THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Report
Water Resource Management Group

- **Water Surplus and Drought Management Update** ***Conditions as of 1/20/2023***

Summary

This report provides an accounting for water supply, demand, and storage conditions for calendar year (CY) 2023 as of January 20, 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 February.

A series of winter storms brought much needed precipitation in both the northern Sierra and the Upper Colorado River Basins. Snowpack in the northern Sierra is currently well above normal for this time of the year and has even surpassed the April 1 normal which is typically when snowpack is at its highest. Snowpack in the Upper Colorado River Basin is also above normal for this date.

The Department of Water Resources (DWR) is assessing the impacts of the recent storms to State Water Project (SWP) Table A allocation. As of the date of this report, Metropolitan's SWP supply remains at 291 thousand acre-feet (TAF), which includes a five percent SWP Table A allocation and human health and safety supply. Metropolitan's Colorado River supply is currently estimated to be 843 TAF. This reflects the United States Bureau of Reclamation's (USBR) initially approved higher priority water usage that will likely change as the year progresses. Water usage by the higher priority water users impacts Metropolitan's supply. Combining both supply estimates, Metropolitan's imported supply, prior to withdrawing water from storage, is estimated to be 1.13 million acre-feet (MAF) for CY 2023. Metropolitan's supply may change throughout the year as hydrologic conditions develop.

The demand on Metropolitan is currently estimated to be 1.66 MAF for CY 2023, a slight decrease from last month's estimate due to the recent storms that have brought much needed precipitation to the region. Coupled with ongoing conservation efforts and use of local supplies, the SWP Dependent Area member agencies under the Emergency Water Conservation Program (EWCP) have used 66 percent less SWP supply than the volumetric limit to date (**Attachment 3**). Since supply is less than demand, Metropolitan's current supply/demand gap is estimated to be 530 TAF.

Should drought conditions persist or worsen in the coming months, Metropolitan's Board of Directors will consider implementing a regional Water Supply Allocation Plan (WSAP) for all member agencies beginning fiscal year 2023-2024. Under this plan, the Board may determine a regional shortage, establish a shortage level, and implement a surcharge for water use above a member agency's annual allocation.

