



### ● Water Surplus and Drought Management Plan

#### Summary

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This is the first monthly report on developing demand and supply conditions for calendar year (CY) 2013. This report also provides a summary of the CY 2012 water supply and demand balance, as well as Water Surplus and Drought Management Plan (WSDM) actions.

#### 2012 in Review

Water supply conditions in 2012 were generally below average in both the Northern Sierra, and the Upper Colorado River Basin watersheds. Observed runoff for water year 2012 was 65 percent of normal in the Sacramento River Region, and 45 percent of normal into Lake Powell.

In May 2012, the Department of Water Resources (DWR) set the final CY 2012 State Water Project (SWP) Table A allocation at 65 percent. Under the 65 percent Table A allocation, supplies from the SWP system are 1.302 million acre-feet (MAF). Supplies from the Colorado River Aqueduct (CRA) system are 889 thousand acre-feet (TAF). The total water supply available to Metropolitan from both the SWP and CRA systems is 2.191 MAF.

Member agency demands, obligations, and losses for CY 2012 are based on actual deliveries from January through October 2012 and an estimate for November and December, assuming normal weather conditions for those months. Member agency demands, obligations, and losses for CY 2012 are expected to be 1.869 MAF.

The balance between allocated water supplies and estimated demands results in a surplus of 322 TAF for storage in CY 2012.

<b>2012 Supply and Demand Balance</b>	
CRA Supply	889,000
SWP Supply	1,302,000
<b>Total Supply</b>	<b>2,191,000</b>
Member Agency Demand	1,771,000
Obligations and Losses	98,000
<b>Total Demand</b>	<b>1,869,000</b>
<b>Net to Storage</b>	<b>322,000</b>

#### Outlook for 2013

On November 29, 2012, DWR announced an initial 2013 SWP Table A allocation of 30 percent. This is a relatively low allocation compared to the initial allocation of 60 percent seen for 2012. Under the current allocation, the total supply from the SWP system is 593 TAF. Supplies from the CRA system for 2013 are expected to be 867 TAF, bringing the total water supply available to Metropolitan from both SWP and CRA systems to 1.460 MAF.

Assuming demand levels are similar to what was seen over the last 12 months, member agency demands, obligations, and losses are estimated to total 1.857 MAF for CY2013.

The balance between allocated supplies and estimated demands results in a shortage of 397 TAF for CY 2013. This shortage would be met from Metropolitan's storage reserves.

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<b>2013 Supply and Demand Balance</b>	
CRA Supply	867,000
SWP Supply	593,000
Total Supply	1,460,000
Member Agency Demand	1,800,000
Obligations and Losses	57,000
Total Demand	1,857,000
<b>Take from Storage</b>	<b>-397,000</b>

### Attachments

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#### Attachment 1: WSDM Storage Levels

##### Detailed Report

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This report provides the Board with an update on developing WSDM conditions, and identifies potential actions that may be required to balance water supplies and demands. All data contained in this report is current as of November 28, 2012. The report is structured to show:

- the major factors affecting water supply and demand conditions;
- current estimates of water supplies available to the service area from the CRA and SWP systems;
- current estimates of total demands on Metropolitan, including member agency demands, obligations, and losses;
- the amount of additional water supply need, or potential water available for storage, resulting from the balance between supplies and demands; and
- the capability of Metropolitan storage resources to manage the projected conditions.

#### CY 2012

##### *Weather Factors*

Water supply conditions in 2012 were generally below average in the Northern Sierra and the Upper Colorado River Basin watersheds. Observed runoff for the Sacramento River Region was 11.8 MAF for water year 2012 which is 65 percent of normal. In the Upper Colorado River watershed, the inflows to Lake Powell at the end of water year 2012 were observed to be 4.91 MAF or 45 percent of normal.

Key reservoir storage levels at the close of water year 2012 were also below their historical averages. In the SWP system, storage levels for Lake Oroville and San Luis Reservoir were 5 percent and 12 percent below average, respectively. In the CRA system, storage levels for Lake Mead and Lake Powell were both 25 percent below average.

##### *Colorado River Aqueduct*

Total supply from the CRA system is estimated at 889 TAF for 2012. CRA supplies consist of Metropolitan's Basic Apportionment, and other CRA supply programs such as the Palo Verde Irrigation District (PVID) Land Following program and the Southern Nevada Water Authority agreement. Agricultural overuse is estimated at 75 TAF, resulting in a negative adjustment. The following table shows the detail of supplies from the CRA system.

