



● **Water Surplus and Drought Management Update** *Conditions as of 11/14/2023*

Summary

This report provides an accounting of water supply, demand, and storage balances for calendar year (CY) 2023, as of November 14, 2023. This report also tracks the hydrologic conditions for water year (WY) 2023-2024.

CY 2023 Highlights:

State Water Project Supplies

- A series of atmospheric river storms and cold temperatures boosted the State snowpack allowing for the State Water Project (SWP) allocation to increase to 100 percent of Table A, the first time since 2006.
- Article 21 surplus supplies were also made available as San Luis Reservoir filled.
- Northern Sierra snowpack peaked with twice the snow water equivalent amount, making it one of the largest snowpacks on record.
- Above normal runoff into the Sacramento River - more than twice the previous year's amount.

Colorado River Aqueduct Supplies

- Snowpack in the Colorado River Basin was one of the largest in the past thirty years.
- Above normal inflows into Lake Powell - more than twice the previous year's amount.
- Colorado River supplies to Metropolitan decreased to allow conserved water by higher priority water users to be added to Lake Mead, which will help protect storage in Lake Mead and help stabilize the Colorado River reservoir system.
- Due to improved hydrologic conditions, the United States Bureau of Reclamation's (USBR) forecasts showed no chance of Metropolitan making Drought Contingency Plan (DCP) Contributions in 2024 and 2025 and reduced chances of Metropolitan making DCP contributions in 2026.

Demands on Metropolitan

- Lowest projected combined member agency consumptive and replenishment demands on Metropolitan for CY 2023 since electronic records began in 1979.
- Continued conservation and behavioral water use reductions following the drought.

Water Management Tools

- Rescinded the Water Shortage Emergency Condition for the SWP Dependent Area and terminated the Emergency Water Conservation Program due to improved hydrologic conditions.
- Pre-delivered water to local storage managed by member agencies through the Cyclic Program and initiated the Cyclic Cost-Offset Program to help member agencies offset the additional costs incurred from capturing increased volumes of water into their cyclic accounts.
- Reduced obligations to return and/or deliver water by (1) delivering water to member agencies who deferred deliveries through the Reverse Cyclic Program, (2) returned water to the California Department of Water Resources (DWR) for human health and safety supply received in CY 2022 and for flexible storage takes in CY 2021 and 2022, and (3) delivered water to Desert Water Agency/Coachella Valley Water District.
- Stored surplus supply in Metropolitan's dry-year storage reserves. Metropolitan's dry-year storage reserves at the end of CY 2023 is projected to be approximately 3.4 million acre-feet (MAF), a record-high storage balance for Metropolitan.

Purpose

Informational

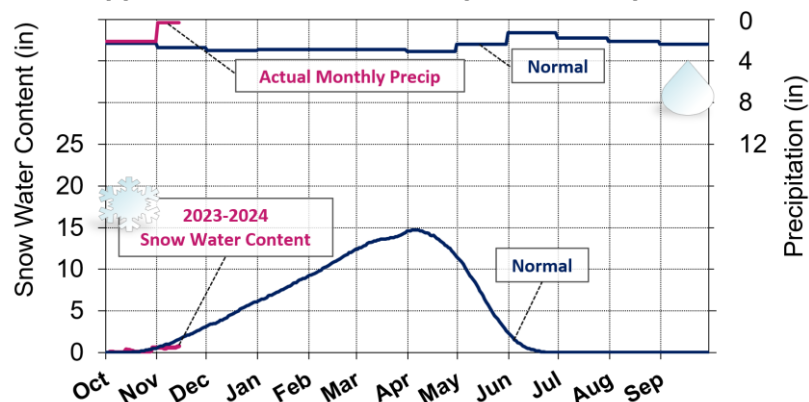
Attachments

- Attachment 1: Projected 2023 WSDM Storage Detail (100 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 conditions for CY 2023. This report also tracks the hydrologic conditions for water year (WY) 2023-2024.

