



- Water Surplus and Drought Management Plan on water supply and demand as of November 19, 2009

Summary

This is a monthly report providing updates on CY 2009 regional water supply and demand conditions and potential actions under the Water Surplus and Drought Management Plan (WSDM Plan). The WSDM Plan provides the overall strategy for managing Metropolitan's resources to meet the range of estimated demands for the calendar year. This report considers conditions as of November 19, 2009. Staff will provide oral updates to this report at the monthly meeting of the Water Planning and Stewardship Committee. The following are report highlights for this month:

- Estimated January 1, 2009 WSDM Storage Balance: 1.07 MAF
- Total CRA Related Supplies including Five-Year Supply Plan Actions: 1.12 MAF
- Total SWP Related Supplies including Five-Year Supply Plan Actions: 857 TAF
- WSDM Storage estimated withdrawals through CY 2009: 74 TAF
- Total Five Year Supply Plan Resource Options utilized for CY 2009: 346 TAF
- 2009 Current Trend Total Demand: 2.05 MAF

Attachments

[Attachment 1: Projected CRA and SWP Supplies for CY 2009](#)

[Attachment 2: Projected WSDM Supplies for CY 2009/ 2010](#)

[Attachment 3: Future Payback Obligations](#)

Detailed Report

This letter is the twelfth in a series of monthly WSDM Plan updates on the developing water supply and demand conditions for CY 2009. These reports apprise the Board of conditions that may impact water supply reliability for CY 2009, and identify any potential WSDM actions that may be required. Since this is a December report, it includes both an estimated water supply and demand summary for CY 2009, as well as storage projections for the beginning of CY 2010. In the interest of clarifying 2009 storage activity, WSDM storage actions that were reflected in either the CRA or SWP system supplies in previous reports are now shown in the WSDM Supplies Table ([Attachment 2](#)).

The Board approved implementing Metropolitan's Water Supply Allocation Plan at a Level 2 at its April 14, 2009 meeting. This action was taken in order to manage demands through the period of July 1, 2009 through June 20, 2010, given the limited supplies available in CY 2009, including limiting withdrawals of storage in order to maintain reasonable reserve levels.

2009 Water Supply and Demand Balance

Colorado River Aqueduct

Staff's estimate of total Colorado River supplies for CY 2009, including related Five-Year Supply Plan actions is approximately 1.12 MAF. This schedule includes 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. A detailed listing of the Colorado supplies is included as [Attachment 1](#).

Since last month's report, there has been a net decrease of approximately 75 TAF in the estimate of total Colorado River supplies for CY 2009. This change reflects the accounting of the Central Arizona Storage Demonstration Project as a storage withdrawal in the WSDM storage account table ([Attachment 2](#)), and reflects updated estimates of Five-Year Supply Actions, including the decisions to increase the exchange agreement with

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Coachella Valley Water District (CVWD), and to defer execution of the Imperial Irrigation District (IID) Intentionally Created Surplus (ICS) Exchange, and a portion of the Southern Nevada Water Agency (SNWA) Agreement to a later year. It also reflects small changes in estimates of other components of the Colorado River programs, such as the MWD-IID Conservation Program.

State Water Project

Since May 20, 2009, the State Water Project (SWP) allocation for Metropolitan has remained at 40 percent of the Table A contract amount. Under the current 40 percent Table A allocation, Metropolitan will receive Table A supplies of 765 TAF. With supplies from the City of Port Hueneme agreement, the SWP Turnback Pool, and Westland Mitigation, the CY 2009 SWP contract supplies are projected at about 768 TAF. The inclusion of 33 TAF from the Yuba Multi-Year Transfers and 30 TAF of Five-Year Supply Actions from the Drought Water Bank (including carriage and conveyance losses) results in 831 TAF of SWP supplies.

In addition, Metropolitan is delivering the 15 TAF San Diego County Water Authority (SDCWA) purchased transfer water from Placer County Water Agency through the SWP and Metropolitan's system to San Diego County, and delivering 11 TAF of DWCV SWP supply to SWP Carryover Storage. These supplies bring the SWP total supply to 857 TAF. A detailed listing of SWP supplies is contained in [Attachment 1](#).

