

- **Water Surplus and Drought Management Plan on water supply and demand as of July 26, 2007**

## Summary

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Currently, the approved CRA and SWP base supplies total approximately 2.17 MAF. When combined with the approximately 730 TAF of WSDM supplies and additional WSDM management actions available through the rest of the year, Metropolitan expects to be able to meet the range of estimated demands in CY 2007. Trends in supply and demand conditions for the year have led staff to initiate WSDM actions to mitigate potential deficits in supplies for the year. These actions are detailed in this report as well as a discussion of potential impacts to operations due to delta smelt and preparation for 2008.

## Attachments

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[Attachment 1: Colorado River and State Water Project Supplies](#)

[Attachment 2: WSDM Supplies for CY 2007](#)

[Attachment 3: WSDM Supplies for CY 2008](#)

[Attachment 4: Programs Under Development and Emergency Storage](#)

## Detailed Report

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Each month the Board is apprised of developing water supply and demand conditions for the calendar year. This report covers conditions through July 26, 2007.

### Delta Smelt Actions Affecting State Water Project Supplies

On May 25, 2007, federal judge Oliver Wanger invalidated the biological opinion for delta smelt finding it inadequate on the following grounds: (1) uncertain mitigation measures; (2) failure to use best available science; (3) flawed approach to setting take limits; and (4) inadequate consideration of impacts to critical habitat. Based on this finding, the plaintiffs, state and federal agencies, and intervenors including the State Water Contractors, will reconvene in Wanger's courtroom for a separate remedy hearing scheduled on August 21, 2007. The outcome of this hearing could have an impact on SWP operations and deliveries in the remaining 2007, 2008 and beyond.

To date, Metropolitan has remaining SWP Table A scheduled deliveries of approximately 370 TAF under a 60 percent allocation. Based on plaintiff's proposal that could still be applied over the remainder of the year for protection of the fishery, staff estimates that about 111 TAF to 185 TAF could be at risk for delivery to Metropolitan. The DWR has stated, however, that any actions are unlikely to affect the 2007 allocation. Staff will keep the Board apprised of any additional fish protection actions and associated impacts to the water supplies.

### Water Supply and Demand Balance

#### *Colorado River Aqueduct*

Staff's estimate of Colorado River supplies for CY 2007 is approximately 688 thousand acre-feet (TAF) based on Metropolitan's approved water order from the Federal Bureau of Reclamation (Reclamation). This figure includes 550 TAF of basic total apportionment supplies, approximately 72 TAF from the Imperial Irrigation District Program and IID/San Diego County Water Authority Transfer & Exchange Agreement in CY 2007, and 63 TAF under the PVID Land Fallowing Program. A detailed listing of the Colorado supplies is included as [Attachment 1](#). The estimate of Colorado River supplies is relatively firm.

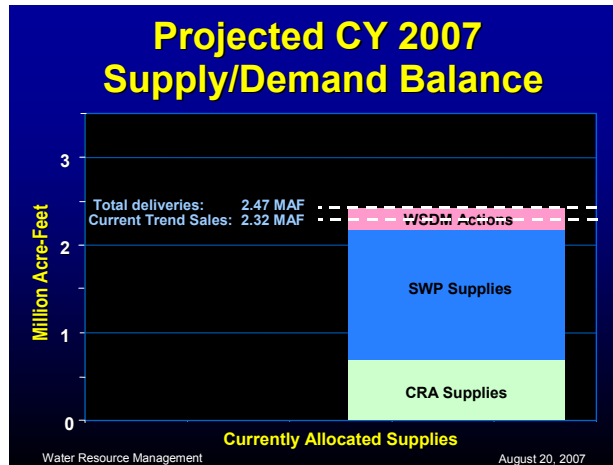
# Board Report (Water Surplus and Drought Management Plan on water supply and demand as of July 26, 2007)

