



- Water Surplus and Drought Management Plan

Summary

This report provides updates on calendar year (CY) 2015 regional water supply and demand conditions and potential actions under the Water Surplus and Drought Management Plan (WSDM Plan). This report considers conditions through May 31, 2015. With continued dry conditions further limiting local and imported supplies, Metropolitan approved implementation of the Water Supply Allocation Plan (WSAP) at Level 3 in April 2015. The WSAP is consistent with the WSDM Plan to help balance supplies and demands and reduce withdrawals from Metropolitan’s dry-year storage reserves. Staff will provide monthly updates on supplies, demands and storage at the Water Planning and Stewardship Committee meetings.

Purpose

Informational

Attachments

[Attachment 1: Projected 2015 WSDM Storage Detail \(20% SWP allocation\)](#)

Detailed Report

This WSDM report updates the developing water supply and demand conditions for CY 2015. This report provides the Board with a detailed accounting of WSDM conditions that may impact water supply reliability for CY 2015.

State Water Project Supplies

Hydrologic conditions in 2015 have continued the historic dry trend. On April 1, when the snowpack is typically at its peak, the northern Sierra snowpack measured 5 percent of normal, the lowest in recorded history. With the exception of December 2014, the 8-Station Index has measured below normal precipitation every month this water year. In fact, January ranked the driest and March the fourth driest in recorded history. Through May 31, 2015, the 8-Station Index measured 35.19 inches of rainfall or 74 percent of normal.

DWR last increased the SWP Allocation to 20 percent on March 2, 2015. Metropolitan’s Table A supply at this allocation is 382 TAF. DWR’s most recent allocation analysis, released on April 23, 2015, indicates a possible 2015 SWP allocation range of 22 to 24 percent. With less than 10 percent of the precipitation typically occurring in the remaining months of the water year and little or no Spring snowmelt anticipated, hydrology is no longer the key driver for water supplies from the SWP. Instead, exports from the delta and subsequent storage changes in San Luis Reservoir will guide potential increases to the SWP Allocation. Staff is tracking delta exports relative to the level required to satisfy the range of allocations set forth in DWR’s April 23, 2015 allocation analysis. To date, exports have met the threshold needed to support approximately a 22 percent SWP allocation.

The table below shows the current and potential range for the SWP allocation and the associated SWP Table A supplies.

2015 State Water Project Supply Estimate (Acre-Feet)		
	Current	Potential Range
SWP Allocation	20%	20% - 24%
Table A Supply	382,000	382,000 – 459,000

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Colorado River Aqueduct Supplies

Dry conditions continued through April this calendar year in the Upper Colorado River Basin. The dry and warm conditions prompted snowmelt in March, one month earlier than normal. The snowpack peaked in March at 76 percent of the April 1 normal. Conditions improved in May, with precipitation measuring 224 percent of normal for the month, the first above normal month this calendar year.

Hydrology continues to play an important role for water supply conditions in the Upper Colorado River Basin as one third of the precipitation typically occurs between May and the end of the water year. The Bureau of Reclamation (Reclamation) makes key decisions that may impact Metropolitan's water supplies from the Colorado River in May and August based on observed and projected hydrology. In May, Reclamation can decide to restrict access to Metropolitan's Intentionally Created Surplus (ICS), or stored supplies in Lake Mead, should delivery of those supplies cause Lake Mead's elevation to drop below shortage levels at the end of the year. Based on recent conditions, including the above normal precipitation in May, Reclamation has decided not to restrict access to ICS in 2015. As such, Metropolitan will be able to access all of its ICS supplies as was projected when the Board declared the WSAP Level 3 in April.

The ongoing 15-year drought in the Colorado River watershed has impacted storage levels in Lake Powell and Lake Mead, which in turn affects the likelihood of surplus or shortage conditions in the future. In August, Reclamation will release their August 24-Month Study. If this study projects Lake Mead storage levels to drop below an elevation of 1,075 feet at the end of calendar year 2015, a shortage would be declared for the Lower Colorado River Basin States. Based on the recent storm activity in May, it is anticipated that the likelihood of shortage in 2016 will be reduced. Staff will continue to track hydrologic conditions and the likelihood of shortage.

Staff's current estimate of Colorado River supplies for CY 2015 is 925 TAF plus delivery of ICS or exchanges that may be implemented. A detailed listing of these supplies including the established Colorado River supply programs developed to date is shown in the table below. Potential adjustments to Metropolitan's supplies may be made based on higher priority agricultural use. These adjustments may increase or decrease Metropolitan's supplies depending on conditions.

2015 Colorado River Aqueduct Supply Estimate (Acre-Feet)¹	
Basic Apportionment	550,000 ²
IID/MWD Conservation Program	88,000
PVID Land Fallowing	85,000
Transfer to SDCWA (IID Transfer and Canal Lining)	180,000
Canal Lining Water to MWD	16,000
Lower Colorado Water Supply Project	6,000
Total CRA Supply	925,000

¹ Does not include ICS or exchanges.

