



Report

Water Resource Management Group

• **Water Surplus and Drought Management Update**

Summary

This report highlights water year 2018/2019, and provides an accounting of supply, demand, and preliminary storage balances for the end of calendar year (CY) 2019. In addition, this report describes several accounting adjustments.

2019 Highlights:

State Water Project Supplies

- Above normal hydrologic conditions supported a 75 percent SWP Table A allocation
- Article 21 supplies were made available in February as San Luis Reservoir filled
- Metropolitan SWP Carryover was reduced by 163 TAF reflecting conversion to SWP supply in 2019 as a result of San Luis Reservoir filling
- Governor Newsom laid out a new direction for California's water future by advancing a single tunnel solution for Delta Conveyance and by initiating the development of a Water Resilience Portfolio
- Oroville spillway was operated for the first time since it was damaged in 2017
- Lake Perris seismic remediation was completed and the reservoir filled for the first time since 2005

Colorado River Aqueduct Supplies

- Above normal snowpack in the Upper Colorado River Basin and above normal inflows into Lake Powell deferred any possible shortage from 2020 and reduced the probability of shortage through 2023
- The Colorado River Drought Contingency Plan was signed increasing the opportunity to maximize California's 400,000 acre-feet put capacity into the Intentionally Created Surplus (ICS) program
- Approximately 1.0 million acre-feet of storage expected in Metropolitan's Lake Mead ICS account by the end of the year
- Desert Water Agency/Coachella Valley Water District obligation was satisfied and Metropolitan delivered additional water under the advanced delivery agreement

Demands

- Demands on Metropolitan in CY 2019 remained low due to wet conditions and continuing conservation and behavioral water use reductions following the drought

Storage Balance

- Metropolitan's dry-year storage reserves at the end of CY 2019 of approximately 3.1 million acre-feet, a record dry-year storage balance for Metropolitan.
- The regional emergency storage requirement increased from 626,000 acre-feet to 750,000 acre-feet.

Water Management Tool

- The Board authorized a new Cyclic Cost-Offset Program to increase capture of imported supplies otherwise lost to the region. The program increased the capture of approximately 20,000 acre-feet of surplus supplies in 2019.

Accounting Adjustments:

1. **Cyclic Program:** Through the Cyclic Program, Metropolitan pre-delivers water to participating member agencies and then those supplies are later sold on an agreed upon schedule over five years. Because Metropolitan does not direct when these supplies are produced, the cyclic deliveries will be accounted for as an increase in demands in the year delivered but will not be included as a part of the dry-year storage balance. Cyclic Program annual activities are shown in Attachment 2.
2. **Emergency Storage:** Metropolitan's emergency storage reserve was increased from 626,000 acre-feet to 750,000 acre-feet based on a seismic resilience and recovery assessment conducted by Metropolitan and reviewed with the member agencies. Of this 124,000 acre-feet increase, 71,000 acre-feet was debited from Metropolitan's

Board Report (Water Surplus and Drought Management Plan)

dry-year storage and the balance from other regional storage assets. The emergency storage level will be re-evaluated following the 2020 Integrated Resources Plan.

Purpose

Informational

Attachments

Attachment 1: 2019 WSDM Storage Detail

Attachment 2: Agreements to Exchange or Return Stored Water and Cyclic Program Balances

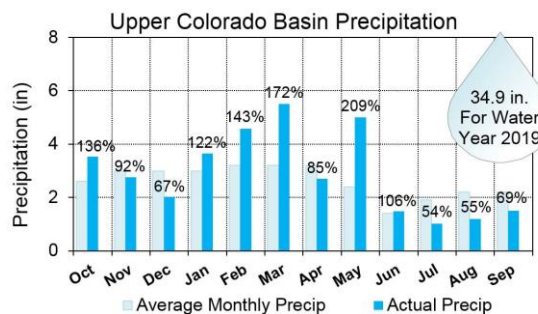
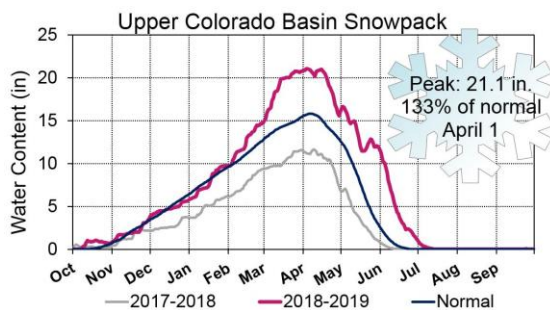
Detailed Report

This Water Surplus and Drought Management (WSDM) report summarizes the hydrologic conditions and water supply and demand conditions for CY 2019.