## State Water Project

Staff's estimate of total SWP supplies for CY 2007 is 1.48 million acre-feet (MAF). This figure includes a SWP Table A allocation of 1.15 MAF based on DWR's latest SWP allocation of 60 percent of Table A amounts. While it is still possible the final SWP allocation could change, the hydrologic conditions are relatively firm as the majority of the water year has passed. It is the operational conditions due to the delta smelt actions that remain uncertain. In addition to the Table A supplies, Metropolitan has delivered 28 TAF of SWP supplies from extended carryover supplies stored in CY 2006, and 167 TAF of Article 21 supplies through the period covered under this update. Metropolitan's exchange agreement with the Desert Water Agency and Coachella Valley Water District, transfer agreement with the San Bernardino Valley Municipal Water District, agreement with the city of Port Hueneme and acquisition of Turnback Pool A supplies are scheduled to provide an additional 134 TAF. A detailed listing of the SWP supplies is included as [Attachment 1](#).

## Sales and Demand for Water Deliveries

Water sales for calendar year 2007 are projected to be 2.32 MAF at the current trend. This number represents the amount of water deliveries associated with Metropolitan's rates and revenues. It also reflects that replenishment deliveries for the remainder of the year have been discontinued, and thus will not be sold or delivered. In addition to the 2.32 MAF of estimated sales, Metropolitan is also responsible for delivering water or meeting other delivery obligations. These delivery obligations include the Imperial Irrigation District/San Diego County Water Authority Transfer and the supplies from their canal lining projects, and adjustments for Metropolitan system losses. The total of the additional delivery obligations are approximately 148 TAF. Including these additional delivery obligations, current total demands on Metropolitan for CY 2007 are projected to be 2.47 MAF (2.32 MAF + .148 MAF) under the current trend. As previously reported, the demands do not include the obligation to deliver water as part of the exchange with Desert Water Agency and Coachella Valley Water District (DWCV). Metropolitan intends to meet the obligation through water stored in the Advance Delivery Account agreement with those two agencies.



## WSDM Supplies and Management Actions

In addition to the base CRA and SWP supplies, Metropolitan entered CY 2007 with approximately 2.5 MAF of supplies in its WSDM resource portfolio. This figure does not include approximately 334 TAF of surface storage set aside for emergency purposes. These supplies, which include surface storage and groundwater storage, will be utilized to meet deficits between supply and demand under an extremely dry scenario. A detailed listing of the WSDM supplies is included as [Attachment 2](#).

## Calendar Year Actions

Based on current trend demands, staff has estimated an expected deficit between supply and demand of approximately 300 TAF for 2007 (this figure does not include the risk of SWP Table A allocations being reduced below 60 percent if delta smelt actions prevents planned operations). As previously reported, Metropolitan has

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initiated calls on its Central Valley storage programs and noticed participating agencies with in-basin groundwater programs for calendar year withdrawals. June also marked the release of a region-wide coordinated conservation public outreach effort and media campaign. Net withdrawals from surface storage for the year are available and will be taken based on demands. The total of these WSDM supplies and management actions are listed in the table below. Estimated replenishment interruptions are no longer included in this table as the impacts of the reductions are now included in the current trend projections of sales and demand.

<b>Table of Identified WSDM Actions</b>	<b>Action Under Current Trend Demand</b>	<b>Amount Taken to Date</b>
Central Valley	175 TAF	14,406 AF
In-Basin Groundwater	15 TAF	0
Surface Water	110 TAF	0
<b>TOTAL</b>	<b>300 TAF</b>	<b>37,991 AF</b>

The WSDM actions described above show the current estimate of the actions that will be taken to address the hydrologic and weather conditions that Metropolitan faces this year. If calendar year demands exceed identified WSDM actions, the additional supply needs will be managed through the increased use of surface storage reserves. Conversely, if the demands turn out to be lower than anticipated, the excess supply will be stored in surface water enhancing the flexibility for calendar year 2008.

