



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Board Report

Water Resources Management Group

• **Water Surplus and Drought Management Update** **Conditions as of 3/19/2024**

Summary

This report provides the monthly update in accounting for water supply, demand, and storage conditions for calendar year (CY) 2024 as of March 19, 2024, and tracks the hydrologic conditions for water year (WY) 2023-2024. Updated supply and hydrologic information will be provided during the oral report in April.

Hydrologic conditions continue to improve for both imported supply watersheds. As of March 19, 2024, the Upper Colorado River snowpack and precipitation measured above normal at 111 percent and 106 percent of normal, respectively. Snowpack in the northern Sierra measured above normal at 115 percent while precipitation measured slightly below normal at 93 percent. Both watersheds have surpassed the April 1 normal, when snowpack is typically at its peak, with the Upper Colorado River and northern Sierra snowpacks measuring at 104 percent and 113 percent of their respective April 1 normal.

On February 21, 2024, the California Department of Water Resources (DWR) increased the State Water Project (SWP) Table A allocation to fifteen percent, which does not account for the storms in February. DWR is assessing the impacts of those storms and will likely revise the SWP Table A allocation by the end of March. In the meantime, Metropolitan's SWP supply is 287 thousand acre-feet (TAF). Metropolitan's Colorado River supply is currently estimated to be 843 TAF. This reflects (1) agreements that have been signed under the Lower Colorado River Basin System Conservation and Efficiency Program to leave water in Lake Mead; and (2) the United States Bureau of Reclamation's (USBR) daily water use forecast for California's Colorado River water users for this year. Metropolitan's Colorado River supply will change over the year based on higher priority water use in California and water management actions Metropolitan may decide to take. Combining both supply estimates, Metropolitan's imported supply is 1.13 million acre-feet (MAF) for CY 2024.

Demand on Metropolitan, including estimated losses and other obligations, is currently estimated to be 1.48 MAF for CY 2024. Since supply is less than demand, Metropolitan's current supply/demand gap is approximately 356 TAF. Metropolitan plans to satisfy the supply/demand gap by withdrawing water from storage and is exploring potential opportunities for augmenting water supplies in the event they are needed.

Purpose

Informational

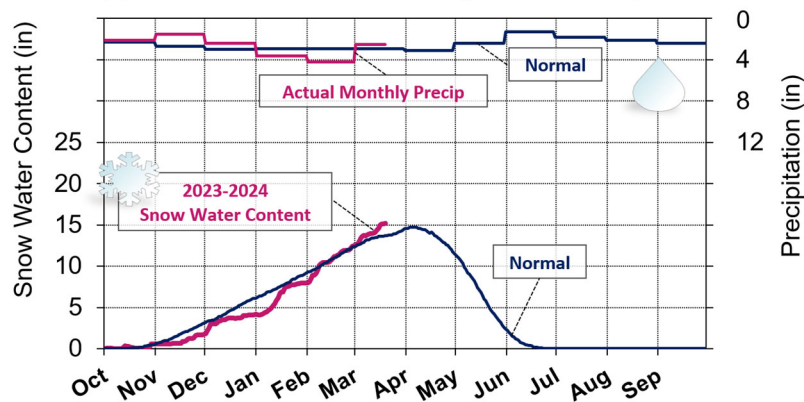
Attachments

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|---------------|--|
| Attachment 1: | Projected 2024 WSDM Storage Detail (15 percent SWP Table A allocation) |
| Attachment 2: | Future Contributions and Obligations and Cyclic Program |
| Attachment 3: | Range of Future Supply and Demand Gaps |

Detailed Report

This Water Surplus and Drought Management (WSDM) report provides the water supply and demand estimates for CY 2024 and developing hydrologic conditions for water year (WY) 2023-2024.

