Metropolitan Water District of So. California

Update to credit analysis

Summary
The credit profile of the Metropolitan Water District of Southern California (MWD) (Aaa, stable) includes an immense assessed valuation spanning portions of six southern California counties. MWD's credit quality is also enhanced by its solid fiscal position supported by ongoing rate increases, steady coverage and healthy liquidity. The district also benefits from a solid current stored water position that will enable it to manage the ongoing pressure on Colorado River water supplies. The district’s water system revenues support a very large debt profile that will grow as a result of major expected capital projects.

Credit strengths
» Exceptionally large assessed valuation
» Adopted multi-year rate increases
» Stable fiscal position
» Strong level of water storage

Credit challenges
» Pressured Colorado River supplies
» Very large capital plan

Rating outlook
The stable outlook reflects our expectation that MWD will maintain a consistent fiscal position inclusive of steady reserves and cash while managing the challenge of pressure on water supply. The outlook is also driven by our expectation that the district’s assessed valuation will remain exceptionally large.

Factors that could lead to an upgrade
» N/A

Factors that could lead to a downgrade
» Substantial deterioration of the tax base
» Material weakening of the district’s cash or liquidity
Significant reduction in water availability resulting in material effect on the fiscal profile

Key indicators

Exhibit 1

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<th>Metropolitan Water District of Southern California, CA</th>
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<td><strong>System Characteristics</strong></td>
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<td>Asset Condition (Net Fixed Assets / Annual Depreciation)</td>
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<td>System Size - O&amp;M ($000)</td>
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<td>Service Area Wealth: MFI % of US median</td>
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<td><strong>Financial Strength</strong></td>
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<tr>
<th>Year</th>
<th>Operating Revenue ($000)</th>
<th>System Size - O&amp;M ($000)</th>
<th>Net Revenues ($000)</th>
<th>Net Funded Debt ($000)</th>
<th>Annual Debt Service ($000)</th>
<th>Annual Debt Service Coverage (x)</th>
<th>Cash on Hand</th>
<th>Debt to Operating Revenues (x)</th>
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<tr>
<td>2014</td>
<td>$1,681,685</td>
<td>$949,757</td>
<td>$852,358</td>
<td>$4,618,245</td>
<td>$344,000</td>
<td>2.5x</td>
<td>243 days</td>
<td>2.7x</td>
</tr>
<tr>
<td>2015</td>
<td>$1,590,818</td>
<td>$1,016,988</td>
<td>$702,811</td>
<td>$4,480,095</td>
<td>$253,058</td>
<td>2.7x</td>
<td>288 days</td>
<td>2.8x</td>
</tr>
<tr>
<td>2016</td>
<td>$1,329,010</td>
<td>$1,202,433</td>
<td>$292,974</td>
<td>$4,295,077</td>
<td>$303,000</td>
<td>1.4x</td>
<td>222 days</td>
<td>3.2x</td>
</tr>
<tr>
<td>2017</td>
<td>$1,315,368</td>
<td>$942,982</td>
<td>$541,565</td>
<td>$4,382,023</td>
<td>$307,605</td>
<td>1.6x</td>
<td>240 days</td>
<td>3.3x</td>
</tr>
<tr>
<td>2018</td>
<td>$1,446,358</td>
<td>$953,936</td>
<td>$855,489</td>
<td>$4,098,189</td>
<td>$328,867</td>
<td>1.6x</td>
<td>134 days</td>
<td>2.8x</td>
</tr>
</tbody>
</table>

Source: Moody’s Investors Service and MWD

Profile

MWD is comprised of 26 member agencies including 14 cities, 11 municipal water districts and one county water authority. MWD provides supplemental water that represents a critical portion of the members’ water supply mix. Metropolitan’s service area comprises approximately 5,200 square miles and includes all or portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura.

Detailed credit considerations

Economy and tax base: Extremely large tax base spanning six counties

The service area for the Metropolitan Water District is exceptionally large and covers a population of approximately 19 million people. The tax base has grown steadily and we anticipate consistent growth for an assessed valuation that is already among the largest of any local government in the nation.

The assessed valuation for 2019 grew as expected by 6.4% to reach $2.9 trillion. This growth reflects the broad strength of the Southern California economy and ongoing strength in key sectors such as tourism, technology, logistics and shipping, manufacturing, and others. The largest segment of MWD is Los Angeles County, which represents approximately half of the assessed valuation followed by Orange and San Diego Counties at 20% and 17% respectively. The Los Angeles County’s median family income is only 95% and thus somewhat low for the rating but that weakness is offset by the sheer size and stability of the overall tax base in addition to the district’s other credit strengths.

Service Area and System Characteristics

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.
MWD is a critical wholesale water provider who's supplies constitute 40% to 60% of the area's total annual water use. The district's water is principally derived from deliveries from the State Water Project (SWP) and the Colorado River. Water deliveries from the SWP are currently 35% of the contracted amount, which equates to approximately 670,000 acre-feet of water for MWD. The Colorado River is projected to provide approximately 857,000 acre-feet of water though it is in the 19th year of drought. The pressure of the drought on the Colorado River has prompted the development of a drought contingency plan in coordination with other agencies in California, Arizona, and Nevada. If implemented, the plan would require that MWD reduce its take of Colorado River water by about 10% if the water level in Lake Mead falls below an elevation of 1,045 feet. This effort is intended to stave off further cuts that would be implemented if the water level in Lake Mead falls below 1,020 feet.