Upper Colorado Basin Snowpack & Precipitation



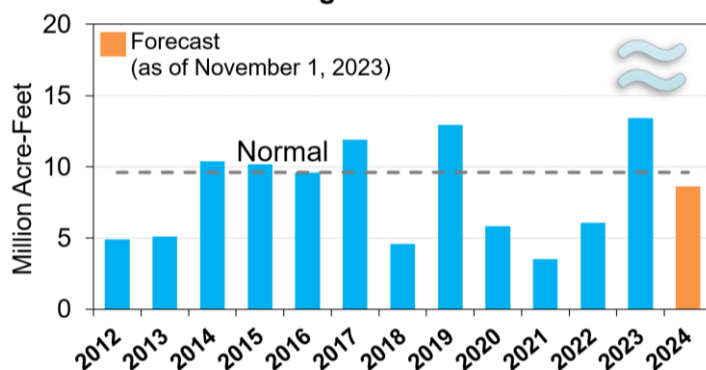
Upper Colorado River Basin

✳ Below normal snowpack water content for this date: 0.6 inches or 38% of normal for this date. Snow data early in the season may not provide a valid measure of conditions.

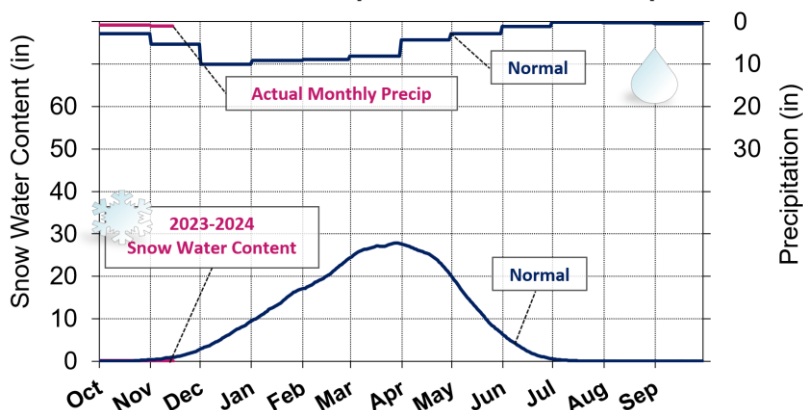
◆ Below normal precipitation to date: 2.4 inches or 69% of normal.

≈ Runoff into Lake Powell for WY 2024 is forecasted at 90% of normal.

Powell Unregulated Water Year Inflow



Northern Sierra Snowpack & 8 Station Precipitation



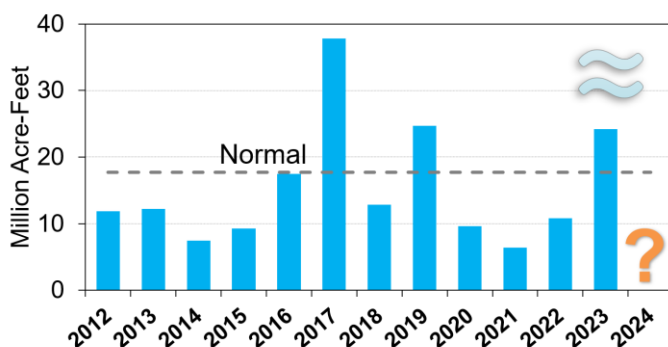
Sacramento River Basin

✳ No significant snow reported.

◆ Below normal precipitation to date: 1.7 inches or 32% of normal.

≈ Runoff forecast for WY 2024 unavailable at the time of this report.