Upper Colorado Basin Snowpack & Precipitation

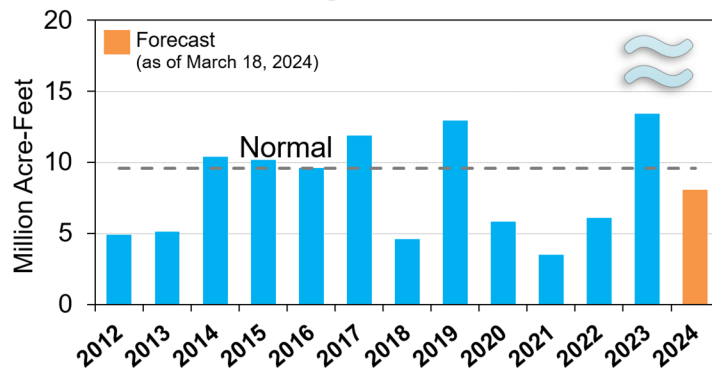
*Upper Colorado River Basin*

✱ Above normal snowpack water content for this date: 15.2 inches or 111% of normal for this date. Snowpack is above the April 1 normal (104% of April 1 normal)

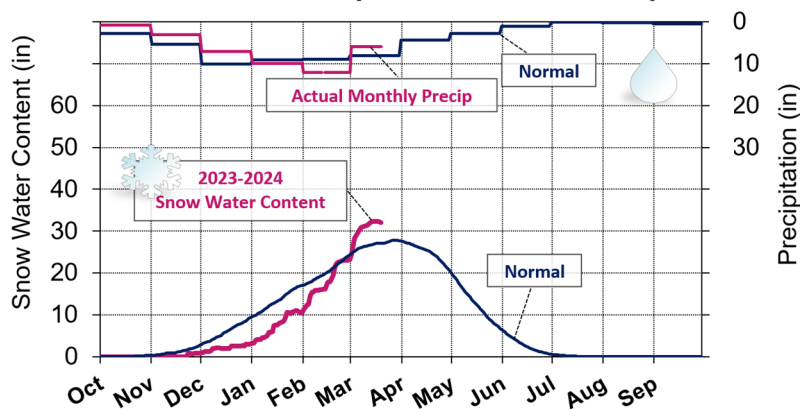
◆ Above normal precipitation to date: 16.3 inches or 106% of normal.

≈ Runoff into Lake Powell for WY 2024 is forecasted at 84% of normal.

Powell Unregulated Water Year Inflow



Northern Sierra Snowpack & 8 Station Precipitation

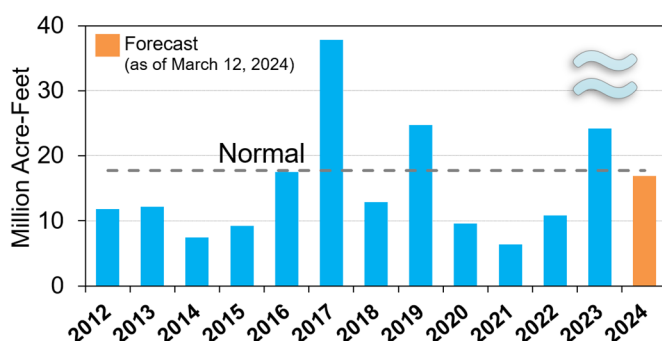
*Sacramento River Basin*

✱ Above normal snowpack water content for this date: 32.0 inches or 115% of normal for this date. Snowpack is above the April 1 normal (113% of April 1 normal)

◆ Near normal precipitation to date: 38.7 inches or 93% of normal.

≈ Runoff forecast for WY 2024 is forecasted at 96% of normal.

Sacramento River Water Year Runoff



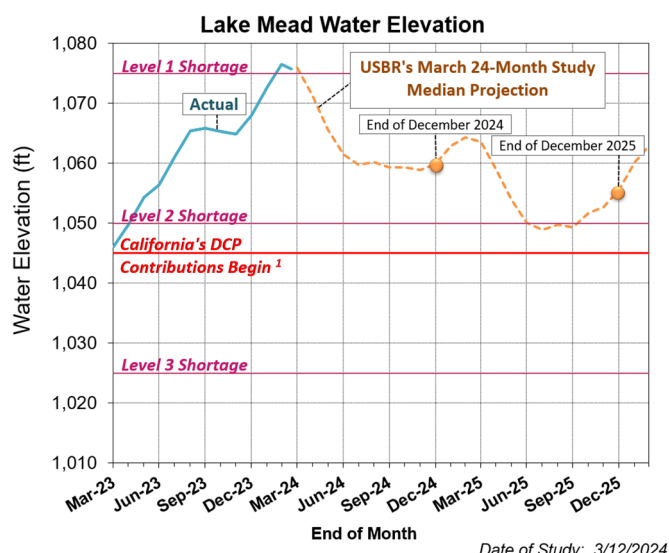
CRA Supplies	Acre-Feet
Basic Apportionment	550,000
IID/ MWD Conservation Program	105,000
CVWD - 2nd Amendment, Exchange of Additional Water	12,000
PVID Fallowing Program ¹	0
Exchange w/ SDCWA (IID/Canal Lining)	278,000
Exchange w/ USBR (San Luis Rey Tribe)	16,000
Lower Colorado Water Supply Project	9,000
Bard Seasonal Fallowing Program ²	6,000
Quechan Diversion Forbearance ¹	0
Quechan Seasonal Fallowing Program ³	0
Higher Priority Water Use Adjustment	-133,000
Total CRA Supplies ⁴	843,000

