



● Report Water Surplus and Drought Management

Summary

This report provides a summary of currently allocated water supplies and estimated demands for Calendar Year (CY) 2014, and identifies potential Water Surplus and Drought Management (WSDM) actions that may be taken to balance supplies and demands. This report also provides a review of the Water Surplus and Drought Management Plan (WSDM Plan) framework. The WSDM framework serves as a guide for managing Metropolitan's resources in surplus and shortage conditions. Metropolitan is currently taking actions to meet demands in a manner consistent with this framework.

Under the current 5 percent State Water Project (SWP) Table Allocation, the total supply from the SWP system is 103 thousand acre-feet (TAF). The estimated water supply for Metropolitan from the Colorado River Aqueduct (CRA) system totals 935 TAF. The combined water supply from both the SWP and CRA systems is 1.04 MAF. Based on a 12-month rolling total, member agency demands, obligations, and losses are estimated to be 2.10 MAF. The net balance between currently allocated water supplies and estimated demands results in a need for additional WSDM actions totaling 1.06 MAF. Metropolitan's dry-year storage balance was estimated to be 2.32 MAF at the beginning of CY 2014, and the total take capacity for 2014 is estimated to be 1.55 MAF. Metropolitan is currently pursuing other WSDM actions that would help augment supplies and reduce draws on storage reserves in 2014. Without additional supplies in 2014, dry-year storage reserves would be expected to end the year at 1.26 MAF. Due to the reduced storage reserves, Metropolitan may need to implement its Water Supply Allocation Plan (WSAP) in 2015, if supply conditions continue to be critically dry next year.

Purpose

Informational

Attachments

[Attachment 1: WSDM Storage Detail](#)

Detailed Report

The Water Surplus and Drought Management Plan

The Water Surplus and Drought Management Plan (WSDM Plan) was adopted by Metropolitan's Board in 1999. The purpose of the WSDM Plan is to provide a policy for managing Metropolitan's resources to store water and minimize shortages on the retail level. The WSDM plan includes a framework that describes an operational preference for Metropolitan's resources in surplus and shortage conditions. In general, the framework favors putting water in surface storage before groundwater storage, and in storage inside the service area before storage outside of the service area. These preferences are essentially reversed in order when takes are required. Although some of the resources and programs have changed since the WSDM Plan was adopted, the framework remains robust. The progression of shortage actions recommended in the WSDM Plan is as follows:

- Take from Metropolitan surface storage
- Take from SWP groundwater programs
- Take from CUP groundwater programs
- Take from DWR Flexible Storage, SWP Carryover, and Lake Mead ICS
- Call for extraordinary conservation
- Call options contracts
- Buy spot market transfers
- Implement Metropolitan's Water Supply Allocation Plan

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Over the past decade, Metropolitan staff has used the WSDM Plan to help navigate through periods of both surplus and shortage. From 2006 through 2009, environmental conditions and drought reduced supplies from the SWP system. Metropolitan successfully operated its resources in a manner consistent with the WSDM Plan; these actions included implementation of the WSAP. When hydrologic conditions began to improve in 2010, Metropolitan took measures to refill storage resources inside the service area, and then outside of the service area. By the end of 2012 Metropolitan's storage reserves were at an all-time high level. Then again in 2013 SWP supplies were reduced due to environmental conditions and drought; Metropolitan began using its storage reserves according to the WSDM Plan. With severe drought conditions persisting into 2014, Metropolitan is currently undertaking all of the shortage actions listed above, short of implementing the WSAP. In addition to drawing on storage reserves, Metropolitan is pursuing dry-year transfers and exchanges. Thus far Metropolitan has not made major transfer purchases due to high prices.

Currently Allocated Water Supplies

The following provides a detailed accounting of WSDM conditions for CY 2014. All data contained in this report is current as of April 28, 2014.

2014 State Water Project Conditions and Supplies

Due to unprecedented dry conditions in CY 2013, CY 2014 began with an initial SWP Table A Allocation of only 5 percent. The exceptionally dry conditions persisted through the end of January, prompting a number of drought related events. On January 17, 2014, the governor signed a Proclamation of a Drought State of Emergency. Then, on January 30, 2014, he met with southern California water leaders calling for increased conservation and actions to assist other areas of the state where feasible. On January 31, 2014 Northern Sierra precipitation measured 17 percent of normal, and the statewide snowpack measured only 12 percent of normal. As a result the California Department of Resources (DWR) reduced the SWP Table A allocation from 5 percent to 0 percent. Wet conditions in February and March boosted rainfall in the Northern Sierras to 60 percent of normal by the end of March. On April 18, 2014 DWR increased the SWP Table A Allocation back to 5 percent. The table below shows the CY 2014 supplies from the SWP system under the current 5 percent Allocation, which would be available for delivery beginning September 1, 2014.

2014 State Water Project Supply (Acre-Feet)	
Table A Allocation @ 5%	96,000
Turn-Back Pool Supplies	0
SBVMWD Minimum Purchase	0
Port Hueneme	0
Yuba Accord, Buyers Group, & Multi-Year Pool	7,000
Total SWP Supply	103,000

2014 Colorado River Aqueduct Conditions and Supplies

On the CRA system, precipitation and snowpack in the Upper Colorado Basin are the primary indicators of water supply conditions. Precipitation is measured at 118 stations located throughout the basin. The Upper Colorado snowpack tracked at or above normal for most of the 2014 snowfall season. On April 8, 2014, snowpack in the Upper Colorado Basin peaked at 115 percent of the April 1 average. The current forecast of run-off is also above normal, at 111 percent of normal for the April through July snowmelt season. This above normal hydrology will improve storage levels in Lake Powell and Lake Mead, which in turn affect the likelihood of surplus or shortage conditions in the future. The table below shows Metropolitan's estimate of diversions from the Colorado River for CY 2014. The numbers shown in this table are subject to final decree accounting by the US Bureau of Reclamation (USBR); any changes would be reflected as an adjustment to the CY 2014 ending balance in Metropolitan's Lake Mead ICS account.