² Does not include a potential agricultural adjustment, either up or down.

2015 Demands and Losses Estimate

Implementation of the WSAP commences on July 1, 2015 with the aim to encourage water conservation. Metropolitan approved the WSAP at a level 3. Currently, this level sets the regional demand limit to roughly 1.93 MAF reflecting a 15 percent demand reduction over the allocation year. Although the WSAP Level 3 assumes the demand will be reduced to 1.93 MAF over the allocation year, this equates to 1.96 MAF over the

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calendar year, including losses. Demands could be further reduced as agencies comply with the Governor's call for statewide reductions for urban water demands of 25 percent.

WSDM Supplies and Management Actions

WSDM Dry Year Storage

In addition to base CRA and SWP supplies shown, Metropolitan had estimated a total of approximately 1.185 MAF of storage in its WSDM dry-year storage portfolio as of the beginning of CY 2015 (this figure excludes water stored for emergency purposes). Metropolitan's storage has increased as a result of Metropolitan agreeing to store water for the Imperial Irrigation District (IID), final accounting conducted by Reclamation, ongoing accounting reconciliation with DWR, and Metropolitan's reconciliation of its Conjunctive Use Program (CUP) and Cyclic programs. Metropolitan's ICS storage balance in Lake Mead, for example, increased by 28 TAF, its SWP carryover supplies in San Luis Reservoir increased by 3 TAF, and its CUP and Cyclic programs increased a total of 5 TAF. Detailed program level estimates of operational WSDM supplies for 2015 under the current 20 percent SWP allocation is shown in [Attachment 1](#).

As a result of these adjustments and accounting for conveyance constraints, approximately 574 TAF of dry-year storage is available in CY 2015 at a 20 percent SWP allocation, an increase of 56 TAF from the 518 TAF assumption that supported staff's recommendation for a WSAP Level 3. Some of the programs have contract provisions that allow for a supply increase in relation to an increase in SWP allocation. This estimate reflects the contractual minimum amounts of the programs and/or any agreed upon increase in minimum contractual amounts with banking partners.

Transfer/Exchanges

In accordance to the WSDM plan guidelines, Metropolitan is pursuing transfer and exchanges to supplement 2015 supplies. These supplies will help offset potential draws from storage reserves. Staff is targeting 165 TAF of supplies across both the SWP and CRA systems.

As part of this strategy, Metropolitan recently approved transfer agreements with willing sellers in the Feather River basin of Northern California. Due to the dry conditions, water districts in the Feather River basin received supply curtailments in April. As a result, these agencies will sell less water to the State Water Contractors Buyers Group and available Yuba Accord supplies will also be reduced. Staff continues discussions with partners on the Colorado River system including the Southern Nevada Water Authority, Central Arizona Water Conservation District, and IID to explore additional transfers and exchanges from the Colorado River. These discussions could firm up the 165 TAF transfer and exchange target and potentially lead to supplies beyond staff's target. It should be noted that some transfers and exchange agreements may not be executed if a shortage declaration is made for the Lower Colorado River Basin States.

2015 Balance of Supplies to Meet Demands

The following table shows the supplies required to balance the current calendar year demand under the WSAP Level 3 at 1.96 MAF. Implementation of the WSAP level 3 will help balance supplies and demands while reducing withdrawals from Metropolitan's dry-year storage reserves. With this projected calendar year demand there is a dry-year storage requirement of 489 TAF.

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2015 Water Supply and Demand Balance Estimate (Acre-Feet)	
Total CRA Supplies	925,000 ¹
Total SWP Supplies	382,000
Storage Requirement	489,000
Transfers/Exchanges	165,000 ²
Total Supplies	1,961,000
Total Demands and Losses	1,961,000

¹ Does not include a potential agricultural adjustment.

² Staff is discussing transfer/exchange opportunities with Colorado River partners that could firm up the 165 TAF target and potentially lead to supplies beyond this target.

Future Payback Obligations

Metropolitan has two types of payback obligations; Dry-year Exchanges and Operational Exchanges. The following table shows a list of the future dry-year exchange payback obligations from programs in which Metropolitan participates. Dry-year exchanges are those with payback obligations that are beyond one year from the exchange date.

The exchange agreement executed in 2004 with the Southern Nevada Water Authority (SNWA) allows Metropolitan to store unused Nevada apportionment of Colorado River water in California. Under the agreement, Nevada will request recovery of this stored water in the future. Return may commence as early as 2022, however, SNWA has other supplies available that would likely delay the need for returns until after this date. In extreme drought conditions, payback could be earlier than 2022, however, this is unlikely.

In 2014, Metropolitan used 219 TAF of Article 54 – Flexible Storage Account water from the SWP system, and will need to repay that account in the next five years.