There has been a net 61 TAF decrease in the estimate of SWP supplies since last month. This change reflects the accounting of the DWCV Advance Delivery Account storage withdrawal in the WSDM storage account table ([Attachment 2](#)) and the inclusion of the 15 TAF SDCWA transfer.

DWCV Supply, Delivery Obligations, and Advance Delivery Account Operations

Through its agreement with Desert Water Agency and Coachella Valley Water Agency (DWCV), Metropolitan takes delivery of SWP supplies on behalf of these agencies, and is obligated to deliver to them a like amount of Colorado River supplies. As part of the agreement, Metropolitan also operates an Advance Delivery Account, and accounts for use of their Carryover storage capacity on the SWP. This year, Metropolitan is taking delivery of SWP supplies and associated transfers of 75 TAF, storing Carryover Storage and putting Colorado River water into the Advance Delivery Account. The net result is an increase in the Advance Delivery Account of 3 TAF and storage of 11 TAF in SWP Carryover Storage. These operations are reflected in [Attachment 2](#).

Water Demands

The current trend water demand estimate for CY 2009 is 2.05 MAF. This demand incorporates actual water use through October 31, 2009, and remaining year estimates reflecting that the region will be operating under a Level 2 Water Supply Allocation Plan through the remainder of the year. The estimate also includes a 30 percent reduction under the Interim Agricultural Water Program (IAWP). Actual demands for the year will vary based on actual local supply production by the member agencies during the allocation year.

San Diego County Water Authority (SDCWA) purchased transfer water from Placer County Water Agency. The approximately 15 TAF of transfer water has been conveyed and delivered through Metropolitan's system in the last month and has been added to this month's SWP supplies, in addition to being included in the current trend water demand estimate of 2.05 MAF.

This month's current trend demand is 20 TAF less than last month.

WSDM Supplies and Management Actions

WSDM Storage Portfolio

In addition to the CRA and SWP related supplies described above, Metropolitan had a total of approximately 1.07 MAF of storage in its WSDM resource portfolio as of the beginning of CY 2009 (this figure excludes water stored for emergency purposes). It is estimated that approximately 74 TAF of storage will be withdrawn in CY 2009 to balance supply and demand. In addition, 13 TAF was sold from a Cyclic Storage account and 50 TAF was purchased by San Bernardino Valley Municipal Water District (SBVMWD) from their Coordinated Operating Agreement account. This results in a projected 2010 projected beginning storage balance of 935 TAF,

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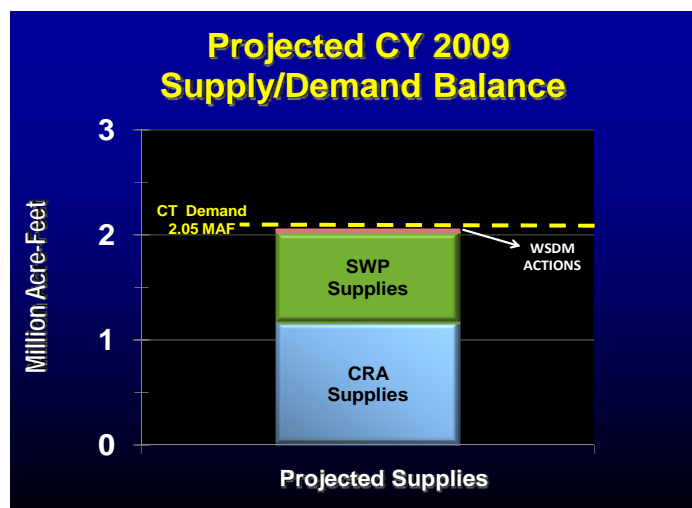
excluding emergency storage. This balance along with detailed program level estimates of the 2009 WSDM supplies under the current SWP allocation are shown in [Attachment 2](#). This estimate reflects the contractual minimum amounts of the programs and/or any agreed upon increase in minimum contractual amounts with banking partners. Metropolitan staff will continue to work cooperatively with its member agencies and other partners to ensure coordination and effective program management. [Attachment 2](#) also shows approximately 219 TAF of water supply programs that have been under development in 2009 and will continue into 2010.