Sacramento River Water Year Runoff

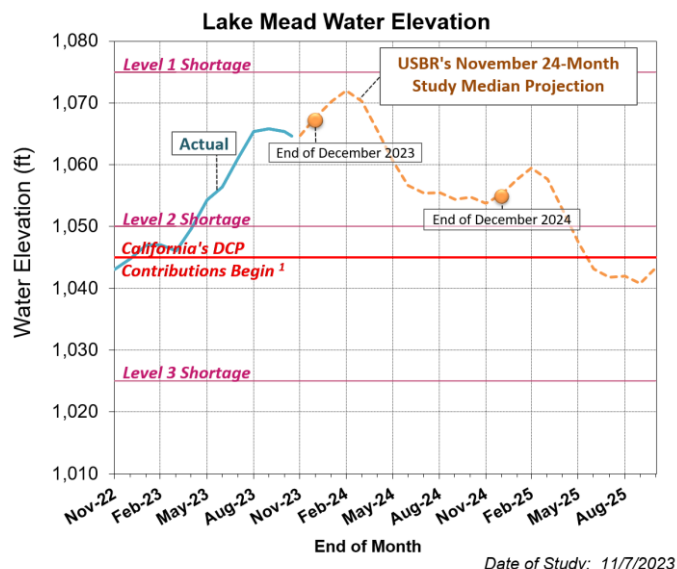


| CRA Supplies | Acre-Feet |
|---|------------------|
| <i>Basic Apportionment</i> | 550,000 |
| <i>IID/ MWD Conservation Program</i> | 105,000 |
| <i>CVWD - 2nd Amendment, Exchange of Additional Water</i> | 60,000 |
| <i>PVID Fallowing Program</i> | 38,000 |
| <i>Exchange w/ SDCWA (IID/Canal Lining) ¹</i> | 228,000 |
| <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> | 5,000 |
| <i>Quechan Diversion Forbearance</i> | 0 |
| <i>Quechan Seasonal Fallowing Program ²</i> | 0 |
| <i>Higher Priority Water Use Adjustment ¹</i> | 133,000 |
| Total CRA Supplies ³ | 1,144,000 |

¹ Reflects proposals for system conservation resulting in system water left in Lake Mead.

² Rounded to the nearest thousand. Supply is 281 AF.

³ Total may not sum due to rounding.



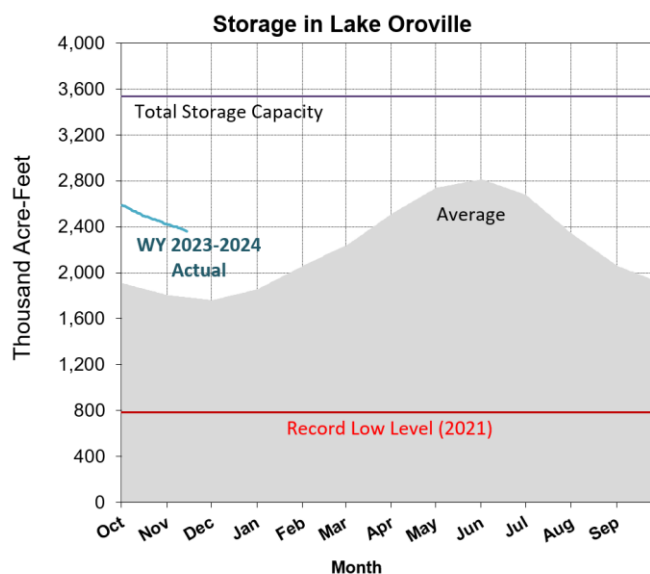
¹ Metropolitan is required to make Drought Contingency Plan (DCP) contributions in the following year if the August 24-month Study projects Lake Mead's elevation to be at or below 1,045 feet on January 1. Since the August 2023 24-month Study projected Lake Mead's elevation to be above 1,045 feet on January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

- Lake Mead storage is currently 8.7 MAF or elevation 1,064.6 feet (34 percent of total capacity).
- The Lower Basin is at a Level 2a shortage in CY 2023. Under this level, Metropolitan is not impacted.
- The Lower Basin will be in a Level 1 shortage in CY 2024, an improvement over last year's determination. This determination does not affect Metropolitan's operations.

