

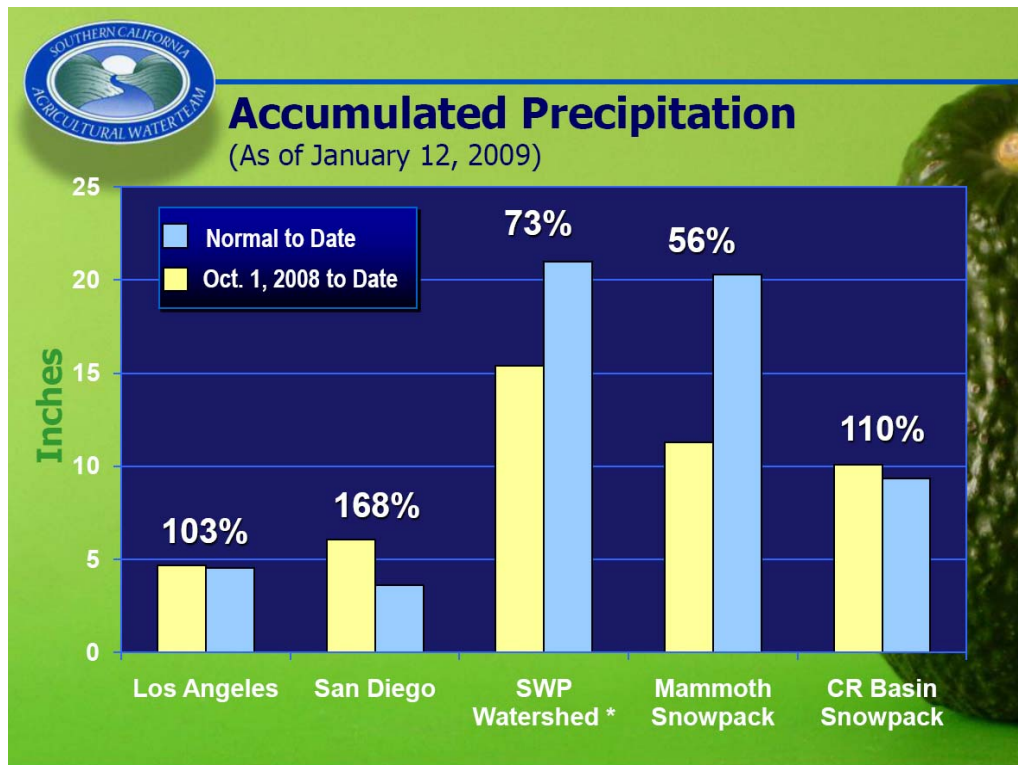
# Water Supply Outlook for January 2009

## Overview of Hydrologic Conditions in California

### Precipitation Conditions as of January 12, 2008

Several storms hit California through mid-December providing a boost to Sierra snow levels although the amount were not enough to make a major impact to current reservoir storage. Because of the low reservoir storage levels entering the water year, runoff must be at least 75% of average for the year just to maintain the already low northern California reservoir levels. If the runoff for the year is close to average (95-100%), the northern California reservoirs could be restored to normal levels. Other positive factors are that the weather systems have been fairly cool resulting in lower snow levels.

As shown in the table below, precipitation levels in southern California are above. Rainfall at the Los Angeles Civic Center was 4.6" or 103% of normal while rainfall at Lindberg Field in San Diego was 6.1" or 168% of normal. However, conditions in the State Water Project (SWP) watershed, as measured by the California Department of Water Resources' (DWR) 8-Station Index, are currently 73% of normal at 15.4", while conditions in the eastern Sierras are significantly below normal at 56% of average for this date with a reading of 11.3". Finally, water year precipitation conditions in the Colorado River Basin are above normal at 110% at 10.1 "



\* DWR Northern Sierra 8-Station Precipitation Index

### Forecasts


The latest National Weather Service Climate Prediction Center long-range weather outlook for January 2009, issued December 18, 2008, forecasts average precipitation for all of California. However, scientists at the Jet Propulsion Laboratory are predicting a dry winter due to the recent detection of a

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La Nina oceanic effect that typically signals a warmer, drier winter. Additionally, there are no storms in the forecast for southern California in the next ten days according to the National Weather Service.

## Key Storage Conditions as of January 1, 2009

Recent storage conditions in the key State Water Project (SWP) reservoirs are at levels not seen since the 1976-77 drought with Lake Oroville storage dropping below 1 MAF for the first time since 1990 and DWR's share of San Luis Reservoir also at its lowest level since 1990. Locally, Metropolitan's Diamond Valley Lake is at its lowest level since the reservoir was filled in 2000 and Lake Mathews is 58% of normal. Conversely, conditions on some portions of the Colorado River System have improved over the last year with Lake Powell storage levels as of the first of the year at 72% as compared to 60% a year ago. The storage level in Lake Mead is slightly below its storage level at this time last year - 62% vs. 64% - but overall conditions have improved such that the likelihood of the implementation of shortage criteria on the Colorado River system has been greatly reduced.



