



● **Water Surplus and Drought Management Plan on water supply and demand as of March 2, 2010**

Summary

This is a monthly report on developing demand and supply conditions for calendar year (CY) 2010, including storage considerations and Water Supply Allocation Plan (WSAP) considerations for fiscal year (FY) 2010-2011. Demand and supply projections include potential actions under the Water Surplus and Drought Management Plan (WSDM) and the Five-Year Supply Plan. These actions provide a strategy for managing Metropolitan's resources to meet the range of estimated demands for the CY, and for adjusting to changing resource conditions throughout the year. These conditions and the preferred level of storage going into CY 2011 may affect the Board decision to implement the WSAP in April and allocate limited water supplies to the member agencies for the period of July 1, 2010, through June 30, 2011. The following are report highlights for this month, current as of March 2, 2010:

CY 2010 Projections:

- Current Estimated Total Demand including Obligations and Losses: 2.249 MAF
- Total Colorado River Aqueduct (CRA) Related Supplies including Five-Year Supply Plan and WSDM Actions: 1.174 MAF
- Total State Water Project (SWP) Related Supplies including Five-Year Supply Plan and WSDM Actions: 826 TAF
- Total In-Region WSDM Supplies and Actions: 299 TAF

Attachments

[Attachment 1: Five-Year Supply Plan Resource Options](#)

[Attachment 2: WSDM Supply Options for 2010 by Delivery System](#)

Detailed Report

This report is a continuation of monthly WSDM Plan updates on the developing water supply and demand conditions for CY 2010. Also included is a discussion of Metropolitan's storage reserves and WSAP implementation considerations. These reports apprise the Board of conditions that may impact water supply reliability for CY 2010, and identify potential WSDM actions that may be required.

CY 2010 Demands and Losses

The current trend estimate for CY 2010 is 49 TAF lower than last month, for a total water demand of 2.249 MAF. This change is due to member agency demands in January and February that were lower than the estimated WSAP Level 2.

Total water demand consists of member agency demands, exchange obligations with San Diego County Water Authority (IID Transfer and All American and Coachella Canal Lining Project), obligations to deliver water to Desert Water Coachella Valley and Tijuana, and system losses. The projections of member agency demands contain actual deliveries to date and assume a continuation of a Level 2 WSAP implementation through June 2010, and an estimate of demand without an allocation for July through December. Member agency demands also assume a 25 percent reduction of the remaining demands under the Interim Agricultural Water Program (IAWP), and account for the former IAWP demands that have opted-out of the program effective January 1, 2010. Conservation is implicit in this calculation of demand because agencies have implemented prohibited-use ordinances and pricing measures in response to the WSAP and that may continue throughout the year. The table below shows the current estimate of demand for CY 2010. Actual demands for the year will vary

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based on actual local supply production by the member agencies, weather conditions and conservation measures during the calendar year.

| CY 2010 Current Demand Estimate | | Change from Previous Month |
|---|------------------|-----------------------------------|
| Member Agency Demand | 2,039,000 | -49,000 |
| Wheeling Obligations to Member Agencies | 148,000 | 0 |
| Delivery Obligations to Non-Member Agencies | 5,000 | 0 |
| Payback Obligations Due in 2010 | 0 | 0 |
| System Losses | 57,000 | 0 |
| Total Current Demand Estimate | 2,249,000 | -49,000 |

CY 2010 Supplies and Storage

Colorado River Aqueduct System Deliveries

The current estimate of total CRA system deliveries to Metropolitan’s service area for CY 2010 is 1.174 MAF. The table below outlines the programs and obligations that are included in the estimate, including Metropolitan’s Basic Apportionment (550 TAF), related WSDM and Five-Year Supply Plan actions, and all other Colorado River supplies developed to date, including water transfers that are diverted at Metropolitan’s intake at Lake Havasu. This figure is adjusted from last month due to lower estimated use of Five-Year Supply Plan water due to aqueduct capacity limitations from low demands and CRA outages. For more detail, [Attachment 1](#) outlines yield from each of the Five-Year Supply Plan actions and [Attachment 2](#) shows WSDM storage balances and actions.