¹ Not a supply for Metropolitan in 2024. Water generated from these programs will become system water as part of USBR's Lower Colorado River Basin System Conservation Program to help protect Lake Mead.

² Is expected to become system water under USBR's Lower Colorado River Basin System Conservation and Efficiency Program, however agreements have not been finalized.

³ Rounded to the nearest thousand. Supply estimate is 281 AF.

⁴ Per USBR Forecast (3/18/2024). Total may not sum due to rounding.



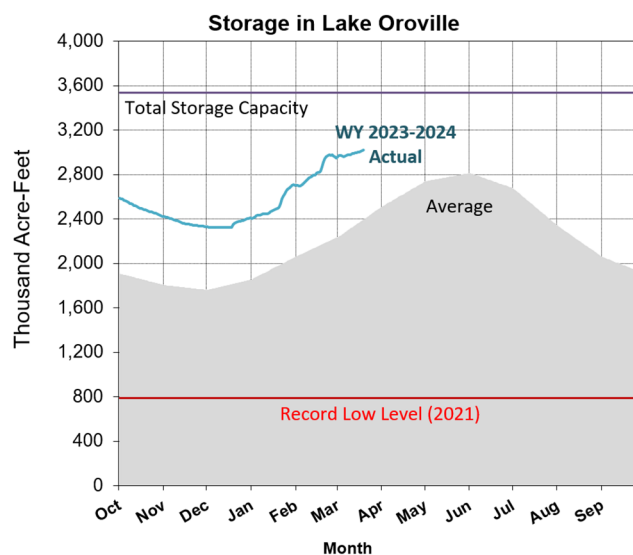
¹ Metropolitan is required to make Drought Contingency Plan (DCP) contributions in the following year if the August 24-month Study projects Lake Mead's elevation to be at or below 1,045 feet on January 1. Since the August 2023 24-month Study projected Lake Mead's elevation to be above 1,045 feet on January 1, 2024, Metropolitan is not required to make DCP contributions in 2024. This figure reflects the latest 24-month study (March 2024) available at the time of this report.

- Lake Mead storage is currently 9.6 MAF or elevation 1,075.7 feet (37 percent of total capacity).
- The Lower Basin is at a Level 1 shortage in CY 2024. Under this level, Metropolitan's operations are not impacted.

SWP Supplies	Acre-Feet
Table A (15% SWP allocation)	287,000
Port Hueneme ¹	0
Total SWP Supplies ²	287,000
Total Supplies (CRA + SWP) (Prior to storage actions) ²	1,130,000

¹ Rounded to the nearest thousand. Supply is 278 AF.

² Total may not sum due to rounding.



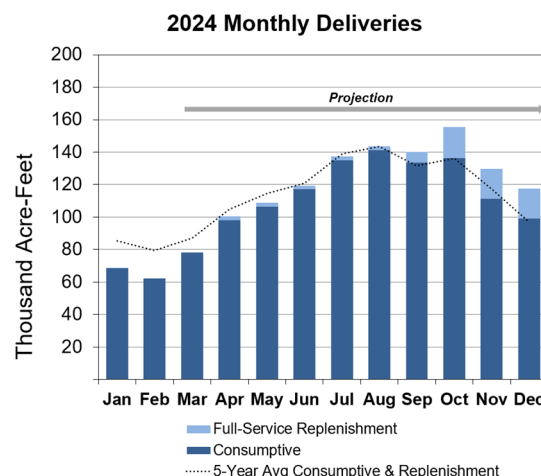
- The SWP Table A allocation for CY 2024 is currently fifteen percent. DWR is assessing the impacts of the February storms and may revise the SWP Table A allocation by the end of March. The final allocation is typically determined by May or June.
- Lake Oroville is currently at 3.0 MAF (85 percent of total capacity) or 126 percent of historical average as of the date of this report.