Purpose

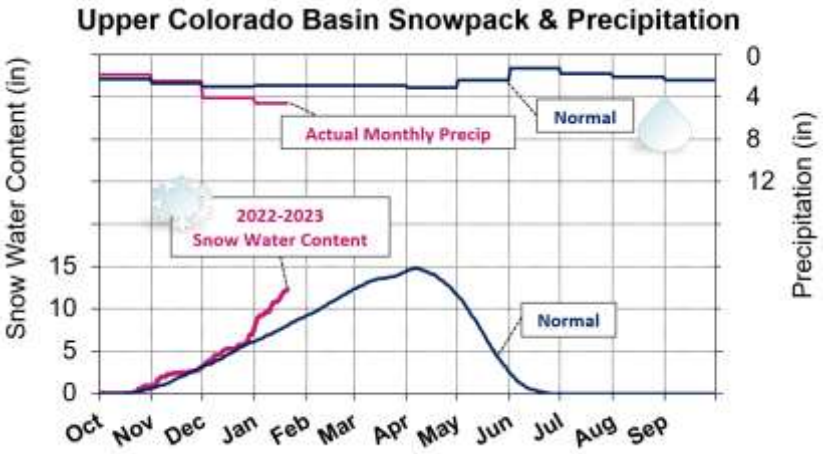
Informational

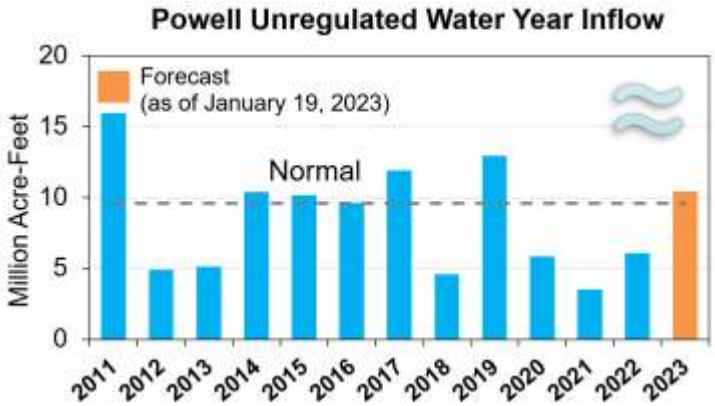
Attachments

Attachment 1: Projected 2023 WSDM Storage Detail (5 percent SWP Table A allocation)
Attachment 2: Future Contributions and Obligations and Cyclic Programs
Attachment 3: Emergency Water Conservation Program Performance
Attachment 4: Future Supply and Demand Gaps

Detailed Report

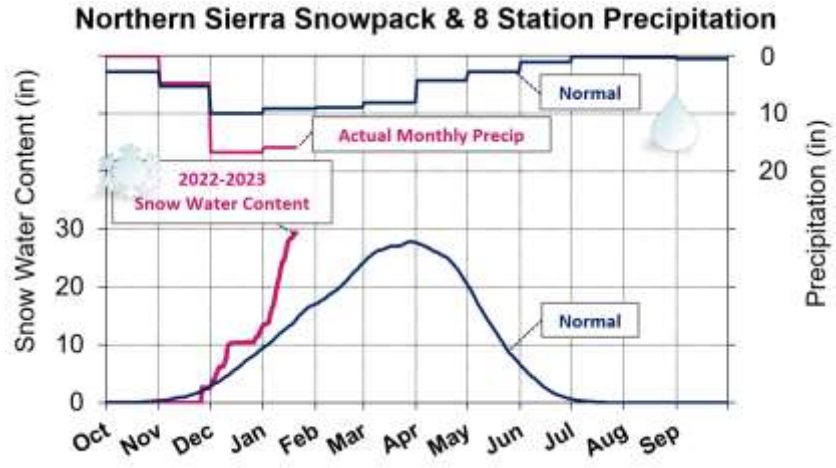
This Water Surplus and Drought Management (WSDM) report provides the water supply and demand estimates for CY 2023 and developing hydrologic conditions for WY 2022-2023.

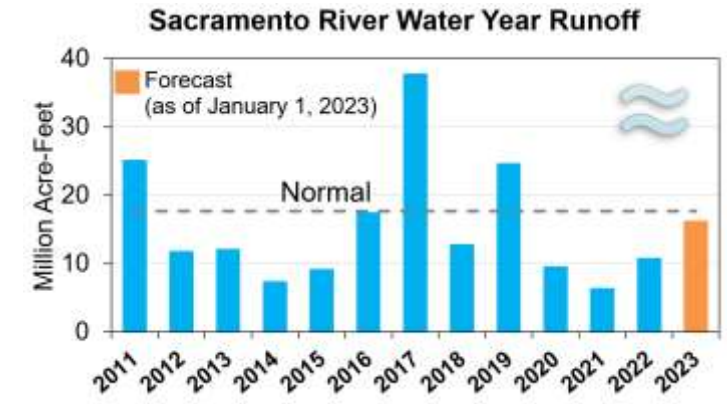




Upper Colorado River Basin

- ❄ Above normal snowpack water content for this date (12.2 inches or 153% of normal for this date).
- ♦ Above normal precipitation to date (13.1 inches or 133% of normal for this date).
- ≈ Runoff into Lake Powell for WY 2023 is forecasted at 109% of normal.