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<b>2012 Colorado River Aqueduct Supply</b>	
Basic Apportionment	550,000
IID/MWD Conservation Program	85,000
PVID Land Following	77,000
Transfer to SDCWA (IID Transfer and Canal Lining)	168,000
Canal Lining Water to MWD	16,000
Lower Colorado Water Supply Project	3,000
SNWA Agreement	65,000
Agricultural Adjustments	-75,000
<b>CRA Supply</b>	<b>889,000</b>

### *State Water Project System*

The total supply from the SWP system is estimated at 1.302 MAF, based on the final SWP Table A allocation of 65 percent. Supplies from the SWP system include Metropolitan's Table A supplies, Article 21 Interruptible supplies, Turn-back Pool purchases, and other supplies. The following table shows detail of supplies from the SWP system.

<b>2012 State Water Project Supply</b>	
Table A	1,242,000
Turn-Back Pool A	4,000
SBVMWD Purchase	55,000
Port Hueneme	1,000
<b>SWP Supply</b>	<b>1,302,000</b>

### *Demands, Obligations, and Losses*

Member agency demands for water in CY 2012 were relatively high compared to 2011 due to several factors. In CY 2012, weather conditions were slightly warmer than normal, and precipitation in Metropolitan's service area was below normal, driving demands higher. Also, continued economic recovery in the region contributed to higher demand for water. The following table shows estimated demands for CY 2012 based on monthly actual demand from January through October 2012, and estimates for November and December.

<b>2012 Member Agency Demand</b>	
Full Service Sales	1,571,000
Agricultural Use	32,000
SDCWA/IID Transfer	168,000
<b>Member Agency Demand</b>	<b>1,771,000</b>

In addition to member agency demands, Metropolitan's supplies were used to meet obligations and losses. In CY 2012, Metropolitan did not have outstanding obligations; however, system and storage losses were estimated at 97 TAF. Losses include estimates of Metropolitan distribution system and storage losses associated with the Central Valley and the Colorado River Intentionally Created Surplus storage programs. The table below shows the losses estimated for 2012.

<b>2012 Obligations and Losses</b>	
System Losses	63,000
Central Valley Storage Program Losses	16,000
CRA ICS Losses	18,000
<b>Obligations and Losses</b>	<b>97,000</b>

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## *Supply and Demand Balance*

The projected supply and demand balance for CY 2012 is shown below. The net balance between demands and supplies results in 322 TAF of supplies for storage.

<b>2012 Supply and Demand Balance</b>	
CRA Supply	889,000
SWP Supply	1,302,000
<b>Total Supply</b>	<b>2,191,000</b>
Member Agency Demand	1,771,000
Obligations and Losses	98,000
<b>Total Demand</b>	<b>1,869,000</b>
<b>Net to Storage</b>	<b>322,000</b>

## *Storage*

Metropolitan has developed significant storage programs on the CRA and SWP systems, and within its service area. 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 WSDM dry-year storage totaled 2.4 MAF at the beginning of CY 2012. Through the course of the calendar year, Metropolitan put an additional 322 TAF into storage, ending the year with 2.718 MAF in storage. With an additional 626 TAF of emergency storage, Metropolitan has a total of 3.344 MAF in storage reserves to meet dry-year and emergency demands, the highest storage level in Metropolitan's history.

## **CY 2013**

### *Colorado River Aqueduct*

Total supply from the CRA system is estimated at 867 TAF for 2013. Unlike supplies from the SWP system, Metropolitan does not anticipate the supplies from the CRA system to change or fluctuate in large quantity beyond Metropolitan's Priority 4 Basic Apportionment and the established exchange programs. The table below shows Metropolitan's estimate of diversions from the Colorado River for CY 2013.

<b>2013 Colorado River Aqueduct Supply</b>	
Basic Apportionment	550,000
IID/MWD Conservation Program	85,000
PVID Land Fallowing	31,000
Transfer to SDCWA (IID Transfer and Canal Lining)	181,000
Canal Lining Water to MWD	16,000
Lower Colorado Water Supply Project	4,000
Agricultural Adjustments	0
<b>CRA Supply</b>	<b>867,000</b>

### *State Water Project System*

On November 29, 2012, DWR announced an initial 2013 SWP Table A allocation of 30 percent. The SWP Table A allocation is determined based on a number of factors, including storage levels in Lake Oroville and San Luis Reservoir, as well as rain and snowfall. This initial allocation was determined in part by the below average runoff in the Sacramento River Region in 2012. As conditions change during the course of the next five months, DWR is expected to adjust the Table A allocation accordingly. The table below shows the supply from the SWP system based on the current 30 percent allocation.