HYDROLOGIC CONDITIONS

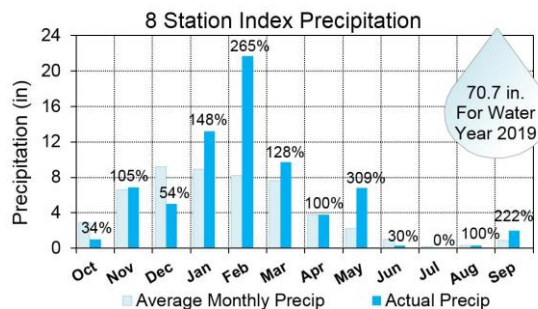
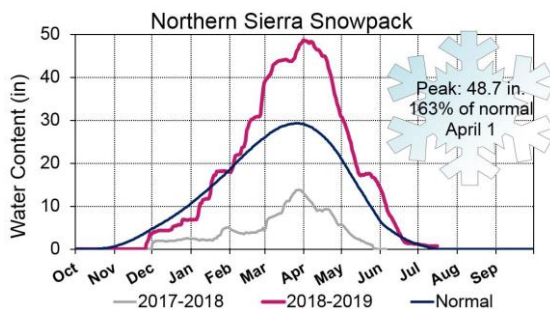
Water Year 18/19 Conditions - Final

Upper Colorado River Basin



- Snowpack peaked at 133% of the April 1 average
- Longer than usual snowmelt season

Sacramento River Basin

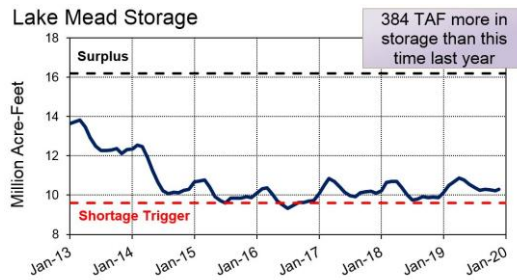


- Snowpack peaked at 163% of the April 1 average
- February was the third wettest on record since 1921

2019 SUPPLY ESTIMATE

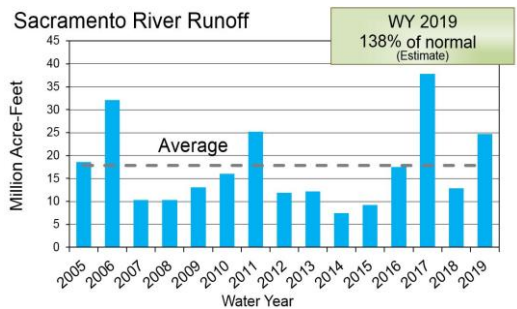
Conditions as of 11/21/2019

CRA Supplies	Acre-Feet
Basic Apportionment	550,000
IID/ MWD Conservation Program	85,000
PVID Fallowing Program	49,000
Exchange w/ SDCWA (IID/Canal Lining)	238,000
Exchange w/ USBR (San Luis Rey Tribe)	16,000
Lower Colorado Water Supply Project	9,000
Higher Priority Water Use Adjustment ¹	-11,000
Total CRA Supplies	936,000



- United States Bureau of Reclamation (USBR) released 9 MAF in the water year from Lake Powell, similar with the past four water years.

SWP Supplies	Acre-Feet
Table A (75% SWP allocation)	1,434,000
Article 21	65,000
Port Hueneme	1,000
Total SWP Supplies	1,500,000



SWP Allocation 75%

- Statewide precipitation, snow water content, runoff, and Delta pumping supported a final 75 percent Table A allocation for CY 2019.

Storage Accounting Adjustments ²	Acre-Feet
Emergency storage from other regional assets	53,000
Cyclic Storage Closeout	-49,000
Total Accounting Adjustments	4,000

Total Supplies (CRA + SWP + Adj.) 2,440,000
(Prior to storage actions)

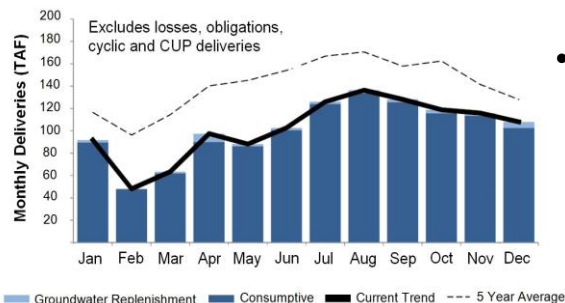
¹ Preliminary estimate

² These adjustments are made to accurately account for the increase in non-Metropolitan emergency storage and the removal of prior year Cyclic Program balance from the dry-year storage portfolio.

