR Flex Storage	216,000 ⁵
2022 Reverse Cyclic	25,000 ⁶
2022 Human Health & Safety	134,000 ⁷
Total (AF)	1,191,000

¹ Rounded to the nearest thousand. Subject to change based on accounting adjustments.

² IID can request return in any year, conditional on agreement terms.

³ Up to 30,000 AF per year.

⁴ Obligation to be met by the end of 2026.

⁵ Flexible storage withdrawals from Castaic Lake and Lake Perris must be returned within five calendar years. Metropolitan is required to return 170,000 AF by 2026 for withdrawals in 2021. Metropolitan is required to return 46,000 AF by 2027 for withdrawals in 2022. Metropolitan is planning to return the entire obligation in 2023.

⁶ Deferred delivery from Calleguas Municipal Water District, Upper San Gabriel Valley Municipal Water District, and Three Valleys Municipal Water District. Metropolitan will deliver water to the member agencies by 2027. Future Return is projected to be reduced by the full amount in CY 2023 as shown on page 4.

⁷ Metropolitan's CY 2022 Human Health & Safety deliveries. This water must be returned by 2027. If the SWP allocation reaches 40 percent or greater, a minimum obligation of 96,000 acre-feet is required. Future Return is projected to be reduced by the full amount in CY 2023 as shown on page 4.

Table 2: Potential Magnitude of California's Drought Contingency Plan Contribution

	2023	2024	2025	2026
Likelihood of Required California Drought Contingency Plan Contribution ¹	0%	47%	60%	56%
Average Metropolitan DCP Contribution When Contributions Are Required (AF)	0	219,000	273,000	273,000

¹ Results from USBR's March 2023 Colorado River Mid-Term Modeling System (CRMMS) model run. April study not available at the time of this report.

Table 3: Cyclic Program Activity

CY	Starting Balance (AF)	CY Actions (AF)				Ending Balance (AF)
		Cyclic Pre-Delivery	Cyclic Cost- Offset Pre-Delivery	Total Pre-Delivery	Sale Out of Cyclic	
2019	51,000	147,000	19,000	166,000	91,000	126,000
2020	126,000	2,000	0	2,000	50,000	79,000
2021	79,000	0	0	0	28,000	51,000
2022	51,000	0	0	0	27,000	24,000
2023 ¹	24,000	0	0	0	24,000	0

¹ This table will be updated with actual 2023 Cyclic Program activity on a monthly basis.

Future Supply and Demand Gaps (Estimate as of December 2022 – Revised)

Metropolitan's Water Surplus and Drought Management Plan provides a framework for managing Metropolitan's resources in periods of surplus and shortage. To guide the WSDM actions, Metropolitan constructs plausible scenarios with different supply and demand assumptions. The table below shows the projected range of plausible end-of-year supply and demand balances for CY 2024. These ranges provide a bookend for the wide range of supply and demand balances that may unfold.

To reflect a reasonable range of future outcomes, the low supply projection is coupled with high demand projection as one bookend and the high supply projection is coupled with the low demand projection for the other bookend. The resulting ranges are shown in the table below. For 2024, the supply and demand balances may range from a shortage of ~920 TAF to a surplus of ~865 TAF. Regardless of the conditions that may materialize next year, Metropolitan will continue to adhere to the WSDM Plan to capture surplus amount of water in normal to wet conditions and use stored water and drought actions in drought conditions.

	2024 (TAF)	
Item	Low Supply/High Demand	High Supply/Low Demand
SWP ¹	+300	+1,340
Colorado River ²	+660	+985
Demand on Metropolitan ³	-1,800	-1,200
Additional Obligations ⁴	-80	-260
Supply/Demand Balance ⁵	(-920)	865

¹ SWP supplies are based on a low of 5% Table A allocation + HH&S to a high of 70% Table A allocation.

² Colorado River supplies are based on estimated transfers, exchanges, higher priority water use, and DCP contributions.

³ Demand on Metropolitan reflect the total of replenishment and consumptive demand.

⁴ Additional obligations include system losses, repayment of HH&S, etc.

⁵ The supply demand balances should not be interpreted as an absolute range as they were determined by explicit assumptions to represent reasonable outcomes. The actual supply and demand balance, shown in the WSDM report, may fall outside of this range as information becomes available for specific components throughout the year.