| CY 2010 Colorado River Aqueduct Delivery System | Available 2010 | Change from Previous Month |
|--|-----------------------|-----------------------------------|
| CRA Base | 886,000 | 0 |
| Basic Apportionment | 550,000 | 0 |
| IID/MWD Conservation Program | 85,000 | 0 |
| Water Exchanged with SDCWA (IID Transfer and Canal Lining) | 148,000 | 0 |
| Canal Lining Water to MWD | 16,000 | 0 |
| Lower Colorado Water Supply Project | 4,000 | 0 |
| PVID Land Fallowing | 115,000 | 0 |
| Deliveries for Tijuana | 3,000 | 0 |
| MWD Water Budget Agricultural Adjustment | 0 | 0 |
| Exchange with CVWD | -35,000 | 0 |
| CRA WSDM Actions | 126,000 | 0 |
| CRA Five Year Actions | 162,000 | -23,000 |
| Total CRA Diversions | 1,174,000 | -23,000 |

State Water Project System Deliveries

The current estimate of SWP system deliveries to Metropolitan’s service area for CY 2010 is 826 TAF. This has increased by 210 TAF from last month due to California Department of Water Resources’ (DWR) February 2010 announcement of an updated SWP allocation of 15 percent of Table A contract amount, up from the initial November 2009 estimate of 5 percent. Metropolitan’s Table A contract amount is 1.911 MAF, such that with the most recent Table A allocation, Metropolitan would receive Table A supplies of 287 TAF. The table below shows Metropolitan’s Table A supplies as well as estimated withdrawals from various WSDM storage programs

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and Five-Year Plan actions. Details of Five-Year Supply Plan and WSDM actions can be found in [Attachments 1](#) and [2](#). It is important to note that DWR continues to update the Table A allocation as the rainfall and snowpack develops through the winter, and that allocations are based on a 9 in 10 probability that the allocation will increase further, much as it did in CY 2009 from an initial 15 percent to a final 40 percent.

| CY 2010 State Water Project Delivery System | Anticipated 2010 | Change from Previous Month |
|--|-------------------------|-----------------------------------|
| SWP Base | 341,000 | 210,000 |
| Table A (5 percent allocation) | 287,000 | 191,000 |
| Turnback Pool | 0 | 0 |
| Port Hueneme Agreement | 0 | 0 |
| Table A (DWCV) | 29,000 | 19,000 |
| Drought Water Bank (DWCV) | 0 | 0 |
| Yuba Transfer (DWCV) | 2,000 | 0 |
| SDCWA Transfer | 0 | 0 |
| Yuba Component 2, 3, 4 Water (MWD) | 23,000 | 0 |
| SWP WSDM Actions | 400,000 | 0 |
| SWP Five Year Actions | 85,000 | 0 |
| Total SWP to Service Area | 826,000 | 210,000 |

In-Region Storage and Actions

In addition to the total supplies and storage actions delivered through the CRA and SWP systems, Metropolitan can also use WSDM storage programs within its service area. At the current trend estimate of demand and allocated supplies from the CRA and SWP, approximately 299 TAF of in-region storage is available for use in CY 2010 to aid in balancing supply and demand. This is lower than last month due to updated Conjunctive Use Program production certifications and increased emergency storage needs from Diamond Valley Lake. For details on WSDM storage program estimates, see [Attachment 2](#).

| In-Region WSDM Storage | Available 2010 | Change from Previous Month |
|--|-----------------------|-----------------------------------|
| Diamond Valley Lake (Dry-Year Storage) | 204,000 | -13,000 |
| Lake Mathews & Lake Skinner (Dry-Year Storage) | 49,000 | 0 |
| Conjunctive Use Programs | 46,000 | -1,000 |
| Supplemental Storage Programs | 0 | 0 |
| Total In-Region WSDM Storage Available | 299,000 | -14,000 |

Demand and Supply Balance and WSDM Implications

Under the current demand estimate and the projected supplies from the SWP, CRA and all available storage, there would be a supply surplus of 50 TAF, a net increase in supplies of 222 TAF from last month. This surplus would reduce the amount of water Metropolitan would need to draw from storage.

