



### ● Water Surplus and Drought Management Plan

#### Summary

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

As of February 28, 2011, Metropolitan has a total of 2.07 MAF of supplies available to the service area in 2011 from the State Water Project (SWP) and Colorado River Aqueduct (CRA) at current allocations and conditions. Although the the California Department of Water Resources (DWR) has not increased the SWP Table A allocation from the current 60 percent level, it recently declared Article 21 interruptible water available to the SWP contractors for the first time since 2007. This water is essentially surplus flows that are periodically available in addition to the allocated Table A amounts and increases the total SWP water supplies for the year. Metropolitan has just started taking deliveries of the additional supply, and quantities will be reported in future reports.

In-region demands, obligations, and system losses are estimated between 1.72 MAF and 2.27 MAF. On the lower end, the estimated demands are equivalent to CY 2010. On the higher end, the estimated demands are based on actual January and February 2011 deliveries, full use of WSAP Level 2 member agency allocations for March through June and WSAP Baseline (no allocation) demands for July through December plus obligations to return or deliver water supply to other agencies and total system losses. Demands based on this calculation are slightly lower compared to last month due to lower than expected deliveries for both January and February.

Based on initial water supplies and demands (WSAP allocations and 2010 actual demands), there is a range of outcomes for CY 2011. With demands at a higher end of 2.27 MAF, 201 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 1.5 MAF to meet this potential need. With demands at a lower end of 1.72 MAF, Metropolitan could expect to store 351 TAF. Metropolitan has available storage put capacity of 1.25 MAF to manage this supply if needed.

Supply and demand conditions will continue to be variable through the year. 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 Available To Service Area	848,000	848,000
State Water Project Available to Service Area	1,220,000	1,220,000
Supplies Available to Service Area	2,068,000	2,068,000
In-Region Demands, Obligations, and Total System Losses	2,269,000	1,717,000
Water Balance	-201,000	351,000
Storage Take Capacity	1,509,000	1,509,000
Storage Put Capacity	1,251,000	1,251,000

#### Attachments

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

#### Detailed Report

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This report appraises 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 for use within the service area. The balance between these supplies and the demands, obligations, and losses within the service area shows in the case of a shortage, the additional supplies or

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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. There is an increase of 1 TAF in the net total since last month based on adjustments made to the Yuma Desalter.

<b>Anticipated Supplies</b>	
Basic Apportionment	550,000
Canal Lining Water to MWD	16,000
Lower Colorado Water Supply Project	4,000
IID/MWD Conservation Program	85,000
PVID Land Fallowing	120,000
Water Exchanged with SDCWA (IID Transfer and Canal Lining)	161,000
Southern Nevada Water Authority Agreement	60,000
Yuma Desalter	7,000
<b>Total</b>	<b>1,003,000</b>

Demands and obligations on the CRA system have not changed since last month’s report. The total demands and obligations on the CRA system are 155 TAF. These are comprised of delivery obligations to the Coachella Valley Water District (CVWD) as part of the Quantification Settlement Agreement, SWP exchange and delivery agreement with Desert Water Agency (DWA) and CVWD, the 2008 exchange agreement with DWA and the Miscellaneous and Indian present perfected rights use. Table below lists the obligations and their corresponding quantities.

<b>Demands and Obligations</b>	
CVWD QSA Obligation	35,000
DWCV Table A	116,000
DWA Exchange Agreement	1,000
Misc and Indian PPR Use	2,000
<b>Total</b>	<b>155,000</b>

The table below shows the total supplies and demands on the CRA System. This table reflects the obligations as mentioned above. The resulting figure of 848 TAF is the amount of water available to Metropolitan’s service area without using storage.