| SWP Supplies | Acre-Feet |
|---|------------------|
| <i>Table A (100% SWP allocation)</i> | 1,912,000 |
| <i>Port Hueneme</i> | 2,000 |
| <i>Unbalanced Exchange ¹</i> | 3,000 |
| <i>Article 21</i> | 134,000 |
| <i>Purchase of SDCWA's Semitropic Supply</i> | 4,000 |
| Total SWP Supplies ² | 2,055,000 |
| Total Supplies (CRA + SWP) (Prior to storage actions) ² | 3,198,000 |

¹ Unbalanced exchange with the Santa Clarita Valley Water Agency.

² Total may not sum due to rounding.



- The SWP Table A allocation for CY 2023 is 100 percent following the three driest years on record.
- Lake Oroville is currently at 2.36 MAF (67 percent of total capacity) or 132 percent of historical average as of the date of this report.

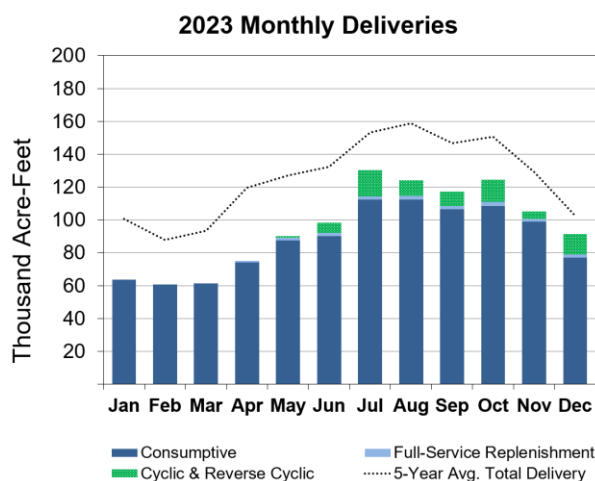
| Current Demand | Acre-Feet |
|--|------------------|
| Member Agency Consumptive ¹ | 1,047,000 |
| Member Agency Replenishment | 16,000 |
| Coachella Valley Water District Agreement | 135,000 |
| Imperial Irrigation District Return ² | 0 |
| Exchange w/ San Luis Rey Tribe | 16,000 |
| System and Storage Losses | 103,000 |
| Cyclic Deliveries ³ | 54,000 |
| 2022 Reverse Cyclic Deliveries | 18,000 |
| 2022 Human Health & Safety Water Return | 134,000 |
| Total Demands ⁴ | 1,523,000 |

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

² Per USBR Forecast (11/14/2023).

³ Includes an estimate of 13,000 AF of deliveries through the Cyclic Cost-Offset Program.

⁴ Total may not sum due to rounding.

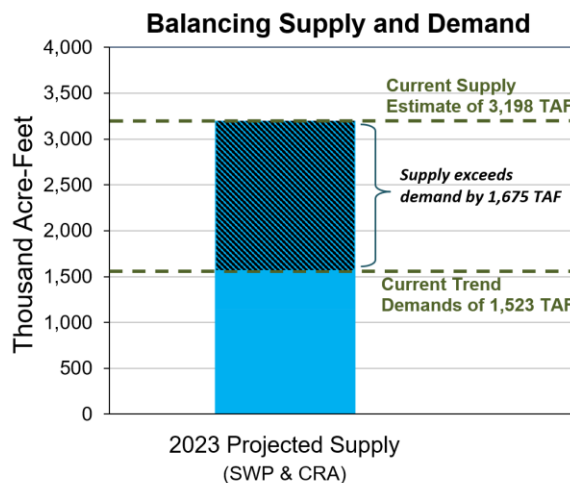


Due to above average in-region precipitation and local supplies, member agency deliveries for CY 2023 are projected to be the lowest since electronic records began in 1979.

