



● **Water Surplus and Drought Management Plan on water supply and demand**

Summary

This is the first monthly report on developing demand and supply conditions for calendar year (CY) 2011.

As of December 20, 2010, Metropolitan has a total of 1.88 MAF of supplies available to the service area from the State Water Project (SWP) and Colorado River Aqueduct (CRA) at current allocations and conditions.

In-Region demands, obligations, and system losses are estimated at 2.33 MAF, using figures based on Water Supply Allocation Plan (WSAP) allocations. This includes Member Agency demands and obligations to return or deliver water supply to other agencies. However, demands over the past year have been significantly lower than WSAP allocations. In CY2010, actual demands were 1.73 MAF.

Based on initial water supplies and a range of demands (based on WSAP allocations and 2010 actual demands), there is a range outcomes for CY2011. With demands at a higher end of 2.33 MAF, 454 TAF of additional actions would be needed to balance supplies and demands. If there are no increases in supply or if additional supply programs cannot be identified, Metropolitan has available storage take capacity of 1.51 MAF to meet this potential need. With demands at a lower end of 1.73 MAF, Metropolitan could expect to store 148 TAF. Metropolitan has available storage put capacity of 1.12 MAF to manage this supply if needed.

As is the case in every year this early in the supply season, staff expects supplies to increase and that other supply programs can be identified to mitigate the need for storage if necessary. If demands continue at the lower levels seen in CY 2010, the need for additional programs or storage withdrawals will be mitigated, and the emphasis will be shifted to storing water. Staff will provide monthly updates to keep the Board apprised of changing conditions.

Supply & Demand Balance	Demand at Full WSAP Use	With 2010 Demand
Colorado River Aqueduct Supplies Available to Service Area	871,000	871,000
State Water Project Supplies to Available to Service Area	1,008,000	1,008,000
In-Region Demands, Obligations & Losses	2,333,000	1,731,000
Water Balance	-454,000	148,000
Storage Take Capacity	1,508,000	1,508,000
Storage Put Capacity	1,122,000	1,122,000

Attachments

[Attachment 1: WSDM Supplies for CY 2011](#)

Detailed Report

This report apprises the Board of anticipated supply and demand conditions, and identifies potential actions that may be required to ensure reliability. The imported supplies shown in this report are organized to highlight the supplies and demands, obligations, and losses on the CRA and SWP. This allows for a full view of the available sources of supply anticipated to be available for use within the service area. The balance between these supplies and the demands, obligations, and losses within the service area shows the additional supplies or storage that would be needed. In the case of a surplus, the balance shows the amount of water that can potentially be stored. The section on storage highlights the available capacities of Metropolitan’s storage portfolio.

Colorado River Aqueduct System

The current estimate of anticipated CRA supplies for CY 2011 is 1.00 MAF, including Metropolitan's Basic Apportionment (550 TAF) and all other Colorado River supplies developed to date, including water transfers that are diverted at Metropolitan's intake at Lake Havasu. These anticipated supplies are shown in the table below.

Anticipated Supplies	
Basic Apportionment	550,000
Canal Lining Water to MWD	16,000
Lower Colorado Water Supply Project	3,000
IID/MWD Conservation Program	85,000
PVID Land Fallowing	120,000
Water Exchanged with SDCWA (IID Transfer and Canal Lining)	161,000
Yuma Desalter	9,000
Southern Nevada Water Authority Agreement	60,000
Total	1,004,000

Demands and obligations on the CRA total 133 TAF and are shown below. At the current time, these are comprised of delivery obligations to Desert Water Agency and the Coachella Valley Water District as part of the SWP exchange and delivery agreement and the Quantification Settlement Agreement. Obligations to meet miscellaneous and Indian present perfected rights are also included.

Demands and Obligations	
CVWD QSA Obligation	35,000
DWCV	
Table A	97,000
Misc. and Indian PPR Use	1,000
Total	133,000

The table below shows the total supplies and demands on the CRA System. The resulting figure of 871 TAF is the amount of water available to Metropolitan's service area without using storage.