<b>Colorado River Aqueduct Available to Service Area</b>	
Anticipated Supplies	1,003,000
Demands and Obligations	155,000
<b>Total</b>	<b>848,000</b>

### State Water Project System

The current estimate of SWP supplies available to Metropolitan for CY 2011 is 1.22 MAF. The current Table A allocation of 60 percent does not take into account the rain and snowfall experienced in late February. Recently, DWR made Article 21 water available to the SWP contractors. DWR has indicated that significant amounts of “Interruptible Water Service” will be available over the next few weeks. Because the amount of Article 21 is not yet known, this report’s supply and demand balances do not include this supply. Actual quantities will be reported in future months as orders and deliveries are certified. This supply to Metropolitan will be in addition to the 60 percent Table A allocation supply of 1.15 MAF. Both the Table A allocations and Article 21 water supplies may increase as water conditions improve. The table below shows Metropolitan’s anticipated supplies,

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including those for 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 Port Hueneme, San Bernardino Valley Municipal Water District, and from the Yuba Component 3 supply.

<b>Anticipated Supplies</b>	
Metropolitan	
Table A (60 percent allocation)	1,147,000
Port Hueneme Agreement	1,000
SBVMWD Transfer	20,000
Yuba Component 3 Water (MWD)	10,000
DWCV	
Table A	116,000
<b>Total</b>	<b>1,294,000</b>

Demands and obligations on the SWP totaling 74 TAF are shown below. At the current time, this is comprised of a return obligation to the Westlands Water District as part of the transfer and exchange program Metropolitan entered with them in CY 2010. The program was for a total of 111 TAF, with two-thirds of the program amount due to be returned in CY 2011.

<b>Demands and Obligations</b>	
Westlands WD Exchange	74,000
<b>Total</b>	<b>74,000</b>

The table below shows the total supplies and demands from the SWP System. The resulting figure of 1.22 MAF is the amount of water available to Metropolitan's service area.

<b>State Water Project Available to Service Area</b>	
Anticipated Supplies	1,294,000
Demands, Obligations & Losses	74,000
<b>Total</b>	<b>1,220,000</b>

### 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. Metropolitan's dry-year storage totaled 1.69 MAF at the beginning of 2011, not including emergency storage of 626 TAF. Minor adjustments were made to the storage programs in the SWP system that resulted in a net decrease of 14 TAF compared to the estimates provided last month. 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 1.25 MAF. Note that the Central Valley Storage Programs final take and put capacities for a given year are variable based on program capacity, other program participant activity, and banking partner operations. In many cases, the final capacities will exceed the contract minimums for the programs. Since last month's report, staff estimates an additional 189 TAF of combined put capacity above contractual minimums will be available for the Arvin Edison Storage Program, Semitropic Storage Program and Kern Delta Storage Program. There is a net decrease of 12,000 acre-feet in take capacity, mostly attributed to setting take capacities for the Central Valley Storage Programs to the contractual minimum in light of the favorable water supply conditions in the SWP. As the year progresses, take and put capacities may change based on time remaining in the year. For a detailed breakdown of storage see [Attachment 1](#).

<b>Dry-Year Storage Capacities</b>	
Storage Level	1,690,000
Take Capacity	1,509,000
Put Capacity	1,251,000

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### **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 (i.e. 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 considering potential WSAP implementation for the following year. Based on this method, the estimated in-region demands, obligations, and total system losses as of end of February is 2.27 MAF. This includes estimated demands for January and February based on actual delivery to date, WSAP Level 2 demands for March through June and WSAP Baseline demands for July through December. The estimated delivery year-to-date is 63 TAF lower than the projected WSAP Level 2 demand for the same period.

Demands in CY 2010 were significantly below the allocated WSAP Level 2, and this lower level of demand may continue through CY 2011. After final accounting, the actual in-region demands, obligations and total system losses for CY 2010 were estimated at approximately 1.72 MAF.

The table below shows a range of demands from calculated WSAP allocations to last year’s actual demands.

<b>In-Region Demands, Obligations, and Total System Losses</b>	<b>Demand at Full WSAP Use</b>	<b>With 2010 Demand</b>
Member Agency Demand	2,051,000	1,508,000
Water Exchanged with SDCWA (IID Transfer and Canal Lining)	161,000	152,000
System Losses	57,000	57,000
<b>Total</b>	<b>2,269,000</b>	<b>1,717,000</b>

### **Water Balance**

Based on the current anticipated supplies from the CRA and SWP, the water balance for Metropolitan will range from needing an additional 201 TAF of supply or storage to delivering approximately 351 TAF into storage. This range is based on estimates of CY 2011 demands that vary by about 552 TAF, depending on whether demand levels seen in CY 2010 continue through CY 2011 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.