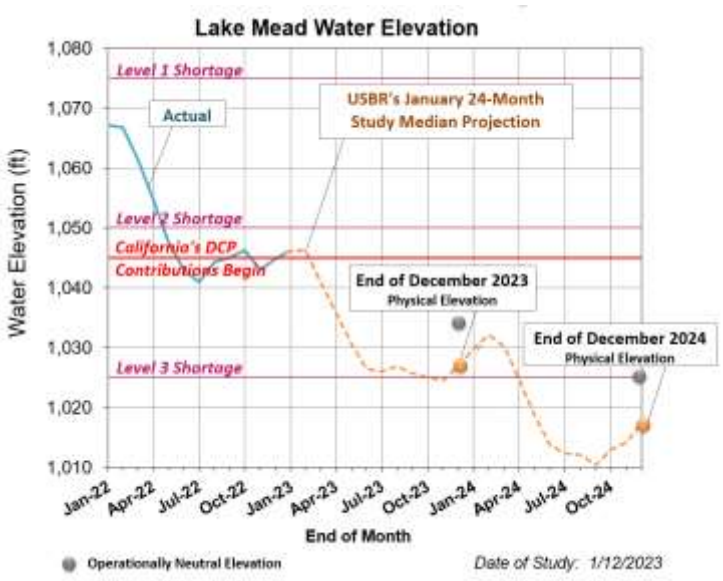


Sacramento River Basin

- ❄ Above normal snowpack water content for this date (29.3 inches or 197% of normal for this date). Snowpack has surpassed the April 1 normal (102% of April 1 normal).
- ♦ Above normal precipitation to date (37.3 inches or 156% of normal for this date).
- ≈ Runoff into the Sacramento River for WY 2023 is forecasted at 92% of normal.

CRA Supplies	Acre-Feet
Basic Apportionment	*550,000*
IID/ MWD Conservation Program	*105,000*
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	*6,000*
Quechan Seasonal Fallowing Program	*3,000*
Higher Priority Water Use Adjustment	*-169,000*
Total CRA Supplies [1,2]	**843,000**

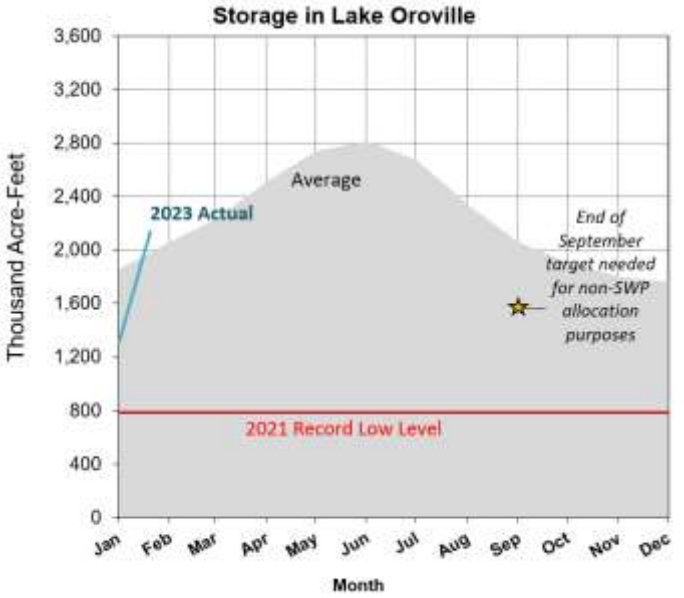
[1] Per USBR-approved water order (12/16/22).
[2] Total may not sum due to rounding.



- Lake Mead storage is currently 7.39 MAF or elevation 1,045.8 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.
- However, due to the critical conditions on the Colorado River, USBR initiated a fast-track process to modify the 2007 Interim Guidelines for operations in 2023, 2024, and possibly through 2026. USBR plans to issue a draft Supplemental Environmental Impact Statement (SEIS) for public comment in the Spring and a final SEIS and Record of Decision in Summer 2023.
- Metropolitan may use ICS to meet future DCP contributions; additional use of ICS to meet service area demand remains uncertain.