2019 WATER DEMANDS

Current Demand	Acre-Feet
Member Agency Consumptive ¹	1,208,000
Cyclic Deliveries ²	166,000
Member Agency Replenishment	32,000
Coachella Valley Water District Agreement	35,000
Exchange w/ San Luis Rey Tribe	16,000
System and Storage Losses	94,000
Total Demands	1,551,000

2019 Demand Estimate



- CY 2019 demand projections continue to decrease
- Roughly 166 TAF will be managed under the Cyclic Program in CY 2019 with an estimated 20 TAF eligible for cost offsets.

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

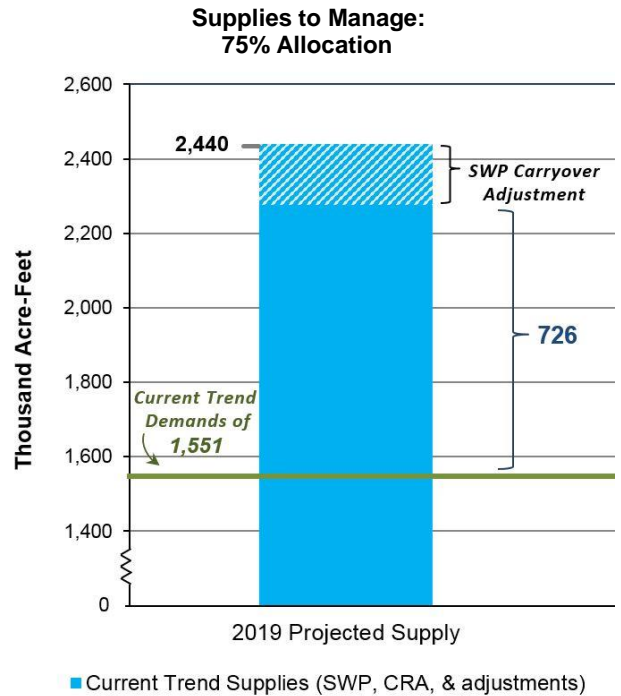
² Cyclic deliveries made in a given year will be shown as increases to demands.

MANAGING SUPPLIES AND DEMANDS

Supply/Demand Balance	Acre-Feet
Total Supplies	2,440,000
Less Total Demands	1,551,000
Less SWP Carryover Adjustment	163,000
Current Balance Estimate	726,000

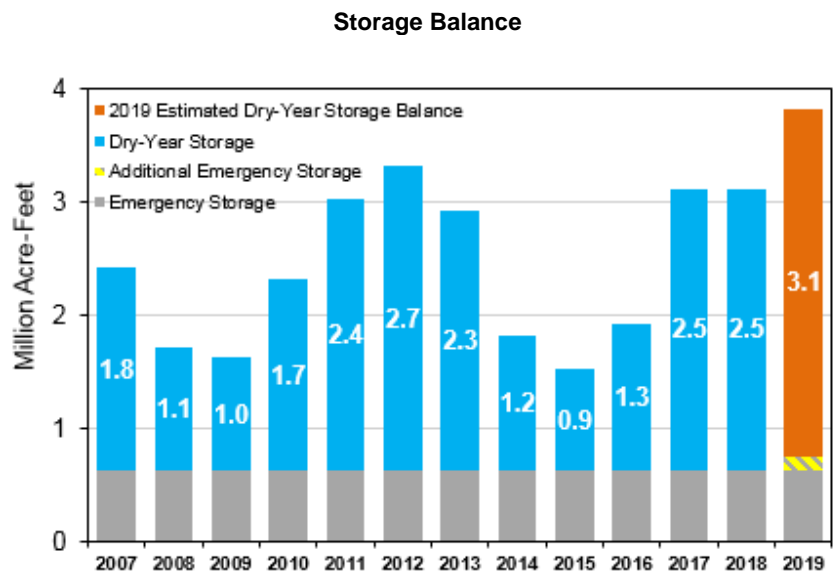
2019 WSDM Strategies/Actions

- **Transfer Supply Purchase:** No purchases were pursued in 2019.
- **Article 21 Supplies:** Maximized deliveries to offset carryover loss.
- **SWP Carryover:** Metropolitan operated to minimize the conversion of carryover supplies to project water and maximize end of year carryover balance.
- **Dry-Year Storage:** Maximized storage puts.
- **Cyclic Cost Offset Program:** Initiated the program in August 2019 to help manage surplus supply by offsetting member agency costs associated with taking additional Metropolitan deliveries. The program will end at the end of the year.