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The table below shows that, in either case, there is enough storage take and put capacity to manage the potential balances. Based on the supply and demand assumptions outlined in this report, the estimated end-of-year storage balance will range from 1.49 MAF to 2.04 MAF.

<b>Supply &amp; Demand Balance</b>	<b>Demand at Full WSAP Use</b>	<b>With 2010 Demand</b>
Colorado River Aqueduct Supplies		
Anticipated Supplies	1,003,000	1,003,000
Demands and Obligations	155,000	155,000
<i>Colorado River Aqueduct Available To Service Area</i>	<i>848,000</i>	<i>848,000</i>
State Water Project Supplies		
Anticipated Supplies	1,294,000	1,294,000
Demands and Obligations	74,000	74,000
<i>State Water Project Available to Service Area</i>	<i>1,220,000</i>	<i>1,220,000</i>
<b>Supplies Available to Service Area</b>	<b>2,068,000</b>	<b>2,068,000</b>
<b>In-Region Demands, Obligations, and Total System Losses</b>	<b>2,269,000</b>	<b>1,717,000</b>
<b>Water Balance</b>	<b>-201,000</b>	<b>351,000</b>
<b>Storage Take Capacity</b>	<b>1,509,000</b>	<b>1,509,000</b>
<b>Storage Put Capacity</b>	<b>1,251,000</b>	<b>1,251,000</b>
<b>Estimated End-of-Year Storage</b>	<b>1,489,000</b>	<b>2,041,000</b>

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**Projected WSDM Storage Use and Balances for CY2011 by Delivery System**

<b>2011 WSDM Storage</b>	<b>1/1/2011 Storage Levels</b>	<b>CY 2011 Take Capacity</b>	<b>CY 2011 Put Capacity</b>
<b>Colorado River Aqueduct Delivery System</b>	<b>244,000</b>	<b>244,000</b>	<b>207,000</b>
Lake Mead ICS Account	227,000	227,000	200,000
Yuma Desalting Plant	17,000	17,000	7,000
<b>State Water Project System</b>	<b>681,000</b>	<b>561,000</b>	<b>604,000</b>
MWD SWP Carryover	0	0	140,000
DWCV SWP Carryover	0	0	68,000
SWP Non-Project Carryover	104,000	104,000	100,000
Article 14b Carryover	56,000	56,000	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	109,000	75,000	150,000*
Semitropic Storage Program	111,000	57,000	90,000*
Kern Delta Storage Program	82,000	50,000	56,000*
Mojave Storage Program	0	0	0
<b>In-Region Supplies and WSDM Actions</b>	<b>879,000</b>	<b>588,000</b>	<b>306,000</b>
Diamond Valley Lake	638,000	459,000	172,000
Lake Mathews	139,000	61,000	43,000
Lake Skinner	40,000	6,000	4,000
IEUA/TVMWD (Chino Basin)	2,000	2,000	25,000
Long Beach (Cent. Basin)	6,000	6,000	3,000
Long Beach (Lakewood)	1,000	1,000	1,000
Foothill (Raymond and Monkhill)	1,000	1,000	2,000
Calleguas (N. Las Posas)	35,000	35,000	33,000
MWDOC (Orange County Basin)	15,000	15,000	17,000
Three Valleys (Live Oak)	1,000	1,000	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
<b>Other Programs</b>	<b>512,000</b>	<b>116,000</b>	<b>134,000</b>
Other Emergency Storage	334,000	0	0
Advance Delivery Account (DWCV)	178,000	116,000	134,000
<b>Total</b>	<b>2,316,000</b>	<b>1,509,000</b>	<b>1,251,000</b>
Emergency	626,000	0	0
<b>Total WSDM Storage</b>	<b>1,690,000</b>	<b>1,509,000</b>	<b>1,251,000</b>

## Footnotes:

\* The Central Valley Storage Programs final take and put capacities for a given year are variable based on program capacity, other program participant activity, and banking partner operations. Figures provided are staff estimates.