Current Demand	Acre-Feet
Member Agency Consumptive ¹	1,320,000
Member Agency Replenishment	75,000
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	0
2022 Reverse Cyclic Deliveries	0
Total Demands ³	1,486,000

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

² Per USBR Forecast (3/18/2024).

³ Total may not sum due to rounding.

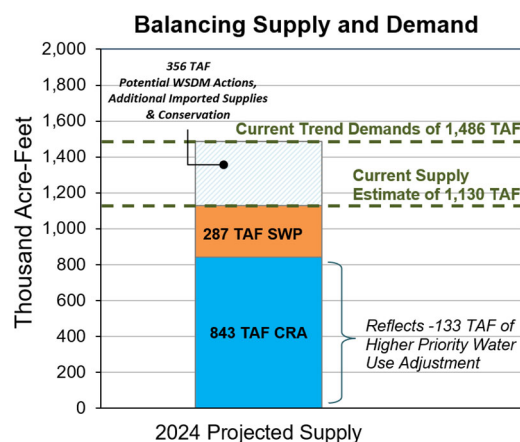


Consumptive and replenishment demand for April is forecasted to be slightly below the 5-year average due to above-average local supplies.

MANAGING REGIONAL SUPPLY AND DEMAND

Supply/Demand Balance	Acre-Feet
Total Supplies	1,130,000
Total Demands	1,486,000
Current Balance Estimate ¹	-356,000

¹ Total may not sum due to rounding.



WSDM Strategies/Actions

Metropolitan is monitoring supply development and updated demand projections. Available WSDM supplies are identified to satisfy any supply/demand gap in 2024 and appropriate actions will be taken to meet demands as needed. The following is a status of WSDM and other actions:

- **Dry-Year Storage:** Metropolitan will satisfy the potential supply gap with takes from dry-year storage.
- **2023 Supply Reconciliation:** Metropolitan has secured scheduled supplies not delivered in CY 2023 pursuant to Articles 14 (b) and 12 (e) of the State Water Project Contract for delivery in CY 2024.
- **Cyclic and CUP Deliveries:** Ceased until further notice.
- **SWP Groundwater Banking Deliveries:** Ceased until further notice.
- **SWP Transfer Supplies:** In February, Metropolitan's Board authorized the General Manager to secure one-year transfers and water exchanges with various water districts in the event they are needed.

2024 WSDM Storage Detail

	1/1/2024 Estimated Storage Levels ¹	CY 2024 Take Capacity ²	2024 Total Storage Capacity
WSDM Storage			
Colorado River Aqueduct Delivery System	1,544,000	212,000	1,657,000
Lake Mead ICS	1,544,000	212,000 ³	1,657,000
State Water Project System	1,006,000	592,000	1,991,000
MWD & DWCV Carryover	297,000	297,000	350,000 ⁴
MWD Articles 14(b) and 12(e)	28,000 ⁵	28,000	N/A
Castaic and Perris DWR Flex Storage	219,000	219,000	219,000
Arvin Edison Storage Program	100,000	0	350,000
Semitropic Storage Program	190,000	31,000	350,000
Kern Delta Storage Program	114,000	17,000	250,000
Mojave Storage Program	19,000	0	330,000
AVEK Storage Program	27,000	0	30,000
AVEK High Desert Water Bank Program	11,000	0	112,000 ⁶
In-Region Supplies and WSDM Actions	1,016,000	634,000	1,246,000
Diamond Valley Lake	753,000	496,000	810,000
Lake Mathews and Lake Skinner	207,000	95,000	226,000
Conjunctive Use Programs (CUP) ⁷	56,000	44,000	210,000
Other Programs	586,000	39,000	1,181,000
Other Emergency Storage	381,000	0	381,000
DWCV Advanced Delivery Account	205,000	39,000	800,000
Total	4,153,000	1,477,000	6,075,000
Emergency	750,000	0	750,000
Total WSDM Storage (AF) ⁸	3,403,000	1,477,000	5,325,000

¹ Preliminary start of year balances, subject to DWR adjustments and USBR final accounting in May 2024.