Storage/Exchanges with Future Return Obligations

Over the past few years, Metropolitan has entered into storage/exchange agreements or withdrew water from storage accounts that require future return of the water. The table in [Attachment 3](#) shows a list of the future payback obligations from the exchange and storage programs in which Metropolitan participates. 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. The total amount of water stored through 2008 under this agreement is 70 TAF. Metropolitan has also scheduled deliveries of 15 TAF of water under this agreement in 2009, which would result in a total of 85 TAF of water stored under this agreement. Nevada will request recovery of this stored water in the future. As part of a recently executed amendment, it is expected that Nevada will not request this water until 2022. Metropolitan also has an obligation to pay back approximately 44 TAF of Article 54 –Flexible Storage water, 4 TAF of which is due in 2013 and 40 TAF due in 2014. This remaining balance reflects Metropolitan’s current operational estimate to repay approximately 75 TAF of CY 2007 and 2008 Castaic Flexible Storage by the end of this calendar year. In 2003, Metropolitan entered into an agreement with CVWD to credit the agency 32 TAF for CRA supplies received by Metropolitan in 2003. Metropolitan has made payback deliveries in 2007 and 2008 and it is estimated that Metropolitan will pay the remaining balance in full during CY 2009. In 2008, Metropolitan entered into an exchange agreement with Desert Water Agency (DWA) for up to 36 TAF. DWA delivered approximately 8 TAF of non-state project water in 2008. Metropolitan has delivered a total of 1,200 AF of CRA exchange water in 2008 and 2009. Under the agreement provision, Metropolitan will deliver at least the annual minimum amount of CRA water specified under the agreement until the balance is paid in full. The current balance would be paid in full no later than 2014.

Water Balance and Actions

Under the current trend demand estimate of 2.05 MAF (which reflects a WSAP Level 2) and the currently projected supplies on the SWP and CRA of 1.98 MAF, there is a resulting supply gap of 74 TAF. As discussed earlier, Metropolitan will utilize WSDM storage actions towards meeting the current trend demand. The following graphic and table both show in more detail the estimate of actions that will be taken to balance the currently allocated SWP and CRA base supply and demand.



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**CY 2009 Projected Supply and Demand Table
(in acre-feet)**

DEMAND	2,053,000
BASE SUPPLIES (with current 40% SWP allocation including Five Year Plan Resource Options)	1,979,000
SUPPLY GAP	74,000

WSDM ACTIONS	
<i>Surface Water</i>	<i>(170,000)</i>
<i>Groundwater Storage</i>	<i>105,000</i>
<i>Central Valley Programs</i>	<i>139,000</i>
TOTAL WSDM ACTIONS	74,000

Five-Year Supply Plan Resource Options

The Board has received reports and updates on the goals and progress of the Five-Year Supply Plan. As shown in the following table, the implementation of these options has yielded approximately 346 TAF of additional supply in 2009. While 95 TAF of additional Five-Year Supply resources is available from the SNWA and the ICS Exchange, staff has made the decision to defer these actions. The water supply associated with these programs will be stored by the partner agencies and will be available to Metropolitan in the future. As previously noted, 110 TAF of related actions from the Five-Year Supply Plan are being included under either the SWP or CRA total delivery estimates. The conservation measures associated with the Five-Year Supply Plan now account for actions that are necessary to achieve water savings needed to meet allocations under a Level 2 WSAP allocation. For this reason, the 235 TAF of conservation savings, along with the 1 TAF of the Los Angeles Department of Water and Power (LADWP) groundwater demonstration project are being included in the 2.05 MAF current trend demand.

**2009 Five Year Supply Resource Actions
(in Acre-Feet)**

Conservation (Accounted for in Demands)	235,000
LA DWP GW Demo (Accounted for in Demands)	1,000
Additional PVID Transfers (Crop Stressing / Fallowing)	30,000
Expand SNWA Agreement	15,000
Agreements with CVWD	35,000
Drought Water Bank / NOD Transfers	30,000
TOTAL FIVE YEAR ACTIONS	346,000
Five Year Actions: Included in MWD Base Supplies	110,000
Five Year Actions: Included in CT Demand: Conservation & LA DWP GW	236,000

For 2010, staff continues to pursue these resource options that focus on six initiatives: extraordinary conservation, Colorado River transactions, near-term Delta actions, SWP transactions, groundwater recovery, and local resources. These supplies and conservation measures will enhance water supply reliability in Metropolitan’s service area given continued dry conditions and restrictions on the State Water Project deliveries from the Delta.