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<b>2013 State Water Project Supply</b>	
Table A Allocation @ 30%	573,000
Turn-Back Pool A	0
SBVMWD Minimum Purchase	20,000
Port Hueneme	0
<b>SWP Supply</b>	<b>593,000</b>

### *Demands, Obligations, and Losses*

For CY 2013, the initial member agency demands are assumed to be 1.8 MAF, which reflects conditions similar to the last 12 months. However, weather conditions, economic activity, and local supplies may impact this estimate. Staff will continue to track member agency demands as the year progresses.

<b>2013 Member Agency Demand</b>	
Member Agency Demand (based on last 12 months)	<b>1,800,000</b>

Losses and obligations for 2013 are estimated at 57 TAF. This estimate consists entirely of Metropolitan distribution system losses; at this time Metropolitan has no outstanding obligations for 2013.

<b>2013 Obligations and Losses</b>	
System and Storage Losses	57,000
Obligations	0
<b>Obligations and Losses</b>	<b>57,000</b>

### *Supply and Demand Balance*

The projected supply and demand balance for 2013 is shown below. The net balance between demands and supplies results in 397 TAF of draws on storage reserves.

<b>2013 Supply and Demand Balance</b>	
CRA Supply	867,000
SWP Supply	593,000
<b>Total Supply</b>	<b>1,460,000</b>
Member Agency Demand	1,800,000
Obligations and Losses	57,000
<b>Total Demand</b>	<b>1,857,000</b>
<b>Take from Storage</b>	<b>-397,000</b>

### *Storage*

Based on currently allocated supplies and estimated demands, Metropolitan may need to take 397 TAF from storage to augment supplies during 2013. Metropolitan's WSDM storage reserves at the beginning of CY 2013 are estimated to total 2.706 MAF. The estimated 2013 take capacity based on current conditions is approximately 1.613 MAF; which is more than four times the shortage currently estimated. Factors affecting take capacity include facility capacities, contractual terms, and the SWP Table A allocation. The Central Valley banking and the CRA groundwater programs take capacities are based on the current SWP Table A allocation of 30 percent. [Attachment 1](#) provides a discussion of storage capacities and major considerations for Metropolitan's storage programs.

<b>2013 WSDM Storage</b>	<b>1/1/2013 Storage Levels</b>	<b>Maximum CY 2013 Take Capacity*</b>	<b>CY 2013 Put Capacity*</b>	<b>Total Capacity</b>
<b>Colorado River Aqueduct Delivery System</b>	<b>570,000</b>	<b>300,000</b>	<b>200,000</b>	<b>1,590,000</b>
Lake Mead Extraordinary Conservation ICS	480,000	300,000	200,000	1,500,000
Drop 2 Reservoir and Yuma Desalting Plant	90,000	0	0	90,000
<b>State Water Project System</b>	<b>1,233,000</b>	<b>665,000</b>	<b>106,000</b>	<b>1,829,000</b>
MWD SWP Carryover	271,000	271,000	-1,000	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	218,000	40,000	45,000	350,000
Semitropic Storage Program	285,000	56,000	32,000	350,000
Kern Delta Storage Program	180,000	62,000	30,000	250,000
Mojave Storage Program	60,000	17,000	0	390,000
<b>In-Region Supplies and WSDM Actions</b>	<b>883,000</b>	<b>590,000</b>	<b>239,000</b>	<b>1,491,000</b>
Diamond Valley Lake	682,000	502,000	128,000	810,000
Lake Mathews	99,000	20,000	83,000	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	6,000	0	13,000
Long Beach (Lakewood)	1,000	1,000	0	4,000
Foothill (Raymond and Monkhill)	0	0	0	9,000
MWDOC (Orange County Basin)	49,000	49,000	16,000	66,000
Three Valleys (Live Oak)	2,000	2,000	0	6,000
Three Valleys (Upper Claremont)	1,000	1,000	1,000	3,000
Compton	0	0	0	2,000
Western	7,000	7,000	3,000	12,000
Cyclic - Upper San Gabriel	0	0	0	100,000
Cyclic - Three Valleys	0	0	0	40,000
Cyclic - Inland Empire Utilities Agency	0	0	0	100,000
<b>Other Programs</b>	<b>659,000</b>	<b>58,000</b>	<b>249,000</b>	<b>1,134,000</b>
Other Emergency Storage	334,000	0	0	334,000
DWCV Advance Delivery Account	325,000	58,000	249,000	800,000
<b>Total</b>	<b>3,345,000</b>	<b>1,613,000</b>	<b>794,000</b>	<b>6,044,000</b>
Emergency	626,000	0	0	0
<b>Total WSDM Storage**</b>	<b>2,719,000</b>	<b>1,613,000</b>	<b>794,000</b>	<b>6,044,000</b>

\*Put and take capacity assumed under a 30% SWP Table A Allocation.

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