SWP Supplies	Acre-Feet
Table A (5% SWP allocation)	*96,000*
Port Hueneme [1]	*0*
Human Health & Safety Supply	*195,000*
Total SWP Supplies [2]	**291,000**
Total Supplies (CRA + SWP) (Prior to storage actions)	**1,134,000**

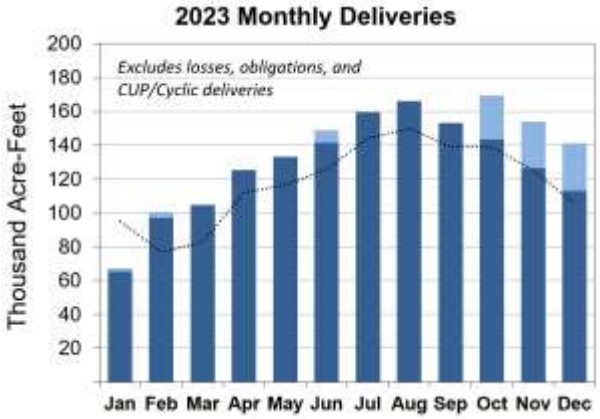
[1] Rounded to the nearest thousand.
[2] Total may not sum due to rounding.



- In addition to the 5 percent Table A allocation, DWR is providing water for Contractors' unmet Human Health and Safety needs (HH&S) in CY 2023. DWR expects Contractors receiving HH&S water to take mandatory conservation measures and return any HH&S water to the SWP in a future year. DWR has approved 195 TAF of HH&S supply for Metropolitan.
- Recent storms to date have increased Lake Oroville storage by approximately 1 MAF. Lake Oroville is currently at 2.14 MAF (60 percent of total capacity) or 108 percent of historical average as of the date of this report.

Current Demand	Acre-Feet
Member Agency Consumptive [1]	*1,537,000*
Member Agency Replenishment	*46,000*
Coachella Valley Water District Agreement	*15,000*
Return to Imperial Irrigation District [2]	*0*
Exchange w/ San Luis Rey Tribe	*16,000*
System and Storage Losses	*50,000*
Cyclic Deliveries	*0*
Total Demands [3]	**1,664,000**

[1] Includes exchange w/ SDCWA (IID/Canal Lining) and CUP sales.
[2] Per USBR-approved water order (12/16/22).
[3] Total may not sum due to rounding.

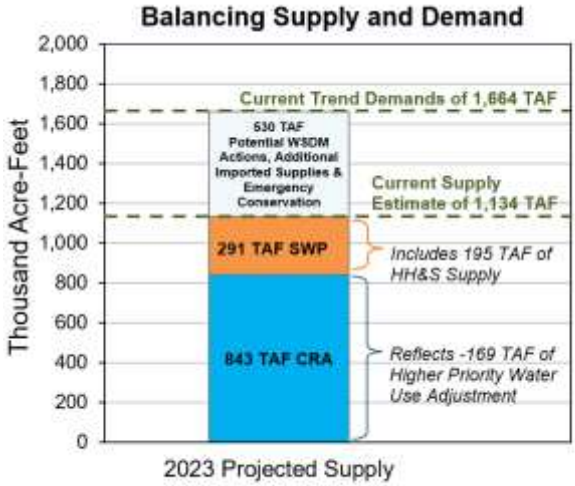


Due to the recent improved hydrologic conditions, January 2023 demands were below the 5-year average. Even with ongoing conservation efforts, demands for the year are projected to be higher than the 5-year average due to continued dry conditions and reduced local supplies.

MANAGING REGIONAL SUPPLY AND DEMAND

Supply/Demand Balance	Acre-Feet
Total Supplies	*1,134,000*
Total Demands	*1,664,000*
Current Balance Estimate [1]	**-530,000**

[1] Total may not sum due to rounding.



Dry-Year WSDM Strategies/Actions

The following WSDM actions are being pursued or are underway to satisfy the estimated supply/demand gap in 2023, enhance Metropolitan's capability of delivering supplies to the SWP Dependent Areas, and reduce storage withdrawals in 2023. Should conditions warrant, surplus supplies will be stored in a manner to achieve equitable reliability across the region.