CY 2009 Projected CRA and SWP Supplies
(rounded to nearest thousandths)

CRA BASIC PROGRAMS	
Basic Total Apportionment	550,000
MWD Water Budget Agricultural Adjustment	138,000
<i>Priority 1,2, and 3b</i>	-79,400
<i>Imperial ID</i>	217,000
<i>Coachella Valley WD</i>	3,000
<i>Misc and Indian PPR's</i>	-2,600
IID-MWD Conservation Program	93,000
Lower Colorado Water Supply Project	2,000
PVID Land Fallowing	133,000
Canal Lining Water to MWD	16,000
Exchange with CVWD	-35,000
Water Exchanged with SDCWA (IID Transfer & All American Canal Lining)	140,000
Deliveries to Tijuana	5,000
CRA BASIC PROGRAMS TOTAL	1,042,000
FIVE YEAR SUPPLY RESOURCE OPTIONS: CRA	
Additional PVID Transfers (Crop Stressing / Fallowing)	30,000
Expand SNWA Agreement	15,000
Agreements with CVWD	35,000
TOTAL: CRA 5 YEAR SUPPLY RESOURCE OPTIONS	80,000
Colorado River Supplies Total	1,122,000
SWP BASIC PROGRAMS	
MWD Table A	765,000
Port Hueneme Agreement /Turnback Pool/Westland Mitigation	3,000
SWP BASIC SUPPLIES TOTAL	768,000
SWP TRANSFERS	
Yuba Multi Year Transfers	33,000
SWP TRANSFERS TOTAL	33,000
5 YEAR SUPPLY RESOURCE OPTIONS: SWP	
Drought Water Bank / NOD Transfers	30,000
TOTAL: SWP 5 YEAR SUPPLY RESOURCE OPTIONS	30,000
OTHER SWP SUPPLIES	
SDCWA Transfer	15,000
DWCV SWP Carryover	11,000
OTHER SWP SUPPLIES TOTAL	26,000
SWP Supplies Total	857,000
TOTAL BASE SUPPLIES WITH WSDM & 5 YEAR SUPPLY RESOURCE OPTIONS	1,979,000