**Key Storage Conditions**  
(As of January 1, 2009)

Reservoir	Storage Level	% of Capacity	% of Normal
<b>SWP</b>			
Lake Oroville	981 TAF	28%	44%
San Luis Reservoir (State)	258 TAF	24%	34%
<b>CRA</b>			
Lake Mead	12.5 MAF	48%	62%
Lake Powell	13.6 MAF	56%	72%
<b>Local</b>			
Diamond Valley Lake	410 TAF	51%	80%
Lake Mathews	81 TAF	45%	58%

## Current Water Supplies

### SWP

On December 16, 2008, DWR released an updated water allocation study that supports the 15 percent Table A allocation announced in October. The new allocation study also includes impacts from the U.S. Fish and Wildlife Service's (USFWS) Biological Opinion released in December. Although it is still true that the 15 percent allocation is conservative and will likely be exceeded 90% of the time, the study indicated that additional water supplies that would normally result from increased precipitation and runoff will be constrained by the conditions and operating criteria set by the Biological Opinion. Median conditions are estimated to result in a 46 percent Table A allocation, a loss of 9 percent of Table A or nearly 200 TAF less than figures reported in the initial DWR allocation study. The loss of water supply over the range of hydrologic conditions increased the probability of implementing the

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Water Shortage Allocation Plan (Allocation Plan)- discussed later - and reduces the probability of maintaining or increasing storage reserves. Based on the conservative allocation of 15% and the median allocation of 46%, SWP supplies would range from 315 TAF to 1.07 MAF for 2009 when other annual SWP supplies from the Desert Water District, Coachella Valley Water District, San Bernardino Valley MWD and the City of Port Hueneme are included.

### *Colorado River Aqueduct*

Metropolitan staff's estimate of Colorado River supplies for CY 2009 is 0.9 MAF with some potential to receive up to 1.0 MAF based on the anticipated initial 2009 diversion schedule of Metropolitan's approved water order from the U.S. Bureau of Reclamation. 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.

### *WSDM Supplies*

In addition to base SWP and CRA supplies, Metropolitan has a total of approximately 1.1 MAF of storage in its WSDM resource portfolio as of the beginning of CY 2009 (this figure excludes water stored for emergency purposes). Accounting for conveyance constraints, approximately 580 – 640 TAF of this amount is available in CY 2009, depending upon whether the SWP allocation is 15 percent or 50. Some of the programs have contract provisions that allow for a supply increase in relation to an increase in SWP allocation. A breakdown of the available WSDM supplies is shown below.



### 2009 WSDM Actions

<i>WSDM Actions</i>	<i>Annual Yield</i>
<b>Transfers &amp; Exchanges</b>	<b>25,000</b>
<b>Surface Water</b>	<b>315,000</b>
<b>Groundwater Storage</b>	<b>115,000</b>
<b>Central Valley Programs</b>	<b>125,000</b>
<b>Total</b>	<b>580,000</b>

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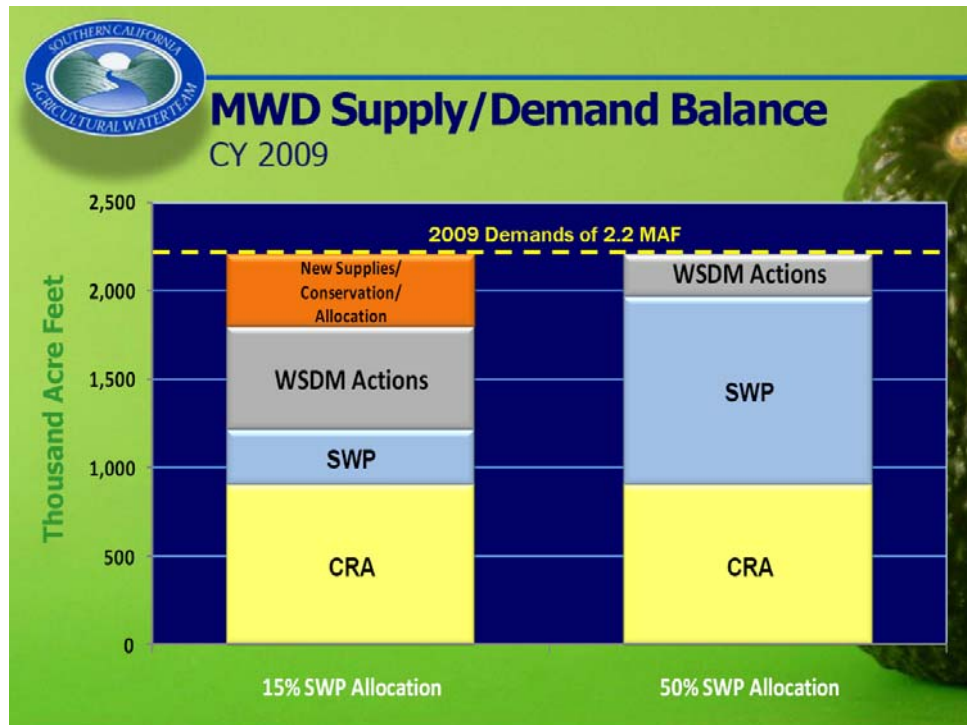
## *Demands on Metropolitan*