- Actively pursuing additional transfer supplies.
- If needed, receive deliveries of HH&S supply from DWR to help meet demands of SWP Dependent Area.
- Balance use of available imported supplies from both the SWP and Colorado River.
- Continue coordination with our partners to maximize supply development.
- Continue to allocate available SWP supplies for EWCP.
- Continue to utilize and manage storage assets to satisfy current and future year demands.
- Incorporate new drought actions into existing suite of WSDM actions.
- Potential implementation of the Water Supply Allocation Plan (WSAP) for fiscal year 2023-2024 – under discussion with the member agencies.

2023 WSDM Storage Detail

WSDM Storage	1/1/2023 Estimated Storage Levels [1]	CY 2023 Take Capacity [2]	2023 Total Storage Capacity
Colorado River Aqueduct Delivery System	**1,139,000**	**TBD**	**1,657,000**
Lake Mead ICS	1,139,000[3]	TBD [4]	1,657,000
State Water Project System	**492,000**	**102,000**	**1,879,000**
MWD SWP Carryover [5]	28,000	28,000	350,000
DWCV SWP Carryover [5]			
MWD Articles 14(b) and 12(e)	0	0	N/A
Castaic and Perris DWR Flex Storage	3,000	3,000	219,000
Arvin Edison Storage Program	120,000	0	350,000
Semitropic Storage Program	158,000	45,000	350,000
Kern Delta Storage Program	137,000	26,000	250,000
Mojave Storage Program	19,000	0	330,000
AVEK Storage Program	27,000	0	30,000
In-Region Supplies and WSDM Actions	**698,000**	**329,000**	**1,246,000**
Diamond Valley Lake	494,000	237,000	810,000
Lake Mathews and Lake Skinner	194,000	82,000	226,000
Conjunctive Use Programs (CUP) [6]	10,000	10,000	210,000
Other Programs	**662,000**	**25,000**	**1,181,000**
Other Emergency Storage	381,000	0	381,000
DWCV Advanced Delivery Account	281,000	25,000	800,000
Total	**2,991,000**	**456,000**	**5,963,000**
Emergency	750,000	0	750,000
Total WSDM Storage (AF) [7]	**2,241,000**	**456,000**	**5,213,000**

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

[2] Take capacity assumed under a five 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] Take capacity will be based on planned maintenance activities, current CRA supply estimate, and operational decisions to protect Metropolitan's future CRA diversions. Although capacity is currently available, Metropolitan is planning to limit its take of ICS in 2023.

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

[6] 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.

[7] 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] Reflects an addition of 22,500 AF to account for water stored for IID in 2022, subject to verification. 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.

[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.

[7] Metropolitan's CY 2022 Human Health & Safety deliveries. This water must be returned by 2027 or when SWP allocation reaches 40 percent or greater, a minimum obligation of 96,000 acre-feet is required.