CY 2009/10 Projected WSDM Supplies

Program	1/1/2009 Storage Levels	Take under 40% SWP Allocation & 1.1 MAF CRA	Projected 1/1/2010 Storage Levels
SURFACE STORAGE	447,000	-170,000	617,000
<i>Lake Mead ICS Account</i>	<i>94,000</i>	<i>-34,000</i>	<i>128,000</i>
<i>MWD SWP Carryover</i>	<i>11,000</i>	<i>-89,000</i>	<i>100,000</i>
<i>DWCV SWP Carryover</i>	<i>0</i>	<i>-11,000</i>	<i>11,000</i>
<i>SWP Non-Project Carryover</i>	<i>0</i>	<i>-9,000</i>	<i>9,000</i>
<i>Castaic Lake (DWR Flex Storage)</i>	<i>79,000</i>	<i>-75,000</i>	<i>154,000</i>
<i>Lake Perris (DWR Flex Storage)</i>	<i>61,000</i>	<i>40,000</i>	<i>21,000</i>
<i>Diamond Valley Lake (Dry-Year Storage)</i>	<i>203,000</i>	<i>24,000</i>	<i>179,000</i>
<i>Lake Mathews & Lake Skinner (Dry-Year Storage)</i>	<i>-1,000</i>	<i>-16,000</i>	<i>15,000</i>
CENTRAL VALLEY BANKING PROGRAMS	294,000	139,000	155,000
<i>Arvin Edison Storage Program</i>	<i>152,000</i>	<i>56,000</i>	<i>96,000</i>
<i>Semitropic Storage Program</i>	<i>109,000</i>	<i>62,000</i>	<i>47,000</i>
<i>Kern Delta Storage Program</i>	<i>23,000</i>	<i>13,000</i>	<i>10,000</i>
<i>Mojave Storage Program</i>	<i>10,000</i>	<i>8,000</i>	<i>2,000</i>
GROUNDWATER STORAGE PROGRAMS	331,000	105,000	163,000
CONJUNCTIVE USE PROGRAMS	165,000	75,000	90,000
<i>IEUA/TVMWD (Chino Basin)</i>	<i>63,000</i>	<i>30,000</i>	<i>33,000</i>
<i>Long Beach (Cent. Basin)</i>	<i>7,000</i>	<i>0</i>	<i>7,000</i>
<i>Long Beach (Lakewood)</i>	<i>2,000</i>	<i>1,000</i>	<i>1,000</i>
<i>Foothill (Raymond and Monkhill)</i>	<i>1,000</i>	<i>1,000</i>	<i>0</i>
<i>Calleguas (N. Las Posas)</i>	<i>54,000</i>	<i>20,000</i>	<i>34,000</i>
<i>MWDOC (Orange County Basin)</i>	<i>36,000</i>	<i>22,000</i>	<i>14,000</i>
<i>Three Valleys (Live Oak)</i>	<i>1,000</i>	<i>0</i>	<i>1,000</i>
<i>Three Valleys (upper Claremont)</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Compton</i>	<i>1,000</i>	<i>1,000</i>	<i>0</i>
<i>Western</i>	<i>0</i>	<i>0</i>	<i>0</i>
CYCLIC PROGRAMS	13,000	0	0
<i>Cyclic - USG</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Cyclic - PM (Three Valleys) (1)</i>	<i>13,000</i>	<i>0</i>	<i>0</i>
<i>Cyclic - IEUA (Chino Basin)</i>	<i>0</i>	<i>0</i>	<i>0</i>
SUPPLEMENTAL PROGRAMS	10,000	5,000	5,000
<i>Supplemental Storage Program (Los Angeles)</i>	<i>10,000</i>	<i>5,000</i>	<i>5,000</i>
OTHER PROGRAMS	143,000	25,000	68,000
<i>Advance Delivery Account (DWCV)</i>	<i>57,000</i>	<i>-3,000</i>	<i>60,000</i>
<i>SBVMWD Coordinated Operating Agreement (2)</i>	<i>50,000</i>	<i>0</i>	<i>0</i>
<i>Central Arizona Storage Demonstration Project</i>	<i>36,000</i>	<i>28,000</i>	<i>8,000</i>
TOTAL	1,072,000	74,000	935,000
Emergency	670,000	0	670,000
TOTAL WSDM Storage	1,742,000	74,000	1,605,000

(1) 13,000 AF sold out of account in addition to Firm Sales

(2) Account balance purchased by SBVMWD

Projected 12/31/2009 Storage Level accounts for both of these purchases.

Programs Under Development in 2009/10

Program	Estimated 1/1/2009 Storage Levels	Take under 40% SWP Allocation & 1.1 MAF CRA	Projected 1/1/2010 Storage Levels
<i>Conj. Use - Pasadena</i>	22,000	0	22,000
<i>Hayfield Storage Program</i>	100,000	0	100,000
<i>EWA Wet/Dry Exchange</i>	50,000	0	50,000
<i>Sac. Valley Transfers Stored in Shasta</i>	47,000	0	47,000
TOTAL	219,000	0	219,000

Future Payback Obligations

Program	Amount (Acre-Feet)	Year Initiated	Payback Deadline
Storage and Interstate Release Agreement with Southern Nevada Water Authority	10,000	2004	As requested*
	10,000	2005	
	5,000	2006	
	45,000	2008	
	15,000	2009	
Subtotal	85,000		
SWP Flexible Storage Account	4,100	2008	2013
	40,000	2009	2014 **
Subtotal	44,100		
Coachella Valley Water District Desert Water Agency	8,000	2003	2009
	7,100	2008	2014
Subtotal	15,100		
TOTAL	144,200		

* Metropolitan wouldn't be expected to pay back the water until 2022

** This is based on the current end of year estimate for net take in 2009.