Colorado River Aqueduct Available to Service Area	
Anticipated Supplies	1,004,000
Demands and Obligations	133,000
Total	871,000

State Water Project System

The current estimate of SWP supplies available to Metropolitan for CY 2011 is 1.08 MAF, reflecting the most recent Table A allocation of 50 percent from the California Department of Water Resources. The table below shows Metropolitan's anticipated supplies, including those for Desert Water Agency/Coachella Valley WD (DWCV) Exchange (obligations to DWCV are met with CRA System supplies and are shown under the CRA System tables). There are also estimates of supply from Metropolitan's agreement with San Bernardino Valley Municipal Water District and from the Yuba Component 3 supply. The estimate for Yuba Component 3 supply will vary over the year as SWP Table A allocations change and as other participants in the Yuba program finalize their orders for water.

Anticipated Supplies	
Metropolitan	
Table A (50 percent allocation)	956,000
Port Hueneme Agreement	1,000
SBVMWD Transfer	20,000
Yuba Component 3 Water (MWD)	8,000
DWCV	
Table A	97,000
Total	1,082,000

Demands and obligations on the SWP totaling 74 TAF are shown below. At the current time, these are comprised of a return obligation to the Westlands Water District as part of the transfer and exchange program executed with them in CY2010. That program was for a total of 111 TAF, with two-thirds of the program amount due to be returned in CY2011.

Demands and Obligations	
Westlands WD Exchange	74,000
Total	74,000

The table below shows the total supplies and demands from the SWP System. The resulting figure of 1.01 MAF is the amount of water available to Metropolitan's service area without using storage.

State Water Project Available to Service Area	
Anticipated Supplies	1,082,000
Demands and Obligations	74,000
Total	1,008,000

Storage Balances and Availability

Metropolitan has developed significant storage programs within its service area as well as on the CRA and SWP systems. Water stored in these programs can be used to augment water supplies when needed. At times when supplies exceed demands, water can be stored for future use. The storage programs currently total 1.67 MAF, not including emergency storage of 626 TAF. If conditions require withdrawals from storage, the estimated take capacity for the year is 1.51 MAF. If conditions require adding water to storage, the estimated put capacity is 1.12 MAF. As the year progresses, put and take capacities may change based on time remaining in the year. For a detailed breakdown of storage see [Attachment 1](#).

Dry-Year Storage Capacities	
Storage Level	1,672,000
Take Capacity	1,508,000
Put Capacity	1,122,000

In-Region Demands, Obligations, and Total System Losses

In the Metropolitan service area, total water demand is comprised of member agency demands, obligations to deliver supplies (ie. SDCWA/IID Transfer and Canal Lining), and total system losses including those from the CRA. Since the first implementation of the WSAP in 2009, staff has been providing water demand estimates assuming member agencies make full use of their current WSAP allocations for the first half of the calendar year, combined with an unallocated “WSAP Baseline” demand for the second half of the calendar year. This method allows for transparent adjustments on a monthly basis as actual monthly water use figures replace previously estimated figures. The method also provides for a clearly defined figure that is useful later in the year when the Board is deciding on potential WSAP implementation for the following year. Using this method for CY2011, In-Region Demands, Obligations, and Total System Losses are an estimated at 2.33 MAF. However, demands in CY 2010 were significantly below the WSAP Level 2, and this lower level of demand may continue through CY2011. In December, staff reported that actual In-Region Demands, Obligations and Total System Losses for CY2010 were estimated at approximately 1.73 MAF. If member agency demands in CY2011 stay at these levels then any deficits between currently estimated supplies and demands shown in this report will be smaller or even eliminated completely. The table below shows the estimated CY 2011 demands, obligations, and losses along with corresponding CY 2010 figures. This provides a range of demands from calculated WSAP allocations to last year’s actual demands.