**WSDM Supplies for 2008**

The anticipated WSDM supplies for calendar year 2008 under both a 30 percent and 60 percent SWP allocation, along with current storage levels, is shown in [Attachment 3](#). Staff’s estimate of operational WSDM supplies for 2008 range from 840-930 TAF under those SWP allocations. [Attachment 4](#) shows the programs under development and also separates out emergency storage reserves in Metropolitan’s reservoirs and shows the additional emergency storage available through DWR’s storage. This more clearly differentiates dry-year storage availability for 2008. At this time, Metropolitan has access to approximately 627 TAF in emergency storage.

**Strategic Approach for 2008**

The fishery conditions that are impacting the SWP and Delta operations are expected to continue over the next few years. At the June 2007 Member Agency Manager’s Meeting, staff described the water management strategies that are being put in place to better prepare for uncertain conditions. The major strategies are:

- Implement extraordinary conservation messaging and program implementation to reduce demands
- Exercise interruptions to the Replenishment Program and Interim Agricultural Water Program
- Maximize recovery of water from Central Valley storage and banking programs
- Develop water purchase and exchange programs to augment available water supplies
- Develop a shortage allocation plan

**Implementation**

*Conservation*

In July, the board authorized several enhancements and upgrades to Metropolitan’s current water conservation program. New rebates were approved and a new regional vendor approach was authorized for the installation of residential water conserving devices. These actions in conjunction with the implementation of the conservation campaign that was approved in June, is targeting reduced demand in Metropolitan’s service area and the maintenance of storage reserves for the future.

This month the board is reviewing the authorization of a \$15 million Public Sector Water Efficiency Partnership Demonstration Program. Metropolitan would work with the member agencies to identify public agencies within

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its service area that have high potential to achieve accelerated conservation or water recycling use. Staff estimates that the cost of saved potable water in the Program will range from \$195 to \$500 per acre-foot, and that the total water savings of the program would be about 40,000 acre-feet of water.

### *Shortage Allocation Plan*

Metropolitan staff has initiated the development of a shortage allocation plan as a preparatory measure to ensure against any future supply constraints. The initial meeting was held on July 13, 2007 and subsequent meetings and data exchanges with member agency managers and staff are currently ongoing. The status and policy issues will be reviewed with the board in September and a proposed approach is targeted for board consideration at the November meeting.

<b>CRA and SWP Supplies Allocated as of July 26, 2007</b>	
<b>Colorado River Supplies</b>	
Basic Total Apportionment	550,000
IID-MWD Conservation	85,000
SDCWA-IID & canal lining	71,500
San Luis Rey Supplemental Water	4,500
Central Arizona storage recovery	16,804
Lower Colorado Water Supply Project	4,946
Restore Reregulated water	-21,649
Adjustments for USBR System Conservation in PVID	-7,000
PVID Land Fallowing	62,550
MWD Water Budget Adjustment	-78,235
<i>Priority 1,2, and 3b</i>	<i>-74,775</i>
<i>Imperial ID</i>	<i>0</i>
<i>Coachella Valley WD</i>	<i>1329</i>
<i>Misc. and Indian PPR's</i>	<i>-4,789</i>
<b><i>Colorado River Supplies Total</i></b>	<b><i>688,416</i></b>
<b>State Water Project Supplies</b>	
Table A (60 percent allocation)	1,146,840
MWD DWCV turnback pool and Article 21	176,281
Carryover and 14b	28,098
Desert Water/Coachella Valley exchange	102,660
San Bernardino Valley MWD Coordinated Operation Agreement	30,000
Port Hueneme Agreement	1,110
<b><i>State Water Project Supplies Total</i></b>	<b><i>1,484,989</i></b>
<b>Total</b>	<b>2,173,405</b>