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| Demand and Supply Balance | | Change from Previous Month |
|--|------------------|-------------------------------|
| Current Estimate Demand and System Losses | 2,249,000 | -49,000 |
| Total Supplies | 2,299,000 | 173,000 |
| CRA Supplies | 1,174,000 | -23,000 |
| SWP Supplies | 826,000 | 210,000 |
| In-Region Supplies | 299,000 | -14,000 |
| Water Balance | 50,000 | 222,000 |

WSAP and Storage Considerations

A key consideration in setting a WSAP Allocation Level is the maintenance of storage reserves for future conditions. Under the current demand and supply conditions shown in this report, Metropolitan would have to use 820 TAF of WSDM storage to meet demands without implementing the WSAP. This is most of the WSDM storage that is available in 2010 under a 15 percent SWP allocation, or nearly 80 percent of the total WSDM storage shown in [Attachment 2](#).

Recommendations for WSAP Allocation Levels are set in recognition that use of storage reserves for the current year comes at the expense of the future. For the purposes of recommending WSAP levels, staff calculates a storage reserve that allows for use in the current year while maintaining storage to augment reasonably poor conditions next year. As a reference, approximately 100 TAF of water represents about one WSAP Level. This would mean that in selecting an appropriate WSAP Levels, every 100 TAF of storage held for future use could offset one WSAP Level for FY 2011/12. Alternatively, setting aside more storage for future use could lead to a deeper WSAP Level for the upcoming FY 2010/11. The use of storage reserves depends on the depth of allocation Metropolitan implements in FY 2010/11, balanced against the risk of potentially needing a deeper allocation in the future, should future demand and supply conditions be unfavorable.

Metropolitan staff will provide an updated allocation recommendation, including storage considerations, to the Water Planning and Stewardship Committee in April. This recommendation will be based on the expected final Table A deliveries from DWR and the latest storage conditions.

Conclusion

Under the updated February 2010 SWP allocation of 15 percent of Table A, Metropolitan could implement WSDM and Five-Year Supply Plan actions meet demands by drawing nearly everything from its storage programs. However, based on DWR’s conservative allocation procedures, the current fifteen percent SWP allocation is likely to increase; without a SWP Table A allocation increase or additional supply augmentation, Metropolitan would need to use nearly all of its storage or increase the implementation level of the WSAP through June 2011 beyond the current Level 2.

It is important to note that DWR updates the Table A allocation as the snowpack and storage conditions develop through the winter, and that allocations are based on a nine in 10 probability that the allocation will increase, as it did in CY 2009 from the initial 15 percent to the final 40 percent. The Table A allocation is also based on SWP yields under the most restrictive pumping restrictions due to the Biological Opinions on Delta smelt and Chinook salmon. If these high restrictions are not needed to meet the conditions of the Biological Opinions, additional water for allocation may also be available.

Metropolitan’s message and outreach over the coming months will emphasize that, at current water supply conditions, continuation of a WSAP implementation is likely for this year. Outreach actions include ongoing communication to customers regarding the water supply conditions and continuing to implement water conservation ordinances enforceable at the local level to prevent wasteful uses of water and encourage reasonable outdoor landscape irrigation practices.

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The Board approved implementing Metropolitan's WSAP 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 30, 2010, given the limited supplies available in CY 2009, including limiting withdrawals of storage in order to maintain reasonable reserve levels. Metropolitan also has the option of implementing a WSAP for July 1, 2010, through June 2011, should it find this necessary to manage demands and preserve storage.

Five-Year Supply Plan Resource Options

Staff is continuing to identify and develop supply resources under the Five-Year Supply Plan. As shown in the following table, implementing all of the options identified would conservatively yield approximately 514 TAF of additional supply in 2010, only 491 TAF of which can be used in 2010 due to aqueduct capacity limitations from low demands and CRA outages. These capacity limitations do not limit how much is available from any specific CRA project, but how much can be taken in 2010 on the aqueduct as a whole. As previously noted, 270 TAF of related actions from the Five-Year Supply Plan are being included under either the SWP or CRA total delivery estimates. Also, the conservation measures associated with the Five-Year Supply Plan coincide with actions that agencies have taken to meet supply allocations under the current Level 2 WSAP allocation. Savings from these prohibited-use measures and pricing impacts may also continue through the year even if the WSAP is not implemented in FY 2010/11. For this reason, the 235 TAF of conservation savings identified from actions under the Five-Year Supply Plan are already incorporated in the demand forecast discussed in this letter.