Metropolitan's water demands for calendar year 2009 are projected to be 2.2 MAF at the current trend, with a range of 1.6 MAF under wet/cool conditions to 2.8 MAF under hot/dry conditions. This range reflects discontinued water sales under the replenishment program for 2009, greater demands from groundwater agencies for firm imported water supplies and a 30% in agricultural sales under the Interim Agricultural Water Program.

## *Water Balance and Actions*

With current trend demands of 2.2 MAF and base supplies on the SWP and CRA of 1.2 MAF, there is a resulting supply gap of approximately 1 MAF for CY 2009. If the SWP allocation were to remain at 15%, Metropolitan would be required to utilize the full 580 TAF amount available of WSDM actions to meet the current trend demand. The resulting balance of 420 TAF would be met through a combination of additional supplies, extraordinary conservation efforts resulting from Metropolitan's Five-Year Supply Plan or implementation of the Allocation Plan.

If the SWP allocation increases to 50%, Metropolitan plans to utilize approximately 235 TAF of WSDM supplies in 2009 and they anticipate no allocation of supplies.




## *Five-Year Supply Plan Resource Options*

Metropolitan staff continues to identify a set of additional resource options for 2009 as part of its Five-Year Supply Plan. These options could yield from 495 TAF for CY 2009 and up to 1.067 MAF of additional supply if successfully implemented over the five year period. The resource options focus on six initiatives: extraordinary conservation, Colorado River transactions, near-term Delta actions (0 for 2009), SWP transactions, groundwater recovery, and local resources. It should be noted that 40% of

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the anticipated supplies result from extraordinary conservation over and above the savings now being achieved. The achievement of these savings will be crucial if Metropolitan is to avoid implementation of its Allocation Plan. Metropolitan is not considering additional revenue to support these conservation efforts and has in fact reduced the conservation incentive budget in its proposed 2009-2010 budget. Metropolitan has included the costs associated with the other potential resource options in their 2009-2010 budget.



### MWD Five-Year Supply Plan

<i>Resource Options</i>	<i>Annual Yield</i>
<b>Extraordinary Conservation</b>	<b>215 - 415 TAF</b>
<b>Colorado River Transactions</b>	<b>160 - 270 TAF</b>
<b>Near-Term Delta Actions</b>	<b>0 TAF</b>
<b>SWP Transactions</b>	<b>110 - 345 TAF</b>
<b>Groundwater Recovery</b>	<b>5 - 25 TAF</b>
<b>Local Resources</b>	<b>5 - 10 TAF</b>
<b>Total</b>	<b>495 - 1,065</b>

### Implementation of the Water Supply Allocation Plan

Based on the December SWP allocation study, the Biological Opinion could impose greater restrictions on the delivery of SWP supplies for 2009 than the most restrictive flow regimes from Federal Judge Oliver Wanger's interim order on Delta smelt actions. The Biological Opinion will decrease the amount of water delivered from the SWP under dry, normal, and wet hydrologic conditions. The impacts from the Biological Opinion are offset by December's wetter than normal conditions in Metropolitan's service area and in the Imperial and Coachella Valleys, which result in more Colorado River water available for Metropolitan under the priority system. The additional supply, combined with lower demand in the service area conditions as compared to last month's forecast, improved end-of-2008 storage conditions.

Overall, the probability of implementing the WSAP in 2009 has increased due to the impacts from the Biological Opinion, compared to the chances reported in previous months. Previously, Metropolitan indicated that it would need to implement the WSAP if the SWP allocation were 30% or less and may implement the WSAP if the allocation was between 30% and 50%. In November 2008, the estimated chance of needing to implement the WSAP was approximately 1 in 3 based on the projected range of SWP allocations. Under the changed conditions, the chance has increased to 1 in 2. However, it is important to note that the chance of implementing the WSAP could still be significantly affected by the

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upcoming winter and spring hydrologies that occur in southern and northern California and in the Colorado River watershed. Staff estimates that there is a 1-in-4-chance that wetter hydrology would occur and provide sufficient supplies to refill regional storage in 2009 even under the restrictions of the Biological Opinion.

Additionally, as shown above, the need to implement the WSAP is related to Metropolitan's success in developing the resource actions in its Five-Year Supply Plan. Should Metropolitan not be able to achieve the targets for new supplies and/or greater conservation, the likelihood and severity of an allocation would both increase. Should it be necessary, the timeline for implementing the WSAP is shown below.