Table 2: 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

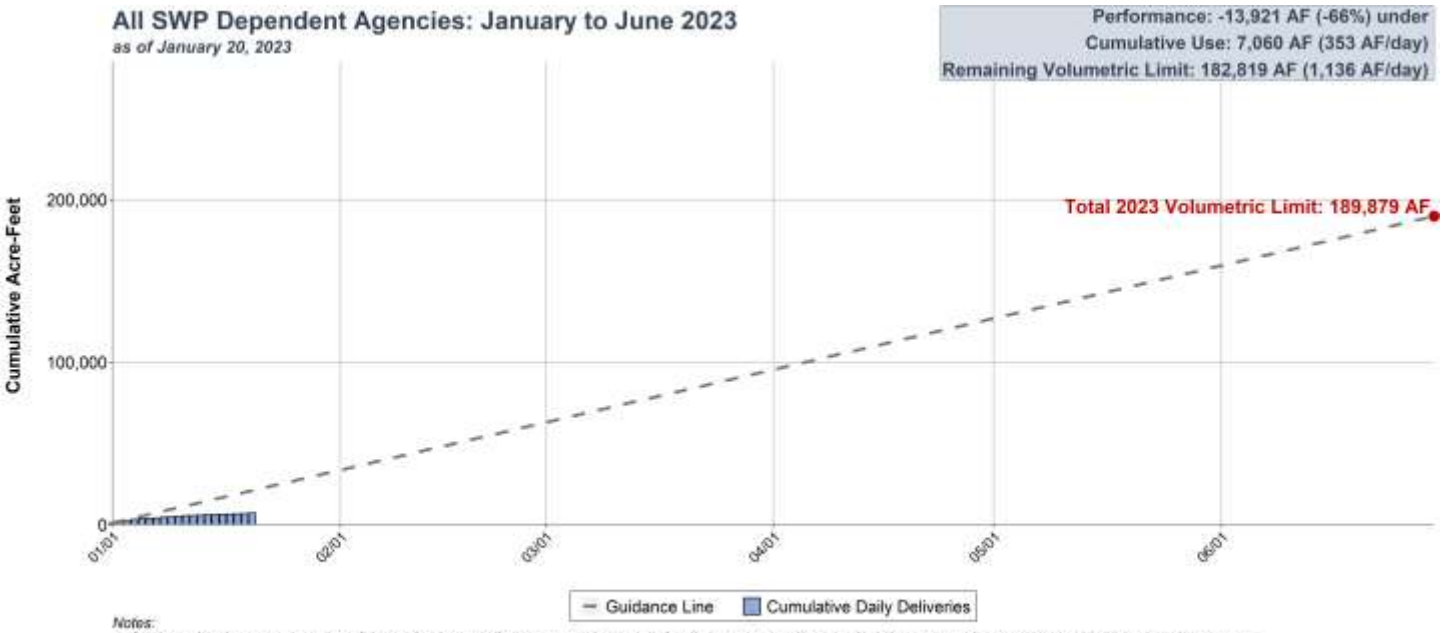
[1] Projected Cyclic program activity for the year. Subject to change.

Table 3: Reverse Cyclic Program Activity

CY	Starting Balance (AF)	CY Actions (AF)		Ending Balance (AF)
		Purchase of Deferred Delivery	Reverse Cyclic Deliveries	
2022	0	25,000 [1]	0	25,000

[1] 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 no later than five full calendar years from the date of purchase.

Emergency Water Conservation Program Performance



Notes:
1. *Guidance line is a representation of the total volumetric limit on a cumulative daily basis. It assumes a linear path, unless a monthly pattern is provided by a member agency.*
2. *Performance is the acre-foot and corresponding percent deviation from the guidance line, per as of date.*
3. *For Path 2 agencies, monthly penalties paid will be credited if actual total water use is below the total volumetric limit at the end of the six-month period.*
4. *Tracking of cumulative daily deliveries only include those agencies planning to receive SWP supplies January - June 2023.*

Disclaimer: Data presented is preliminary and subject to change based on monthly reconciled billing data.

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

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 2023 and 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. In 2023, the shortage projection for the service area is shown as ~520 TAF with a five percent SWP Table A allocation and Human Health and Safety (HH&S) supply, low Colorado River supply, and high demands. A surplus of ~725 TAF is shown with a 70 percent SWP Table A allocation, high Colorado River supply, and low demands. 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 in the next two years, 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.

	2023 (TAF)		2024 (TAF)	
Item	**Low Supply/High Demand**	**High Supply/Low Demand**	**Low Supply/High Demand**	**High Supply/Low Demand**
SWP [1]	+300	+1,340	+300	+1,340
Colorado River [2]	+960	+1,005	+660	+985
Demand on Metropolitan [3]	-1,700	-1,400	-1,800	-1,200
Additional Obligations [4]	-80	-220	-80	-260
Supply/Demand Balance [5]	**(-520)**	**725**	**(-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.