MANAGING REGIONAL SUPPLY AND DEMAND

| Supply/Demand Balance | Acre-Feet |
|--|------------------|
| Total Supplies | 3,198,000 |
| Total Demands | 1,523,000 |
| Current Balance Estimate ¹ | 1,675,000 |

¹ Total may not sum due to rounding.



WSDM Strategies/Actions

The following summarizes the WSDM strategies/actions taken to address the estimated supply/demand balance in 2023.

- Balanced the use of available imported supplies from both the SWP and Colorado River.
- Pre-delivered water to local storage managed by its member agencies through the Cyclic Program and initiated the Cyclic Cost-Offset Program to help manage surplus supply by offsetting member agency cost associated with taking additional Metropolitan deliveries.
- Delivered water to member agencies who deferred deliveries through the Reverse Cyclic Program and returned water to DWR for human health and safety supply received in CY 2022 and for flexible storage takes in CY 2021 and 2022.
- Delivered water to Desert Water Agency/Coachella Valley Water District.
- Stored surplus supplies in a manner to achieve equitable reliability across the region.
- Continued to utilize and manage storage assets to satisfy current and future year demands, with special emphasis on rebuilding storage for SWP Dependent Area.
- Metropolitan is projecting to store an estimated 1.17 MAF of the 1.67 MAF of surplus supplies available in CY 2023. Metropolitan's dry-year storage reserves at the end of CY 2023 is projected to be approximately 3.4 MAF, a record-high storage balance for Metropolitan.

2023 WSDM Storage Detail

| WSDM Storage | 1/1/2023 Storage Levels | Net Projected Storage Action Put (+) / Take (-) ¹ | Projected End of Year 2023 Balance ² | 2023 Total Storage Capacity |
|--|----------------------------|--|---|--------------------------------|
| Colorado River Aqueduct Delivery System | 1,128,000 | 416,000 | 1,544,000 | 1,657,000 |
| Lake Mead ICS | 1,128,000 ³ | 416,000 | 1,544,000 | 1,657,000 |
| State Water Project System | 502,000 | 486,000 | 988,000 | 1,889,000 |
| MWD & DWCV Carryover | 39,000 | 258,000 | 297,000 | 350,000 ⁴ |
| MWD Articles 14(b) and 12(e) | 0 | 0 | 0 | N/A |
| Castaic and Perris DWR Flex Storage | 3,000 | 216,000 | 219,000 | 219,000 |
| Arvin Edison Storage Program | 119,000 | -19,000 ⁵ | 100,000 | 350,000 |
| Semitropic Storage Program | 158,000 | 33,000 | 191,000 | 350,000 |
| Kern Delta Storage Program | 137,000 | -12,000 | 125,000 | 250,000 |
| Mojave Storage Program | 19,000 | 0 | 19,000 | 330,000 |
| AVEK High Desert Water Bank Program ⁶ | 27,000 | 10,000 ⁷ | 37,000 | 40,000 ⁸ |
| In-Region Supplies and WSDM Actions | 698,000 | 333,000 | 1,031,000 | 1,246,000 |
| Diamond Valley Lake | 494,000 | 277,000 | 771,000 | 810,000 |
| Lake Mathews and Lake Skinner | 194,000 | 5,000 | 199,000 | 226,000 |
| Conjunctive Use Programs (CUP) ⁹ | 10,000 | 51,000 | 61,000 | 210,000 |
| Other Programs | 662,000 | -56,000 | 606,000 | 1,181,000 |
| Other Emergency Storage | 381,000 | 0 | 381,000 | 381,000 |
| DWCV Advanced Delivery Account | 281,000 | -56,000 | 225,000 | 800,000 |
| Total | 2,990,000 | 1,179,000 | 4,169,000 | 5,973,000 |
| Emergency | 750,000 | 0 | 750,000 | 750,000 |
| Total WSDM Storage (AF) ¹⁰ | 2,240,000 | 1,179,000 | 3,419,000 | 5,223,000 |

¹ Storage program losses included where applicable.

² Preliminary end of year balances, subject to DWR adjustments and USBR final accounting in May 2024.