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

³ Take capacity based on planned maintenance activities and current CRA supply estimate.

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

⁵ DWR has approved carryover supplies under Articles 14 (b) and 12 (e) of the State Water Project Contract for delivery in 2024.

⁶ Reflects 40 percent of the AVEK High Desert Water Bank Program's total storage capacity that has been constructed. The total storage capacity for the AVEK High Desert Water Bank is 280 TAF. Full recharge and recovery operation anticipated by 2027.

⁷ 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.

⁸ Total WSDM Storage level subject to change based on accounting adjustments. Total may not sum due to rounding.

Future Contributions and Obligations and Cyclic Programs

Table 1: Future Obligations ¹

	Beginning of Year 2024 Balance
Water Stored for IID under the California ICS Agreement and its Amendment or the 2021 Settlement Agreement with IID	266,000 ²
Storage and Interstate Release Agreement with Southern Nevada Water Authority (SNWA)	330,000 ³
Coachella Valley Water District Agreement	105,000 ⁴
2022 Reverse Cyclic	7,000 ⁵
Total (AF) ⁶	708,000

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

² Reflects final accounting under USBR's 2022 Water Accounting Report released May 15, 2023. IID can request a return in any year, conditional on agreement terms.

³ SNWA may request up to 30,000 AF per year.

⁴ Obligation must be met by the end of 2026.

⁵ Deferred delivery from Calleguas Municipal Water District and Three Valleys Municipal Water District. Metropolitan is required to deliver water to the member agencies by 2027. Metropolitan will deliver water to the member agencies when the SWP Table A allocation is higher than 40 percent or sooner if Metropolitan determines water is available.

⁶ Total may not sum due to rounding.

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

	2024	2025	2026
Likelihood of Required California Drought Contingency Plan Contribution ¹	0%	0%	7%
Average Metropolitan DCP Contribution When Contributions Are Required (AF)	0	0	180,000

¹ Results from USBR's March 2024 Colorado River Mid-Term Modeling System (CRMMS) model run.

Table 3: Cyclic Program Activity ¹

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 to Date	
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	24,000	33,000	14,000	48,000	72,000	0
2024	0	0	0	0	0	0

¹ This table is updated with actual Cyclic Program activity on a monthly basis. Total may not sum due to rounding.

Potential Future Supply and Demand Gaps (Estimate as of November 2023)

Metropolitan's Water Surplus and Drought Management Plan provides a framework for managing Metropolitan's resources in periods of surplus and shortage. To guide 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 Calendar Years 2025 and 2026. 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 a 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 and key assumptions are shown in the table below. For 2025, the supply and demand balances may range from a shortage of ~1,011 TAF to a surplus of ~1,642 TAF, and for 2026, the balances may range from a shortage of ~1,032 TAF to a surplus of ~1,660 TAF. Regardless of the conditions that may materialize in the future, Metropolitan will continue to adhere to the WSDM Plan to capture surplus water in normal to wet conditions and use stored water and drought actions in drought conditions.

	2025 (TAF)		2026 (TAF)	
Item	Low Supply/ High Demand	High Supply/ Low Demand	Low Supply/ High Demand	High Supply/ Low Demand
SWP ¹	116	1,914	116	1,914
Colorado River ²	889	1,074	853	1,077
Demand on Metropolitan ³	-1,900	-1,100	-1,900	-1,100
Other Demand on Metropolitan ⁴	-116	-246	-101	-231
Supply/Demand Balance ⁵	-1,011	1,642	-1,032	1,660

¹ SWP supplies are based on a low of 5% to a high of 100% of Table A.

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

³ Demand on Metropolitan reflects the total replenishment and consumptive demand.

⁴ Includes Coachella Valley Water District exchange, San Luis Rey Agreement, system losses, and Reverse Cyclic and Cyclic Program deliveries.

⁵ The supply-demand balances should not be interpreted as an absolute range as they were determined by explicit assumptions to represent reasonable outcomes.