<b>WSDM Supplies for CY 2007</b>				
<b>Program</b>	<b>1/1/07 Storage Levels</b>	<b>Capacity Available for Storage</b>	<b>CY 2007 Take Capacity</b>	<b>CY 2007 Put Capacity</b>
<b><i>CRA Storage</i></b>				
Advance Delivery Account (DWCV)	224,000	376,000	0	150,000
Lake Mead Storage Demonstration Program	47,500	199,000	0	50,000
Central Arizona Underground Storage Demonstration Project*	89,000	0	0	0
<b><i>Subtotal</i></b>	<b><i>360,500</i></b>	<b><i>575,000</i></b>	<b><i>0</i></b>	<b><i>200,000</i></b>
<b><i>SWP Storage</i></b>				
Sac. Valley Transfers Stored in Shasta	47,000	0	0	0
EWA Wet/Dry Exchange	50,000	100,000	50,000	100,000
Arvin Edison Storage Program	212,500	37,500	21,000	37,500
Semitropic Storage Program	346,000	4,000	118,000	4,000
Kern Delta Storage Program	38,800	211,200	5,000	50,000
SBVMWD Coord. Operating Agmt.	50,000	0	19,400	0
Mojave Storage Program	45,000	0	17,000	0
Castaic Lake (Flex Storage)	154,000	0	154,000	0
Lake Perris (Flex Storage)	65,000	0	65,000	0
MWD Carryover 07/08**	0	0	0	200,000
DWCV Carryover 07/08**	0	0	0	85,000
<b><i>Subtotal</i></b>	<b><i>1,008,300</i></b>	<b><i>352,700</i></b>	<b><i>449,400</i></b>	<b><i>476,500</i></b>
<b><i>In-Region Storage</i></b>				
Diamond Valley Lake	740,000	80,000	200,000	70,000
Lake Mathews & Lake Skinner	173,000	53,000	60,000	44,000
Cyclic - USG	48,300	51,700	Up to stored volume	Varies
Cyclic - PM (Three Valleys)	12,800	27,200	Up to stored volume	Varies
Cyclic - IEUA (Chino Basin)	1,700	98,300	Up to stored volume	0
Conj. Use - IEUA (Chino Basin)	48,000	52,000	0	25,000
Conj. Use - Long Beach (Cent. Basin)	13,000	0	2,000	0
Conj. Use - FM (Live Oak Basin)	500	2,500	0	750
Conj. Use - Calleguas (N. Las Posas)	51,000	159,000	3,500	33,000
Conj. Use - MWDOC	28,000	32,000	0	15,000
Conj. Use - Three Valleys	3,400	0	0	0
Conj. Use - Foothill	2,400	6,600	0	2,500
Conj. Use - Compton	600	1,700	0	500
Conj. Use - Long Beach (Lakewood)	0	3,600	0	900
Conj. Use - Pasadena	22,000	0	0	0
Supplemental Storage Program (Los Angeles)	20,000	0	5,000	0
Supplemental Storage Program (MWDOC)	16,000	0	8,000	0
<b><i>Subtotal</i></b>	<b><i>1,180,700</i></b>	<b><i>567,600</i></b>	<b><i>278,500</i></b>	<b><i>191,650</i></b>
<b>Total</b>	<b>2,549,500</b>	<b>1,495,300</b>	<b>727,900</b>	<b>868,150</b>