³ Reflects USBR's final accounting for 2022, released May 2023. 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 Via exchange of surface water supplies.

⁶ Includes water previously stored under the AVEK Storage Program.

⁷ Represents early recharge in the AVEK High Desert Water Bank Program.

⁸ Reflects a portion of the AVEK High Desert Water Bank Program's total storage capacity. The total storage capacity will be reflected once the program is fully constructed. Anticipated to be fully operational by 2027.

⁹ Total of all CUP programs including IEUA/TVMWD (Chino Basin); Long Beach (Central Basin); Long Beach (Lakewood); Foothill (Raymond and Monk Hill); MWD OC (Orange County Basin); Three Valleys (Live Oak); Three Valleys (Upper Claremont); and Western.

¹⁰ Total WSDM Storage level subject to change based on accounting adjustments.

Future Contributions and Obligations and Cyclic Programs

Table 1: Future Obligations ¹

| | Beginning of Year 2023 Balance | Projected End of Year 2023 Balance |
|---|-----------------------------------|--|
| Water Stored for IID under the California ICS Agreement and its Amendment or the 2021 Settlement Agreement with IID | 266,000 | 266,000 ² |
| Storage and Interstate Release Agreement with Southern Nevada Water Authority | 330,000 | 330,000 ³ |
| Coachella Valley Water District Agreement | 210,000 | 105,000 ⁴ |
| DWR Flex Storage | 216,000 ⁵ | 0 |
| 2022 Reverse Cyclic | 25,000 ⁶ | 7,000 |
| 2022 Human Health & Safety | 134,000 ⁷ | 0 |
| Total (AF) | 1,181,000 | 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 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 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.

⁶ Deferred delivery from Calleguas Municipal Water District, Upper San Gabriel Valley Municipal Water District, and Three Valleys Municipal Water District. Metropolitan is required to deliver water to the member agencies by 2027.

⁷ Metropolitan's CY 2022 Human Health & Safety deliveries. This water must be returned by 2027.

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% | 0% | 0% | 13% |
| Average Metropolitan DCP Contribution When Contributions Are Required (AF) | 0 | 0 | 0 | 214,000 |

¹ Results from USBR's November 2023 Colorado River Mid-Term Modeling System (CRMMS) model run.

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 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 ¹ | 24,000 | 16,000 | 7,000 | 23,000 | 7,000 | 41,000 |

¹ This table is updated with actual 2023 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 2024, 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 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 CY 2024, the supply and demand balances may range from a shortage of ~722 TAF to a surplus of ~1,536 TAF. Beginning in January 2024, Metropolitan's WSDM report will track the supply and demand balances for CY 2024. The supply and demand balance for 2024 may fall outside of the range presented in the table as information becomes available for specific components throughout the year.

As for the outlook for 2025 and 2026, the supply and demand balance is subject to considerable uncertainty. 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 next year and beyond, 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.

| | 2024 (TAF) | | 2025 (TAF) | | 2026 (TAF) | |
|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Item | Low Supply/High Demand | High Supply/Low Demand | Low Supply/High Demand | High Supply/Low Demand | Low Supply/High Demand | High Supply/Low Demand |
| SWP ¹ | 211 | 1,914 | 116 | 1,914 | 116 | 1,914 |
| Colorado River ² | 883 | 1,068 | 889 | 1,074 | 853 | 1,077 |
| Demand on Metropolitan ³ | -1,700 | -1,200 | -1,900 | -1,100 | -1,900 | -1,100 |
| Other Demand on Metropolitan ⁴ | -116 | -246 | -116 | -246 | -101 | -231 |
| Supply/Demand Balance ⁵ | -722 | 1,536 | -1,011 | 1,642 | -1,032 | 1,660 |

¹ SWP supplies for CY 2024 are based on a low of 10% to a high of 100% of Table A. Supplies for 2025 and 2026 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 purchase, 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.