While the Colorado River drought is a credit negative, it is offset by MWDs strong level of stored water supply. The district will close the calendar year with 3.1 million acre-feet of water in storage. This is the second consecutive year the district has held this amount of stored water, which is the highest its had since 2012. The maintenance of strong water storage levels is a key credit factor that helps MWD manage the fluctuations of its water supplies. Supply variability will likely increase with the rising impact of climate change, which is forecast to increase the severity and frequency of droughts. We expect that MWD will mitigate these impacts by deploying its stored supply and implementing conservation as needed. MWD will also build water resilience by broadening its ground water use and improving the efficiency of SWP water deliveries through its participation in the California Water Fix.

**Debt Service Coverage and Liquidity: Modest coverage improvement that will remain stable**

MWD's fiscal position is solid and will remain steady in fiscal 2019. The challenge posed by its sizeable capital plan will be counterbalanced by anticipated rate increases and stabilization of demand.

Fiscal 2018 debt service coverage showed moderate improvement to 1.63 times versus the 1.57 times in fiscal 2017. Increased water deliveries and rates drove operating revenues to $1.4 billion. While this was short of the budgeted amount, it was still a solid $122 million increase from the prior year and drove an $86 million increase in net revenues. MWD outperformed its projected expenditures by $160 million driven in large part by savings in state water contract and power costs.

The district expects debt service coverage to remain stable at 1.62 times in fiscal 2019. The district's operating revenues are projected to rise by 7% as a result of a 3% rate increase and an increase of water sales to 1.65 million acre feet from 1.61 million acre feet. Coverage will also be maintained by a modest decrease in debt service. The district projects that it will not rely on any transfers from reserves as has been the case for the last several years.

The district's long term projections through 2023 show debt service coverage improving from 1.87 times in 2020 to 2.24 times in 2023. Accomplishment of these targets assumes additional rate increases beyond those already approved through fiscal 2020. Increases from 2021 to 2023 are expected to be 4.1% annually. We believe MWD is likely to approve rate adjustments of at least this much given is track record of consistent annual increases. The forecast also anticipates that water transactions will increase to 1.8 million acre feet per year. This 12% increase may be challenged by the variable nature of California water use and the aforementioned drought pressures on the Colorado, which heighten attention paid to conservation. However, we expect that as it has in years past, MWD will adjust its costs accordingly in the event of water sales that are softer than expected.

**LIQUIDITY**

The district's fiscal 2018 unrestricted reserves are $474 million and comfortably ahead of the MWD's minimum reserve requirement of $257 million. As of November 2018, MWD reports total daily and weekly liquidity of $954 million available to service its short-term obligations supported by self-liquidity. Those sources provide 1.53 times coverage of its short-term debt.

**Debt and Legal Covenants: Large debt portfolio with additional issuance to come**

MWD's water revenue debt includes $2.8 billion in fixed rate obligations and a substantial $1.2 billion (31% of total debt) in variable rate obligations. The variable rate obligations include $315 million in weekly self-liquidity obligations, $271 million in 1 year SIFMA notes, and $483 million in daily VRDOs backed by a stand-by.

With the sale of its 2019 GO refunding bonds, the district will have $57 million in outstanding general obligation bond debt.

The district will issue approximately $1 billion of water revenue bonds between 2019 and 2028. In addition to the debt to improve existing facilities, MWD will also bear the 65% of cost of the California WaterFix.
DEBT STRUCTURE
The district’s water revenue debt consists of $3 billion of senior lien obligations and $1 billion of subordinate debt.

The district maintains two SBPA liquidity facilities from Citibank supporting $168 million in VRDOs. The facilities expire in March 2020. MWD also has SBPAs with Bank of America and Toronto Dominion Bank. These facilities support $103.6 million and $210 million respectively and expire in July and June 2021.

DEBT-RELATED DERIVATIVES
Approximately 40% of the district’s existing variable rate obligations are swapped to fixed, giving MWD a correspondingly large interest rate swap portfolio. Given the district’s solid liquidity, addressing variable interest costs remains manageable. Each of the district’s eight swaps are fixed-payer agreements.

PENSIONS AND OPEB
Metropolitan contributes to the California Public Employees’ Retirement System (CalPERS), an agent multiple-employer public employee defined benefit pension plan. In fiscal 2018, MWD paid $61 million in pension costs (4% of total operating revenue).

MWD also participates in the CalPERS OPEB plan. In fiscal 2018, the district also contributed $30 million to fund the annually required contribution (2% of operating revenues). The fiscal 2019 actuarially defined contribution is expected to be $27 million, which the district will pay in full.

Management
MWD is governed by a 38 member board of directors with each member agency being represented by at least one board member. Member agencies can also have an additional board member for each 5% of MWD’s full that is also within the member agency’s service area. Board member votes are allocated proportionally by the percentage of MWD assessed value within the member agency’s service area. The district has sole rate setting authority independent of the state and California Public Utilities Commission.