| | 2010 Supplies Available | 2010 Use | Changes from Previous Month |
|--|--|-----------------|--|
| Five Year Plan Resource Options | | | |
| Conservation | 235,000 | 235,000 | 0 |
| Ordinances/Tiered Pricing | 235,000 | 235,000 | 0 |
| Colorado River Transactions | 185,000 | 162,000 | -23,000 |
| Additional PVID Transfers (Crop Stressing/Fallowing) | 35,000 | | |
| Yuma Desalter | 10,000 | | |
| Expand SNWA Agreement | 90,000 | | |
| ICS Exchange | 25,000 | | |
| Agreements with CVWD | 25,000 | | |
| Arizona Programs -- CAP | 0 | | |
| SWP Transactions | 85,000 | 85,000 | 0 |
| Drought Water Bank/NOD Transfers | 80,000 | 80,000 | 0 |
| In-Delta Transfers – Delta Wetlands | 5,000 | 5,000 | 0 |
| Groundwater Recovery | 9,000 | 9,000 | 0 |
| LA DWP GW Demonstration | 9,000 | 9,000 | 0 |
| Total | 514,000 | 491,000 | -23,000 |

WSDM Supply Options for 2010 by Delivery System

| | 1/1/2010 Storage Levels | Take under 5% SWP Allocation | Take Change from Previous Month |
|--|------------------------------------|---|--|
| 2010 WSDM Storage | | | |
| Colorado River Aqueduct Delivery System | 192,000 | 126,000 | 0 |
| Lake Mead ICS Account | 184,000 | 118,000 | 0 |
| Central Arizona Storage Demonstration Project | 8,000 | 8,000 | 0 |
| State Water Project System | 459,000 | 400,000 | 0 |
| MWD SWP Carryover | 67,000 | 67,000 | 0 |
| DWCV SWP Carryover | 11,000 | 11,000 | 0 |
| SWP Non-Project Carryover | 52,000 | 52,000 | 0 |
| Castaic Lake (DWR Flex Storage) | 154,000 | 154,000 | 0 |
| Lake Perris (DWR Flex Storage) | 21,000 | 21,000 | 0 |
| Arvin Edison Storage Program | 96,000 | 40,000 | 0 |
| Semitropic Storage Program | 45,000 | 45,000 | 0 |
| Kern Delta Storage Program | 10,000 | 10,000 | 0 |
| Mojave Storage Program | 3,000 | 0 | 0 |
| In-Region Supplies and WSDM Actions | 630,000 | 299,000 | -14,000 |
| Diamond Valley Lake | 384,000 | 204,000 | -13,000 |
| Lake Mathews | 125,000 | 46,000 | 0 |
| Lake Skinner | 36,000 | 3,000 | 0 |
| IEUA/TVMWD (Chino Basin) | 19,000 | 19,000 | -7,000 |
| Long Beach (Cent. Basin) | 6,000 | 0 | 0 |
| Long Beach (Lakewood) | 2,000 | 2,000 | 0 |
| Foothill (Raymond and Monkhill) | 1,000 | 1,000 | 1,000 |
| Calleguas (N. Las Posas) | 44,000 | 15,000 | 5,000 |
| MWDOC (Orange County Basin) | 9,000 | 9,000 | 0 |
| Three Valleys (Live Oak) | 3,000 | 0 | 0 |
| Three Valleys (Upper Claremont) | 1,000 | 0 | 0 |
| Compton | 0 | 0 | 0 |
| Western | 0 | 0 | 0 |
| 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 | 379,000 | 45,000 | 0 |
| Other Emergency Storage | 334,000 | 0 | 0 |
| Advance Delivery Account (DWCV) | 45,000 | 45,000 | 0 |
| Total | 1,660,000 | 870,000 | -14,000 |
| Emergency | 626,000 | 0 | -13,000 |
| Total WSDM Storage | 1,034,000 | 870,000 | -1,000 |