\* Central Arizona storage included in CRA base supplies

\*\* CY'06 Carryover amounts are included in SWP base supplies

**WSDM Supplies for CY 2008  
Programs Operational in 2008**

<b>Program</b>	<b>7/1/07 Storage Levels</b>	<b>Amount Available at 30% SWP Allocation</b>	<b>Amount Available at 60% SWP Allocation</b>
<i><b>CRA Storage</b></i>			
Advance Delivery Account (DWCV)	222,000	51,330	102,660
Lake Mead Storage Demonstration Program	47,500	47,500	47,500
Central Arizona Underground Storage Demonstration Project	89,000	25,000	25,000
<b>Subtotal</b>	<b>358,500</b>	<b>123,830</b>	<b>175,160</b>
<i><b>SWP Storage</b></i>			
EWA Wet/Dry Exchange	50,000	50,000	50,000
Arvin Edison Storage Program	218,000	40,000	40,000
Semitropic Storage Program	343,000	45,465	59,430
Kern Delta Storage Program	36,300	5,000	5,000
SBVMWD Coord. Operating Agmt.	50,000	19,400	19,400
Mojave Storage Program	45,000	2,940	25,680
Castaic Lake (Flex Storage)	154,000	154,000	154,000
Lake Perris (Flex Storage)	59,600	59,600	59,600
<b>Subtotal</b>	<b>955,900</b>	<b>376,405</b>	<b>413,110</b>
<i><b>In-Region Storage</b></i>			
Diamond Valley Lake	549,800	200,000	200,000
Lake Mathews & Lake Skinner	87,700	60,000	60,000
Cyclic - USG	48,300	Up to stored volume	Up to stored volume
Cyclic - PM (Three Valleys)	15,300	Up to stored volume	Up to stored volume
Cyclic - IEUA (Chino Basin)	0		0
Conj. Use - IEUA/TVMWD (Chino Basin)	88,000	24,750	24,750
Conj. Use - Long Beach (Cent. Basin)	13,000	4,300	4300
Conj. Use - Long Beach (Lakewood)	1800	900	900
Conj. Use - Foothill (Raymond and Monkhill)	3,400	2250	2,250
Conj. Use - Calleguas (N. Las Posas)	60,300	7,000	7,000
Conj. Use - MWD OC (Orange County Basin)	50,000	15000	15,000
Conj. Use - Three Valleys (Live Oak)	700	750	750
Conj. Use - Three Valleys (upper Claremont)	0	750	750
Conj. Use - Compton	1100	191	191
Conj. Use - Pasadena	22,000	0	0
Supplemental Storage Program (Los Angeles)	20,000	10,000	10,000
Supplemental Storage Program (MWD OC)	16,000	8,000	8,000
<b>Subtotal</b>	<b>977,400</b>	<b>333,891</b>	<b>333,891</b>
<b>Total</b>	<b>2,291,800</b>	<b>834,126</b>	<b>922,161</b>

<b>Programs Under Development</b>			
<b>Program</b>	<b>7/1/07 Storage Levels</b>	<b>Amount Available at 30% SWP Allocation</b>	<b>Amount Available at 60% SWP Allocation</b>
<i>CRA Storage</i>			
Hayfield Storage Program	73,000	0	0
<b><i>SUBTOTAL</i></b>	<b><i>73,000</i></b>	<b><i>0</i></b>	<b><i>0</i></b>
<i>SWP Storage</i>			
MWD '07 Carryover *	-	-	-
DWCV '07 Carryover *	-	-	-
Sac. Valley Transfers Stored in Shasta	47,000	0	0
EWA Wet/Dry Exchange	50,000	50,000	50,000
<b><i>SUBTOTAL</i></b>	<b><i>97,000</i></b>	<b><i>50,000</i></b>	<b><i>50,000</i></b>
<b>TOTAL</b>	<b>170,000</b>	<b>50,000</b>	<b>50,000</b>

<b>Emergency Storage Reserves</b>			
<b>Metropolitan Emergency Storage</b>			
Diamond Valley Lake	180,200	180,200	180,200
Lake Mathews	78,500	78,500	78,500
Lake Skinner	33,800	33,800	33,800
<b><i>SUBTOTAL</i></b>	<b><i>292,500</i></b>	<b><i>292,500</i></b>	<b><i>292,500</i></b>
<b>DWR Emergency Storage</b>			
Castaic Lake	139,500	139,500	139,500
Pyramid Lake	158,300	158,300	158,300
Elderberry	31,100	31,100	31,100
Lake Perris	5,400	5,400	5,400
<b><i>SUBTOTAL</i></b>	<b><i>334,300</i></b>	<b><i>334,300</i></b>	<b><i>334,300</i></b>
<b>TOTAL</b>	<b>626,800</b>	<b>626,800</b>	<b>626,800</b>