Board Report (Report Water Surplus and Drought Management)

2014 Colorado River Aqueduct Supply (Acre-Feet)	
Basic Apportionment	550,000
IID/MWD Conservation Program	85,000
PVID Land Fallowing	42,000
Transfer to SDCWA (IID Transfer and Canal Lining)	178,000
Canal Lining Water to MWD	16,000
Lower Colorado Water Supply Project	4,000
Southern Nevada Exchange	60,000
Agricultural Adjustments	0
Total CRA Supply	935,000

2014 Demands, Obligations, and Losses

The table below summarizes the Demands, Obligations, and Losses for CY 2014. Member agency demands on Metropolitan include water deliveries to the member agencies, as well as water exchanged with the San Diego County Water Authority. The estimated member agency demands for CY 2014 are based on a 12 month rolling total, which covers the period from May 2013 through April 2014. Currently, there are no outstanding obligations for 2014 that place an additional demand for supplies on Metropolitan. Losses for 2014 are an estimate of Metropolitan distribution system losses, and evaporative and contractual losses from storage.

2014 Demands, Obligations, and Losses (Acre-Feet)	
Member Agency Demands	2,030,000
Obligations	0
System and Storage Losses	72,000
Total Demands, Obligations, and Losses	2,102,000

2014 Water Supply and Demand Balance

The following table shows the net balance between water supplies and demands for CY 2014.

2014 Water Supply and Demand Balance (Acre-Feet)	
Total CRA Supplies	935,000
Total SWP Supplies	103,000
Total Demands, Obligations, and Losses	2,102,000
Net Water Supply and Demand Balance	-1,064,000

2014 WSDM Storage

[Attachment 1](#) shows the CY 2014 starting balance, estimated put and take capacities, and the total capacity of each of Metropolitan’s storage programs. Metropolitan’s dry-year WSDM storage balance at the beginning of CY 2014 was estimated to be 2.32 MAF. Based on the current water supply and demand balance, Metropolitan would need to withdraw 1.06 MAF from its storage reserves in 2014. The total estimated take capacity for CY 2014 is 1.53 MAF. Staff estimates that about 475 TAF could be withdrawn from CRA storage, 541 TAF from SWP storage, and 504 TAF from In-Region storage. Metropolitan is actively pursuing additional supplies that would help reduce draws on storage reserves in 2014. Without additional supplies in 2014, dry-year storage reserves would be expected to end the year at 1.26 MAF. Due to the reduced storage reserves, Metropolitan may need to implement its Water Supply Allocation Plan in 2015 if water supply conditions continue to be dry next year.

2014 WSDM Storage Detail

WSDM Storage	1/1/2014 Storage Levels	Maximum CY 2014 Take Capacity*	CY 2014 Put Capacity*	Total Capacity
Colorado River Aqueduct System	475,000	475,000	200,000	1,590,000
Lake Mead Extraordinary Conservation	385,000	385,000	200,000	1,500,000
Drop 2 Reservoir and Yuma Desalting	90,000	90,000	0	90,000
State Water Project System	1,049,000	541,000	154,000	1,829,000
MWD SWP Carryover	223,000	223,000	47,000	270,000
Castaic Lake (DWR Flex Storage)	154,000	154,000	0	154,000
Lake Perris (DWR Flex Storage)	65,000	65,000	0	65,000
Arvin Edison Storage Program	161,000	17,000	45,000	350,000
Semitropic Storage Program	238,000	32,000	32,000	350,000
Kern Delta Storage Program	169,000	50,000	30,000	250,000
Mojave Storage Program	39,000	0	0	390,000
In-Region Storage	832,000	504,000	297,000	1,491,000
Diamond Valley Lake	584,000	404,000	226,000	810,000
Lake Mathews	139,000	61,000	43,000	182,000
Lake Skinner	36,000	2,000	8,000	44,000
IEUA/TVMWD (Chino Basin)	0	0	0	100,000
Long Beach (Cent. Basin)	6,000	4,000	0	13,000
Long Beach (Lakewood)	1,000	1,000	0	4,000
Foothill (Raymond and Monkhill)	1,000	1,000	0	9,000
MWDOC (Orange County Basin)	49,000	20,000	16,000	66,000
Three Valleys (Live Oak)	1,000	1,000	0	6,000
Three Valleys (Upper Claremont)	2,000	1,000	1,000	3,000
Compton	0	0	0	2,000
Western	8,000	4,000	3,000	12,000
Cyclic - Upper San Gabriel	5,000	5,000	0	100,000
Cyclic - Three Valleys	0	0	0	40,000
Cyclic - Inland Empire Utilities Agency	0	0	0	100,000
Other Programs	594,000	14,000	236,000	1,134,000
Other Emergency Storage	334,000	0	0	334,000
DWCV Advance Delivery Account	260,000	14,000	236,000	800,000
Total	2,950,000	1,534,000	887,000	6,044,000
Emergency	626,000	0	0	0
Total WSDM Storage**	2,324,000	1,534,000	887,000	6,044,000

*Put and take capacity assumed under a 5% SWP Table A Allocation.

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