END OF YEAR STORAGE BALANCE

- Metropolitan is managing an estimated 686 TAF of the 726 TAF of surplus supplies available in CY 2019.
- Dry-year storage reserves are estimated to be 3.1 MAF by the end of CY 2019, the highest balance in Metropolitan's history.
- CY 2019 storage balance reflects the following adjustments: a) the increased emergency storage, b) removal of the Cyclic Program balances and c) the conversion of approximately 163 TAF of Metropolitan SWP Carryover supply to SWP supply.
- End of year balance for 2019 is subject to USBR final accounting in May 2020 and DWR adjustments.



2019 WSDM Storage Detail

	1/1/2019 Storage Levels	Preliminary Projected Storage Action ¹ Put (+) / Take (-)	Preliminary Projected End of Year 2019 Balance ²	2019 Total Storage Capacity
WSDM Storage				
Colorado River Aqueduct Delivery System	625,000	377,000	1,002,000	1,763,000
Lake Mead ICS	625,000	377,000	1,002,000	1,763,000
State Water Project System	819,000	338,000	1,157,000	1,826,000
MWD SWP Carryover ³	93,000 ⁴	204,000	297,000	297,000
DWCV SWP Carryover ³				
Castaic Lake (DWR Flex Storage)	154,000	0	154,000	154,000
Lake Perris (DWR Flex Storage)	65,000	0	65,000	65,000
Arvin Edison Storage Program ⁵	154,000	-11,000	143,000	350,000
Semitropic Storage Program	187,000	74,000	261,000	350,000
Kern Delta Storage Program	138,000	53,000	191,000	250,000
Mojave Storage Program	19,000	0	19,000	330,000
AVEK Storage Program	9,000	18,000	27,000	30,000
In-Region Supplies and WSDM Actions	977,000	26,000	1,003,000	1,246,000
Diamond Valley Lake	702,000	75,000	777,000	810,000
Lake Mathews and Lake Skinner	178,000	-14,000	164,000	226,000
Conjunctive Use Programs (CUP) ⁶	48,000	14,000	62,000	210,000
Cyclic Programs ⁷	49,000	-49,000	N/A	N/A
Other Programs	563,000	108,000	671,000	1,181,000
Other Emergency Storage	328,000	53,000	381,000	381,000
DWCV Advanced Delivery Account	235,000	55,000	290,000	800,000
Total	2,984,000	849,000	3,833,000	6,016,000
Emergency ⁸	626,000	124,000	750,000	750,000
Total WSDM Storage (AF) ⁹	2,358,000	725,000	3,083,000	5,266,000

¹ Storage program losses included where applicable

² Preliminary end of year balances, subject to DWR adjustments and USBR final accounting in May 2020.

³ Total Storage Capacity varies year to year based on prior year remaining balance added to current year contractual limits.

⁴ Carryover balance reflects the conversion of approximately 163 TAF to State Water Project supply.

⁵ Puts are limited due to water quality considerations.

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 Reflects adjustment to no longer account for as dry-year storage.

⁸ The regional emergency storage need increased by 124 TAF, from 626 TAF to 750 TAF per Board Information Letter dated May 2019.

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

Agreements to Exchange or Return Stored Water

	Future Returns
Unbalanced Exchanges with Other SWP Contractors ¹	1,000
California ICS Agreement – IID ²	168,000 ³
Storage and Interstate Release Agreement with Southern Nevada Water Authority ⁴	330,000
Total (AF)	499,000 ⁵

¹ This includes water managed within Metropolitan’s service area for Dudley Ridge Water District, a SWP contractor. The obligation is part of an unbalanced exchange under the MWDOC/IRWD Coordinated Operating Agreement. This water is to be returned by December 31, 2022.

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

³ Increased in the June WSDM Board Report to reflect previous credit to Metropolitan’s ICS account to be returned in the future.

⁴ Up to 30,000 AF per year beginning no earlier than 2022.

⁵ Subject to change based on accounting adjustments.

Cyclic Program Activity

CY 2019 Starting Balance (AF)	CY 2019 Actions (AF)				Projected CY 2019 Ending Balance (AF)
	Cyclic Pre-Delivery	Cyclic Cost-Offset Pre-Delivery	Total CY 2019 Pre-Delivery	CY 2019 Scheduled Sale	
49,000	146,000	20,000	166,000	82,000	133,000