In-Region Demands, Obligations & Total System Losses	Demand at Full WSAP Use	2010
Member Agency Demand	2,122,000	1,533,000
Water Exchanged with SDCWA (IID Transfer and Canal Lining)	161,000	148,000
System Losses	50,000	50,000
Total	2,333,000	1,731,000

Water Balance

Based on the currently anticipated supplies from the CRA and SWP, the water balance for Metropolitan will range from needing an additional 454 TAF of supply or storage to delivering approximately 148 TAF into storage. This range is based on estimates of CY2011 demands that vary by about 600 TAF, depending on whether demand levels seen in CY2010 continue through CY2011 or if demand increases to WSAP levels. If additional actions are needed, this can come from Metropolitan’s storage programs or from increases in supplies. If demands continue at a lower than expected trend as they did in CY2010, this deficit would be fully mitigated without any additional supply augmentation and would result in puts to storage. The table below shows that, in either case, there is enough storage take and put capacity to manage the potential balances.

Supply & Demand Balance	Demand at Full WSAP Use	With 2010 Demand
Colorado River Aqueduct Supplies		
Anticipated Supplies	1,004,000	1,004,000
Demands and Obligations	133,000	133,000
<i>Colorado River Aqueduct Available To Service Area</i>	<i>871,000</i>	<i>871,000</i>
State Water Project Supplies		
Anticipated Supplies	1,082,000	1,082,000
Demands and Obligations	74,000	74,000
<i>State Water Project Available to Service Area</i>	<i>1,008,000</i>	<i>1,008,000</i>
Supplies Available to Service Area	1,879,000	1,879,000
In-Region Demands, Obligations, and Total System Losses	2,333,000	1,731,000
Water Balance	-454,000	148,000
Storage Take Capacity	1,508,000	1,508,000
Storage Put Capacity	1,122,000	1,122,000

Projected WSDM Storage Use and Balances for CY 2011 by Delivery System

2011 WSDM Storage	1/1/2011 Storage Levels	CY 2011 Take Capacity	CY 2011 Put Capacity
Colorado River Aqueduct Delivery System	223,000	223,000	200,000
Lake Mead ICS Account	208,000	208,000	200,000
Yuma Desalting Plant	15,000	15,000	0
State Water Project System	703,000	537,000	429,000
MWD SWP Carryover	0	0	100,000
DWCV SWP Carryover	0	0	97,000
SWP Non-Project Carryover	97,000	97,000	100,000
Article 14b Carryover	66,000	66,000	0
Castaic Lake (DWR Flex Storage)	154,000	154,000	0
Lake Perris (DWR Flex Storage)	65,000	65,000	0
Arvin Edison Storage Program	119,000	75,000	45,000
Semitropic Storage Program	118,000	55,000	32,000
Kern Delta Storage Program	84,000	25,000	55,000
Mojave Storage Program	0	0	0
In-Region Supplies and WSDM Actions	858,000	568,000	326,000
Diamond Valley Lake	626,000	447,000	184,000
Lake Mathews	135,000	57,000	47,000
Lake Skinner	36,000	3,000	8,000
IEUA/TVMWD (Chino Basin)	0	0	25,000
Long Beach (Cent. Basin)	6,000	6,000	3,000
Long Beach (Lakewood)	0	0	1,000
Foothill (Raymond and Monkhill)	0	0	2,000
Calleguas (N. Las Posas)	34,000	34,000	33,000
MWDOC (Orange County Basin)	17,000	17,000	17,000
Three Valleys (Live Oak)	3,000	3,000	1,000
Three Valleys (Upper Claremont)	1,000	1,000	1,000
Compton	0	0	1,000
Western	0	0	3,000
Cyclic - USG	0	0	0
Cyclic - PM (Three Valleys)	0	0	0
Cyclic - IEUA (Chino Basin)	0	0	0
Supplemental Storage Program (Los Angeles)	0	0	0
Other Programs	514,000	180,000	167,000
Other Emergency Storage	334,000	0	0
Advance Delivery Account (DWCV)	180,000	180,000	167,000
Total	2,298,000	1,508,000	1,122,000
Emergency	626,000	0	0
Total WSDM Storage	1,672,000	1,508,000	1,122,000