The California ICS agreement executed in 2007 with the California agencies allows Metropolitan to store IID’s ICS supplies. Under the agreement, Metropolitan will return the stored water in a future year at IID’s request provided Metropolitan is not implementing a WSAP in the requested year.

Dry-year Exchange/Program	Payback Obligation (Acre-Feet)	Payback Provisions
Storage and Interstate Release Agreement with Southern Nevada Water Authority	205,000	Up to 30,000 AFY (Likely no earlier than 2022)
SWP Flex Storage	219,000	by 2020
California ICS Agreement - IID	16,955	Any year Metropolitan is not implementing a WSAP
Total	440,955	

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The following table shows the future Operational Exchange payback obligations from the programs in which Metropolitan participates. Operational exchanges are those with payback obligations that may be within one year of the exchange date and provide Metropolitan increased flexibility in the timing and conveyance of deliveries. In 2014, Metropolitan took possession of 5 TAF of water from Irvine Ranch. As part of a water quality exchange with Arvin-Edison Water Storage District, 4 TAF will be returned within the next 10 years at Irvine Ranch’s request. One TAF must be returned in 2015.

Operational Exchange/Program	Payback Obligation (Acre-Foot)	Payback Provisions
Strand Ranch - Irvine Ranch	1,000	2015
	4,000	by 2024
Total	5,000	

2015 WSDM Storage Detail

WSDM Storage	Total Capacity	1/1/2014 Storage Levels	2014 Storage Change	1/1/2015 Storage Levels ¹	CY 2015 Take Capacity ⁶
Colorado River Aqueduct System	1,590,000	474,000	323,000	151,000²	151,000
Lake Mead Extraordinary Cons. ICS	1,500,000	384,000	322,000	62,000	62,000
Drop 2 Reservoir & Yuma Desalting Plant	90,000	90,000	1,000	89,000	89,000
State Water Project System	1,829,000	1,068,000	491,000	577,000³	154,000
MWD SWP Carryover	270,000	223,000	187,000	36,000	36,000
Castaic Lake (DWR Flex Storage)	154,000	154,000	154,000	0	0
Lake Perris (DWR Flex Storage)	65,000	65,000	65,000	0	0
Arvin Edison Storage Program	350,000	180,000	15,000	165,000	25,000
Semitropic Storage Program	350,000	238,000	52,000	186,000	51,000
Kern Delta Storage Program	250,000	169,000	18,000	151,000	33,000
Mojave Storage Program	390,000	39,000	0	39,000	9,000
In-Region Supplies and WSDM Actions	1,491,000	831,000	298,000	533,000⁴	229,000
Diamond Valley Lake	810,000	584,000	190,000	394,000	204,000
Lake Mathews	182,000	139,000	60,000	79,000	0
Lake Skinner	44,000	36,000	6,000	30,000	0
IEUA/TVMWD (Chino Basin)	100,000	0	0	0	0
Long Beach (Cent. Basin)	13,000	6,000	6,000	0	0
Long Beach (Lakewood)	4,000	1,000	1,000	0	0
Foothill (Raymond and Monkhill)	9,000	1,000	1,000	0	0
MWDOC (Orange County Basin)	66,000	48,000	31,000	17,000	17,000
Three Valleys (Live Oak)	6,000	1,000	0	1,000	0
Three Valleys (Upper Claremont)	3,000	2,000	0	2,000	0
Compton	2,000	0	0	0	0
Western	12,000	8,000	3,000	5,000	3,000
Cyclic - Upper San Gabriel	100,000	5,000	0	5,000	5,000
Cyclic - Three Valleys	40,000	0	0	0	0
Cyclic - Inland Empire Utilities Agency	100,000	0	0	0	0
Other Programs	1,111,000	588,000	12,000	576,000⁵	40,000
Other Emergency Storage	311,000	328,000	0	328,000	0
DWCV Advance Delivery Account	800,000	260,000	12,000	248,000	40,000
Total	6,021,000	2,961,000	1,124,000	1,837,000	574,000
Emergency	0	626,000	0	626,000	0
Total WSDM Dry-Year Storage	6,021,000	2,335,000	1,124,000	1,211,000¹	574,000

¹ Accounting adjustments have been made since the April WSDM Board Report. This has resulted in a net increase of 26 TAF taking storage levels on 1/1/2015 from 1.185 MAF to 1.211 MAF.

² A net increase of 28 TAF in ICS storage accounts due to Metropolitan agreeing to store water for IID and final accounting reconciliation with the Bureau of Reclamation.

³ A net decrease of 3 TAF in SWP system storage due to ongoing reconciliation with DWR and adjustments to SWP carryover and SWP groundwater storage balances.

⁴ A net increase of 6 TAF in in-region storage supplies due to ongoing reconciliation with member agencies and instrumentation verification.

⁵ A net decrease of 5 TAF in the DWCV Advanced Delivery Account due to accounting reconciliation.

⁶ Take capacity assumed under a 20% SWP Table A Allocation.